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USF College of Public Health Oral History Project
Oral History Program
Florida Studies Center
University of South Florida, Tampa Library

Digital Object Identifier: C53-00030
Interviewee: Nathan Schneider (NS)
Interviewer: E. Charlton Prather (CP)
Interview date: July 23, 1997
Interview location: Unknown
Transcribed by: Brendan Driscoll
Transcription date: September 24, 2014 to October 14, 2014
Audit Edit by: Will Clark
Audit Edit date: October 31, 2014 to November 7, 2014
Final Edit by: Jodi L. Harman
Final Edit Date: November 18, 2014 to November 20, 2014

Beginning of Interview

E. Charlton Prather: Well, we're pleased this afternoon to have Dr. Nathan J. Schneider with us, a long time associate of the state laboratory system. And indeed the last twenty-five or twenty-six years or so of his career with Florida public health system was director of our laboratory. And I say with pride, my boss at one time, and a boss of whom I'm very proud.

Welcome Doctor Schneider, we're glad to have you here. And we want you to review with us, some of the exciting times you've had and some of them [sic] may be not exciting times. And you can even talk about the bad budget years within the laboratory. Why don't you tell us how, really, did you get interested in laboratory stuff?

Nathan Schneider: Well, that is an interesting story. I actually, when I got out of the service, was looking around to decide what I wanted to do. I had a job with the Civil Service Commission but I wasn't interested in it. I saw an ad in the paper, in the *Times Union*, and it said they were looking for laboratory workers at the state board of health.

Well, since I was a little bit of a frustrated doctor anyway, I decided to go down to see what was going on. So, I got to the state board of health and I was immediately greeted by Doctor Hardy, who was the director at that time, and Dr. Roland Mitchell. And they greeted me with open arms because, when I went in, I found out that they had just started in themselves, only a few months.

And they were faced with the task of starting to replace a skeleton crew, because everybody had gone off of the state board of health for the war business. Miss Griffiths was in charge, and we were in the old building. And the next thing I know, they sign me up. (CP laughs)

Now, they didn't have much money in those days, so they took advantage of the GI Bill. I want to tell you. My first salary was \$125 a month. And the government paid up to \$200. Well, this was in 1946, so the cost of living wasn't quite as bad as it is now, but we managed it. And—

CP: How did the GI bill work? Did they supplement your salary on a proportion base or did you get a—? Tell us how that worked.

NS: Well, the way the GI Bill works, is that they would supplement your salary up to \$200, see? And the state board of health in their generosity decided, well, all they could afford was a hundred and a quarter. So, we got in.

Of course, I had a wife and two children already, so I had a family to think about. And fortunately, I had saved some money that we'd saved up during the war. So, I was able to manage. And I was living at home.

CP: Oh, you were?

NS: Excuse me?

CP: You were living at home with your parents here?

NS: A little bit, yeah. Until we found a small house for ourselves. And so, I went to work and I went into that lab.

And there was the old building that now has been condemned. As a matter of fact, they're trying to restore it, and I hope they get a chance to do it. It'd be pretty costly. But either they have to restore it or they'll have to tear it down because I think it's getting pretty bad. It might be even dangerous.

Well at any rate, the next thing I do, I was introduced to Mildred Jefferies who became my mentor, in a sense. I don't know if you remember that Miss—

CP: Was she here when you came?

NS: She was here already. She had just been hired, maybe, I think about two or three weeks earlier. And they took me into a room that we called microscopy. And I look at there and they had these thousands and thousands of slides, smears—they had been submitted—specimens for GC, for gonorrhea. And we were supposed to do a microscopic examination of it.

Well, I did have some experience in microscopy but I really wasn't that familiar with all the details. And so, Mildred Jefferies took me by the side and she was a born teacher. And she taught me the intricacies of what to look for on a microscopic slide.

And then we went beyond that into diphtheria and tuberculosis and enteric diseases¹. Went into parasitology and at that time, when they were trying to increase the staff, they also brought in other veterans that had, uh, come—had been—applied there.

And they worked up—what we did was we worked up an arrangement with the University of Florida for a master's degree program which was on them. Well, Doctor Mitchell [and] Doctor Hardy were on the staff at the department of bacteriology at the University of Florida and they had arrangement where they could offer a Master's Degree in Bacteriology.

Doctor Carroll, if you remember him, he was the head of the departments. And it was a two-year course, and we spent— All but about three months, we had to spend on campus at the university, which we did.

CP: The rest was here in the laboratory?

NS: Yeah. The rest of it was here. And essentially what we did, we rotated through the laboratory and then we had our seminars and general reports. And it quite became very didactic. And so this paid off. I got my degree, master's in '49.

CP: Did you stay on salary? Were you on salary with the state board during this period?

¹Any infection of the intestines.

NS: Yeah.

CP: Did you have to pay a stipend to the university?

NS: No, no, no. It was covered; the \$125 was on it. And after I got my master's, then Doctor Hardy had a problem of trying to staff the branch labs. And there weren't too many candidates available, and since I was one of the first ones to sign on on his program, he asked me if I would move to Miami and take over the Miami branch laboratory, which I did.

[I] took my family down there and enjoyed that. That was quite an episode there, 'cause we were on the ninth floor of the—

CP: Courthouse.

NS: —County courthouse building. And the county health department was just below us. And the thing I'll always remember about that place is that one of the tests we did was for toxicology for tissues from people—cadavers; people who had died under certain unusual circumstances.

And it was a smelly sort of a test. (CP laughs) And the—on the—we were on the ninth floor. And on the top floor—which was about the seventeenth floor—the judges had their offices there, and they didn't like it. (CP laughs) And they tried to get us out of there. And it took about ten years.

They finally got us out when Jackson Memorial expanded and the city took over the golf course there near Jackson Memorial. And so the county health department built their office there, their quarters. And we built the laboratory building along with it.

CP: Yes. What year did you move to Miami?

NS: That was in 1949.

CP: Forty-nine.

NS: See, I came onboard in '47, so it was only two years. Forty-nine. And then, while—and there again, we had a need to staff the laboratory, because it was really like—it's almost like a skeleton crew. And so, I was able to get a serologist; Virginia Derek came down there.

She had worked with Doctor Mazzini, who developed the Mazzini test for syphilis serology. And so she became the serologist and we had a few other bacteriologists there. And we more, we did the testing for water and milk and so on. And I was there—

CP: How many staff did you have at the—when you arrived?

NS: We had about, I think about— Well, when I arrived there it was about five. But we built it up to about nine.

CP: What is it now? Do you—when you—what'd you guess?

NS: I'd guess it's—of course, I've been out of this for ten years—I think right now it's about, I would say about twenty.

CP: About twenty.

NS: But that included some research work and working with the University of South Florida—Miami Medical School. Yeah, see. We did work with them.

Well, it turned out that I could see that I wasn't getting anywheres [sic] with just a master's degree. And I got to thinking that maybe I ought to go back to school and get my doctorate's.

And at that time, the state board of health did offer scholarships for graduate education. And I took advantage of that and was able to go to the University of Pittsburgh to work on my doctorate degree.

CP: What was your area of concentration to?

NS: Well, that was in microbiology and epidemiology and public health. It was in the school of public health. At first, I went there to get my master's in public health. And then, I was able to add on to that to get the doctorate's.

CP: The PhD? Oh. (affirmative murmurs)

NS: And it was kind of interesting—

CP: How long was that course?

NS: That—well, that was three years—

CP: Three years.

NS: —including the Master's in Public Health, but I had also had gotten credit for my master's at the University of Florida. Some credit anyway. The interesting thing there was that this is when the polio vaccine studies were going on. Doctor Hammond had just proposed a study to inoculate children who had been exposed to polio with the antibody.

But soon thereafter, Doctor Salk came up with the killed vaccine, the virus, which was a better antigen. And then soon thereafter, Doctor Sabin came in with the live virus, which was much better. It gave you a much more lasting immunity.

CP: Did you get involved with some of the early polio with Doctor Hammond while you were in Pittsburgh?

NS: Yeah. My kids drank the virus.

CP: Drank his juice? The oral vaccine?

NS: The cocktail. The cocktail, yeah.

Now, we did get involved, but I was a student at that time. I really didn't get so much in. My studies there, in order to get a subsidy, I was able to get a grant through my major professor, Doctor Cheever, with the department of radiological health. And I was doing studies on the effect of—

CP: With the US?

NS: Yeah, the US—the federal department. And I was doing vaccine studies to determine the effect of ionizing radiation on viruses and on cells. Vaccinate them.

CP: Oh. Fascinating, fascinating. Yes. Then did the state provide you a stipend the whole time you were gone?

NS: And they gave—I had a stipend which, again, was very modest, but we were able to manage on it. And I did have to dig into my savings also.

CP: Oh, you did?

NS: And then in 1954, I came back to the state board of health. And at that time they offered me the assistant directorship of the lab. Which I was glad to get. (CP laughs) And then—

CP: You were still on the payroll of the state board though the whole time you were gone? In essence, you were an employee.

NS: Well, I was on a payroll except that I wasn't on the payroll as far as retirement was concerned. And I had to buy that back later on.

CP: Well, that makes sense.

NS: I was on a stipend, see.

CP: Yes. Okay, I think—

NS: It's a little bit of a technicality from a personnel point of view, but it didn't bother me. And so, I was there for about a year and a half. And by that time, Doctor Sowder had an opportunity to step up to be the state health officer. Doctor—excuse me, Doctor Hardy.

CP: Doctor Sowder left—took a leave of absence.

NS: Doctor Sowder had—took a leave of absence to go back to the public health service for several years, and Doctor Hardy took over as the state health officer. And then I was able to get promoted into the directorship of the bureau.

CP: And that was '57?

NS: Fifty-seven, that's right.

CP: Fifty-seven.

NS: Actually, I got my permanent status in '58.

CP: Doctor Sowder was director of the state board of health—state health officer?

NS: State health officer. That's right.

CP: He was the boss in charge.

NS: Yeah, he was the boss in charge.

CP: And Doctor Hardy took over— Doctor Hardy was appointed to act while Doctor Sowder was gone.

NS: That's right. That's correct.

CP: So, this was a lucky break for you.

NS: Well, I guess I was at the right time and the right place.

CP: Some others might say it's an unlucky break for you.

NS: Well, no, I enjoyed my stint with the state board of health. It was a challenge, and I really grew up with it, and I think the laboratory grew up with it too.

But we had some exciting times. We were into a lot of research with Doctor Hardy, at the time, was interested in enteric diseases. And so, we did the research to determine the effect of shigella² and salmonellosis³ infections. And we did a lot of studies on that.

CP: Speak to that. What sort of studies? Like looking for salmonella in chickens, for example, or what?

NS: Well, at that time we were looking for it in humans.

CP: In humans, okay.

NS: In humans. The shigella— At that time the enteric disease was quite a problem insofar as food poisoning, and the shigellosis was rampant. And—

CP: Even among our Florida citizens?

NS: Among our— Among our Florida citizens, not as much, but with poor refrigeration and sanitation being what it is, some people did come down with—

CP: Shigellosis.

²An intestinal disease caused by a family of bacteria known as *Shigella*. The main sign of shigella infection is diarrhea, which often is bloody.

³An infection caused by *Salmonella* bacteria. Most people infected with *Salmonella* develop diarrhea, fever, vomiting, and abdominal cramps twelve to seventy-two hours after infection.

NS: Shigellosis. And matter of fact, we had—I recall very vividly, we had this outbreak of shigella dysentery; and it was after a dinner. And so, what happened was the onset of symptoms was so fast that they really thought it was due to some—

CP: Staphylococcal, for example?

NS: No, I think it was more of like a toxin of a chemical nature.

CP: Ah, okay.

NS: But it turned out to be shigella. But the reason it was so fast: well, they got such a tremendous dose that the toxin worked pretty fast.

CP: Yeah. Is it telling trade secrets if I ask you where that occurred? City wise?

NS: Well. Well, I don't know if I want to bring that but— It was onboard a ship, put it that way—

CP: Onboard a ship.

NS: —that was docked here. And of course, we had some other food poisoning outbreaks. I remember one time going out to a place— Uh, there was a salmonella outbreak, food poisoning. And we were going to take samples; but as usual, the samples that caused the outbreak had already been eaten, because that was the best part of the dinner. (CP laughs)

So, they fed us with some other foods, which we took back. We never did— We never pinpointed the culprit because it was already gone.

CP: Those are fun kind of things. That was while you was [sic] director of labs though?

NS: Yeah.

CP: You were director of labs at the time?

NS: Well, maybe I'm a little bit out of sync there.

CP: It's okay.

NS: I was— That was before I was director of labs, actually. That was in my training period.

CP: But those are fun remembrances, aren't they?

NS: Yeah. But I remember it so well because it's stuck in my mind. Anyway, some of the studies we did—and then this was even before I was director and you will be aware of it because one of the things we did—the studies we did—was with the armed forces epidemiological board to determine the enteric infections as a cause of a problem at Okatie Farms.

You remember this was during the time when the vaccine studies were going on and the —

CP: The polio vaccine studies.

NS: Polio vaccine studies. And each year, the polio foundation would (pour out?) a large number of monkeys, and then farm them out to the various universities to do their studies. And they brought them in to a holding area in South Carolina called Okatie Farms. And we went, and they had a lot of infection there.

When the monkeys came in, brought the infection from Philippines—I think they came from India—TB and enteric infections. And they would kept [sic] them there just a short period so they can become acclimated to the situation here. And if you remember, I think you were involved with that also.

CP: Yes. I have some remembrance of that.

NS: In fact, you ran the show. Remember we got a mobile laboratory from the army and it was set up. And that was done. You ran that, I think. And I used to come to visit you about once every two weeks or so.

CP: Yeah, but today's your show.

NS: And bring back specimens.

CP: Yeah, you did. You brought back specimens.

NS: Specimens, yeah. Okay. So now let me to get back to being director of the lab.

CP: Now that was partial to it. And that was polio. I want to bring you back to your early days, the early days of polio vaccine trials, and I'm wanting to recall that our state laboratories were very much involved in environmental surveillance around the use of that live vaccine.

NS: Yes, we did. Yeah.

CP: Won't you speak to that in a minute? I think that's historically significant.

NS: We did a lot of surveillance; particularly, there was this study going on in the Miami area with the University of Miami Medical School, and they were studying the effect of the vaccine, the live virus vaccine.

And we made a report on at the American Public Health Association and we found out the vaccine did well, but the problem was that when they used the killed vaccine, there was a breakthrough and there were a few cases of polio. See?

And then, later on when the live virus vaccine was used, one of the types—and I forget which one it is right off hand—was a little more potent than the others. And sometimes it'd cause trouble.

CP: Even with the live?

NS: Even with the live vaccine. But that was cleared up later on because what they—the vaccine, the viruses they used had been attenuated. And so the attenuation of one of 'em was not quite as good as the other, but it was worked out. So there's no problem whatsoever now.

CP: I'm wanting to recall that the live vaccine trials in Miami caused a lot of public outcry because of fear of contamination of the public water, with the virus being excreted by those who had taken the vaccine. What did you all do about that?

NS: Well, first of all, there really—it was more of a hysteria. There was no danger whatsoever, the virus being excreted. Because it is true that one would excrete the virus, but it just didn't show up. It wasn't any problem whatsoever.

CP: Okay. And you and the state board of health laboratories were in the center of all that as I'm wanting to remember.

NS: We did studies on it whenever they had a polio vaccine—polio outbreak. We got the specimens and we did the studies. Although those were not done in the Miami lab; they were shipped to the Jacksonville lab, because we had started a virology section.

CP: Did your virology section, was it inaugurated because of polio? That's another subject that I wanted you [to] address and now's the time. How did you get into virology? Today, I know you grow tissues and you grow viruses and you do all (inaudible), do all that stuff.

NS: When I came back from the university when I got my doctorate, I did a lot of work in virology. And at this point in time, the— As you know, viruses require living tissue to grow.

CP: Yes.

NS: And at this point in time the tissue culture system had been developed, became available. And so it made it possible for us to do the viruses, as far as looking for polio and some of the enteric viruses.

But before this, we dealt with viruses in a big way in the nature of rabies. Rabies was a big problem over the many years. And so we used to do tests for that: at first it was a microscopic slide that we look for negri bodies⁴ and remember we'd stain them?

And then later on, when we started using mice to inoculate to determine about viruses for rabies. And then, later on, we developed—and we were involved in this—a fluorescent treponemal test.

CP: Treponemal—

NS: No, not trep— Fluorescent antibody test.

CP: For rabies.

NS: For rabies. Yeah. F.R.A. And we did a lot of studies on it, and we found out that we could do, by a microscopic test, the same test with the accuracy as inoculating by—into mice which was much easier and cheaper and just as satisfactory. So that was how we got it, really, into viruses.

CP: And you've been doing that a long time.

NS: The tissue culture, yeah.

CP: You aren't old enough, but I remember the state board of health in cooperation with the US Department of Agriculture was very involved with glanders⁵ in the twenties in Florida.

NS: Yeah, glanders, yeah.

CP: Have you done any reading on that?

NS: No, we really didn't have any involvement with that.

⁴Pathognomic inclusion bodies found in the cytoplasm of certain nerve cells containing the virus of rabies.

⁵An infectious disease that is caused by the bacterium *Burkholderia mallei*.

CP: Okay. Let me jump back to virology then. What do you think was the nidus that got —because the virology section of the state board of health, of the health laboratories today is a sizable function. What was the stimulus that got the laboratories into virology? Because it's very expensive.

NS: Well, I think it was the polio. Yeah, that's right. Polio was the stepping-stone to really build up our virus section. But polio broadened itself into other enteric viruses.

CP: Which you had to do for differential purposes, obviously.

NS: For which we had to do. Which we encountered when we tested for polio, we came across a number of other viruses, enteric viruses. And then we got into the herpes virus, you see. And—

CP: Was that through genital herpes or other herpes?

NS: Well, it was mostly other herpes. It was mostly herpes. And then—nope, I was just talking about that—the other thing that we got into virology was flu.

CP: Flu?

NS: If you remember the Asian flu?

CP: Yes. I remember the hog flu? Pig flu? What was that other one?

NS: Asian flu.

CP: Oh, it was that. Okay. Sorry.

NS: And we had—and, at that time, we used to use the eggs; we used to inoculate eggs as our test host. But this wasn't practical because it took so long before we could get the results of the tests.

So, we depended much on serology to test for the antibody. We'd take specimens at the beginning of the disease and maybe two or three weeks later and demonstrate a difference in the titer. And the purpose, though, of our doing the flu studies was to determine what type of flu was going around in the community because—

CP: Why was that important?

NS: —because the way it was handled was that the flu vaccine became available, but the flu virus has a very—ability to change its antigenic properties. So, every year—

CP: Oh, change pants in the middle of the show?

NS: That's right. And every year, the vaccine had to be adjusted for the type that might be coming up. And this was a little bit of a guess.

And so, what we would do is we would determine the type, and we worked closely with CDC, the Centers for Disease Control, and they compared it with what they were finding in other parts of the United States, other parts of the state; in fact it was nation wide. So, this way, we were involved there.

CP: Okay. That was virology also.

NS: That's virology.

CP: What do you consider the highlight of your laboratory days, from a research laboratorian [sic] point of view? And we'll come back to the administrative part. I want you to speak specifically the administration of the labs before we get all done today.

NS: Well, you know, when you called and asked me to come here to talk, I was trying to figure out what was the highlight. And I must say the one—the highlight was that every day was a different—

CP: Challenge?

NS: —challenge. Right, yeah. Because we went, as you said, from the virus and enterics and syphilis serology was no small challenge also.

CP: As I recall, that was a major section of your laboratory.

NS: Because, in fact, that was the— Initially, when I first came to work at the state board of health, the federal funding for syphilis serology and for syphilis in general, the VD program, determined the size of the state laboratory; because we did—we did most—we got our funding from them, a good portion of it.

And I can recall being involved with the rapid treatment centers that the state board of health and the federal government had set up in South Florida. And we were doing all the syphilis serology for them.

CP: Yes. And for everybody else too, weren't you?

NS: Yes.

CP: What did it require? Did it require tests for hospital admissions at that time?

NS: Well, it was required as a—for a health card. It was required for prenatal testing.

CP: And premarital.

NS: And premarital. So, it was big business.

CP: And you got all those specimens.

NS: And we— Well, we got most of them. As time went on, private laboratories and hospital laboratories got into it. But those that came through the county health departments, we got, which was the bulk of them.

CP: And I want to remember your speaking of the private labs and private hospitals getting into syphilis serology, but were you not somehow involved with the certification of their laboratories for competence of doing syphilis serology?

NS: Yes. One of the responsibility [sic] was to approve laboratories to do that, the testing. And we had set up a program where we sent out unknown specimens to each of the laboratories and we did it about four times a year. And they had to show their competency in testing. And, in addition to that, we did have a limited inspection program. That was limited because of the staff and funding did not permit that.

CP: Yeah. Oh, that was on your watch, so to speak. All that came to pass under your watch?

NS: Yeah. But as an outgrowth of that, it was recognized that there was a need to improve the clinical laboratory performance in the state. And so through the state board of health on my watch and also Doctor Hardy's, we got involved with the medical technologists and with the state legislature.

And I think was in nineteen six—no, 1967, the state board of health passed the Clinical Laboratory Act for—what you call it—for licenses, for registration of laboratories and licenses of personnel. So, we—we got it.

CP: The technicians. Yeah. And that was direct outgrowth of the syphilis certification of those labs.

NS: In part. Yeah.

CP: Yeah, in part. Well, those are significant.

NS: And, of course, that led to the National Clinical Laboratory Improvement Act, which was passed in 1973.

CP: And that's worth noting.

NS: And so we were one of the forerunners of that program.

CP: And you kind of paved the ground for it.

NS: Other state health departments got into it: California, New Jersey, New York. And we were in it amongst that group.

CP: What was your involvement with the federal government's laboratory system, with the CDC? Was there much interplay?

NS: Well, it was considerable because we—there were several ways we could interplay with them. One is we would examine specimens and we came up with organisms that required special reagents and special testing which we did not have available for us because we didn't do enough testing of that particular organism. We would send them to CDC, to Atlanta, and they would confirm them.

CP: Ah, good. Okay, as a backup reference.

NS: That's right. That's one way. Secondly, when we, they offered a training program, a laboratory, which we took advantage of.

CP: Sent your folks up to them for training?

NS: And we sent them for training, that's right. And thirdly, they came in and provided consultation to us. And so we could take advantage of their expertise.

CP: Yes. All right. And they'd come freely, and you felt like you had a good relationship with the CDC?

NS: Very good. And then, fourthly, whenever there was an outbreak and the department—and epidemiology, which was your department, would report any of that to the CDC, very often on our invitation; they would bring somebody in to do the epidemiology or to do some of the footwork: the state board of health, with the lab, and also with the county health departments.

And as a matter of fact, I can recall one of the big ones was psittacosis⁶. If you remember, psittacosis was—the psittacine bird industry was quite a big industry in South Florida, the Miami area. And we got involved with that also.

CP: Okay. In terms of surveillance or diagnosis or what?

NS: Surveillance. Surveillance more. Diagnosis, actually we—that—we left that more to the CDC because it was a highly specialized testing.

CP: Seems to me, I recall that a lot of birds came into your facilities, though, through the veterinary public health folks.

NS: We got the birds. Yeah.

CP: You sure got the birds. I remember that. My memory's not as good as yours. Speak to the— You spoke to the highlights of your career as being every new day, and I like that.

But in terms of the laboratory accomplishments during your watch, you know, one, I would talk about the syphilis serology; certification of the laboratory; the laboratory act, that you mentioned, of '67; the state board of health required licensure and certification of the labs. Surely there are others, though.

NS: Well, we did— We worked in tuberculosis.

CP: Tuberculosis?

NS: Tuberculosis was quite a challenge also because, not only did we have the TB hospitals with the laboratories, they looked to us to do a lot of their laboratory testing for tuberculosis; not only the initial isolation of the organism, but to do antibody test—sensitivity testing, which we did.

And in the course of, uh, establishing additional branch labs, one of them was established in Lantana at the TB hospital.

⁶A zoonotic infectious disease caused by a bacterium called *Chlamydophila psittaci* and contracted from parrots and many other species of bird. Also known as parrot fever and ornithosis.

CP: Oh, inside the buildings?

NS: And we—our laboratory, the West Palm Beach regional laboratory branch lab at that time, was located in the Lantana TB hospital. So, not only did we do the TB and bacteriology work for them, but we also were involved in doing the clinical laboratory work, which they funded.

CP: For the hospital? But you also did public health specimens?

NS: For the hospital. For the hospital. Then, we did—the branch lab did public health specimens for the county health departments in that area.

CP: But, really, that's an artificial separation. The same people doing both, wasn't it kind of?

NS: Yes.

CP: When you went in there, you couldn't tell whether you were in the hospital lab or the branch lab.

NS: Yeah. It was a very cost efficient way of providing a service.

CP: Speak on the TB. I want to recall that under your watch, the atypicals or the avian (inaudible) that we now associate with AIDS today. Talk about your getting into the atypical mycobacteria.

NS: Well, because we had the involvement with the TB hospitals—and not only the one in Lantana, but also the one in Tampa, that was the main TB hospital; in fact, it was the first one, if you remember. And we— There was a laboratory established there which was operated by the tuberculosis boards. But it was our responsibility to direct and to supervise it.

And so, there we got involved with the atypicals because the problem with atypicals were that we had a group of organisms where they were mycobacteria but they were not tuberculosis and they acted a little differently. And we had to do a lot of determination to

CP: Did they cause disease? It looked like to (inaudible)—

NS: Some cause caused disease, some didn't. Some were rapid growers. You know, TB grows very slowly. But they had some rapid grower organisms. And some of them caused disease in some and not in others. And they didn't respond to the treatment for tuberculosis. And there were times when there were mixed infections: same patient might have TB and atypical.

CP: And the TB would be susceptible to the drugs and the atypical wouldn't?

NS: That's right. And so—

CP: It's my impression that your laboratory kind of led the way in atypical in separating the atypicals from TB from a laboratory point of view, is the point that I'm wanting you to highlight.

NS: Yeah. Well, we had an arrangement with doctor—

CP: Edwards? Manning?

NS: No, it was Dr. Eugene Sanders. Doctor Sanders, excuse me. He was the—He had been with CDC and then he went with the university of—

CP: Florida?

NS: No, no, it wasn't Florida, it's out in Indiana.

CP: That's right. That's right.

NS: But anyway, we did a lot of research with him, and I remember very nicely with Dr. Ralph Dunbar was head of the laboratory at the TB hosp—W.T. Edwards Hospital. And there, we did a lot of research there isolating atypicals and studying them and trying to determine what made them function.

CP: Yes. What made the atypicals function. Okay, I think that's a very nice leaf in the laboratory history of Florida. And while we're in Tampa, I think of the encephalitis work that went on there that also happened on your watch.

NS: That's right. That's—that's right.

CP: I might say that that was a lot of fun to the legislature, and the Florida public, and the national tourist industry of Florida. Speak to that in the role of the laboratory in all of that mess.

NS: Well, encephalitis was a problem in that it came on so suddenly and got such national publicity. They called it the green bench disease, if you remember.

CP: What does that mean?

NS: What happened was that a lot of tourists would come down and sit out on the benches, and they'd get bit by mosquitoes. And those mosquitoes carried—

CP: In Saint Petersburg.

NS: —in Saint Petersburg, encephalitis virus.

CP: The green bench disease.

NS: And so, there was a lot of illness. The unusual thing was the mosquitoes were biting people in Hillsborough County. They didn't get sick, not as much.

CP: Oh, really?

NS: And the reason, we found out later with our studies, that the younger people are a little bit less susceptible to disease. Not to say that some of them didn't get it, but it all depended on your immunity status.

CP: And that was related to age.

NS: Part, the age, you see. And so and that was when the Saint Louis—the encephalitis laboratory was established in the hospital, the W.T. Edwards. And that's—

CP: In the laboratory—in the lab, yeah—at the hospital grounds?

NS: Well, now, it was under the bureau of laboratories. It was a—we got a—had a federal grant. And the CDC participated in it. And we did a number of studies to determine the encephalitis status among the population.

CP: Yes. Okay. Which you went out and bled people and looked for the encephalitis virus?

NS: Yeah. But along with this, we established a sentinel system, a chicken sentinel system. We found out that the same mosquitoes that bite humans, bite chickens. And so, what we did was we—through the county health departments—we established these chicken colonies and periodically we would bleed those chickens. They were exposed to the bites of our—of these mosquitoes.

CP: The chickens just stayed out in the woods in pens.

NS: And so, what we did—and we did this at the beginning of the mosquito season. So this way we could determine when—if and when the encephalitis virus was showing up in the community.

CP: And then you had—other parts of the board of health would do something about it.

NS: The mosquito control department came into it. And they were just spraying the mosquitoes and so on.

CP: For a time reference, the outbreak of Saint Louis encephalitis in Saint Petersburg was in '59?

NS: Fifty-nine, yeah.

CP: Fifty-nine. And the laboratory, special laboratory, for encephalitis was set up that same year?

NS: Yes. Yes. Yes.

CP: Same year. And it continued to operate for a number of years?

NS: Well, I think it was there for about ten or about fifteen years. As the encephalitis problem receded, they branched out into other studies.

CP: And it continued as a research surveillance laboratory.

NS: Research. That's right.

CP: Is it still there?

NS: No, it's not there anymore; funding went out.

CP: Always the same problem.

NS: And then the people who— The person who was in charge retired and circumstances changed. And, of course, now, with the establishment of the University of South Florida, they became—there was really a lessening of a need for this type of encephalitis laboratories because it went over into their activity.

CP: And the reason I ask that: I think I want to remember that that laboratory became internationally famous for some of its work in water virology. And it was internationally famous for its encephalitis, for arbovirus⁷ work. All of those things under your watch is the reason that I'm emphasizing them.

⁷A group of viruses that are transmitted by arthropod vectors.

And you're belittling your influence in causing a lot of that to happen, Doctor Schneider. And it's okay for you to blow your horn right now. For our listening audience, Doctor Schneider was profoundly influential in the inauguration of all this stuff.

And I want him to move now to how the encephalitis laboratory evolved into a world standard for water virology under Dr. Flora May Wellings.

NS: Yes. Yes. Well, one of the problems you have in a tourist state, in Florida, is providing safe drinking water for everybody: tourists and the people that live here.

So, we begi—in south—in the Tampa area and Saint Petersburg, they had a particular situation there, where the water from Saint Petersburg was imported. I think it was brought in from outside of Saint Petersburg.

CP: Yeah, from the northern counties.

NS: And we had the situation where we had to assure that the water was safe for drinking. And Flora May Wellings, Doctor Wellings, did an outstanding job to determine the safety of the water for drinking purposes.

CP: From a biologic point of view.

NS: From a biologic. And it carried over into the irrigation; there was a lot of irrigation and water used in the irrigation. And the question came up: Was it safe to use water from the water treatment plants to—? Was it safe for irrigation? And the irrigation of water means that some of them may flow into the wells, the drinking water.

And so, all this was where Doctor Wellings did such an outstanding job to assure that the water was safe and to prove it by bacteriological means.

CP: Yes. And to prove it. Yeah. And for our listening audience, I want everybody to know that Doctor Schneider was Doctor Wellings' boss. A technical overview, just for the record. (inaudible) a little.

But speak to that. I remember your being very involved through that laboratory of a little parasite, somewhere in our central Florida lakes, our warm water lakes, that the world got

involved with that caused encephalitis, that your Tampa, Doctor Wellings's lab, the amoeba?

NS: The amoeba. Oh, yeah. The amoeba, yeah.

CP: The *naegleria*⁸?

NS: *Naegleria*, yeah. That's right.

CP: *Naegleria*. And we likely got world embargo in Central Florida because of an outbreak of *naegleria*. And your lab was very involved with that.

NS: That was a traumatic experience, because this person that became infected with it died, and it got—again because of we being a tourist state—it got nationwide and worldwide publicity.

CP: Yes, it did. It's swimming in our lakes was the point.

NS: And they found it in our lakes. Well, it turns out the organism was there and has been there, but it never bothered anybody because it usually laid in the silt in the bottom part of the lake; and if you stirred it up, well, maybe some of the people would become infected, particularly if you were to dive into the muddy water.

CP: Ah, okay.

NS: See? Well, we found out what not to do, but that took a lot of research to determine what caused it and what were the limitations of the problem.

CP: And this was the Florida laboratories, under the Florida state board of health, during your watch, that did all of that; and got international acclaim for excellence of research.

Pause in Recording

NS: Yeah that's right. That's right.

⁸A free-living, thermophilic excavate form of protist typically found in warm bodies of fresh water.

CP: But let's come back to you. That was a nice little break, and thank you for the water that you've given us. We were—I was trying to get you to highlight some of the significant laboratory events during your watch.

As I'm remembering, the state's attention to inborn errors of metabolism, a funny little term. I want to remember the laboratory was very instrumental in getting the state's attention to this very important public health problem. Speak to that, and tell us what inborn errors of metabolism is.

NS: Yes. Yes. Well it really started out with PKU.

CP: Which stands for?

NS: Phenylketonuria⁹.

CP: Phenylketonuria. Okay.

NS: With a baby that is born with unable to metabolize phenylalanine. And it shows up soon after birth. And a test was developed where when you could take the—impregnate a little of blood onto a filter paper and let it air dry, and then you can ship that to the laboratory, just put it in an envelope; and what we would do is that we'd punch out, just take a regular—

CP: Hole punch?

NS: —hole punch. Punch out a disk and we'd extract the blood from there, and we'd test for phenylalanine. Okay.

So then we found out there were other inborn errors that could be used to test at the same time on the same strip. And so— This was not only done here, it was done nationwide. It became a movement there. But we were one of the early ones on it. And so, we added not

⁹An inherited disorder that increases the levels of an amino acid called phenylalanine in the blood.

only to phenylalanine, PKU, we did galactosemia¹⁰, hypothyroid¹¹, maple sugar urine disease¹².

CP: Maple sugar urine disease.

NS: MSUD, they called it, see. And what it calls for is to take the blood specimen of a newborn and test. And we would do the test as soon as we could, within a matter of a few hours, you know, as soon as they came in.

And if we found a positive, we would call the physician or the health department, whoever submitted the specimen. And they would take action to confirm it because this was a preliminary test. And we had to confirm it. And if it would happen to be PKU, they had to adjust their diet accordingly.

CP: And the state board provided some sort of something for them, the children, a special diet.

NS: Yes. Through the county health departments. And—

CP: I want to remember that it was your lab that really worked out the mass technique for the blood drop for PKU or you led the nation in that.

NS: We played a big part in that. That's—

CP: And much of the other mass technique to be applied to the public health, to the mass public of all the other inborn errors of metabolism. And growing out of your efforts, since you aren't saying it, there was a law passed to require that all children be duly tested upon birth, was there not?

NS: Yeah. And we worked with the pediatric society, then the Florida Medical Association with—in this. In fact, there was established a committee, the Florida Medical Association. We worked with them very closely.

10A disorder that affects how the body processes a simple sugar called galactose.

11A condition in which the thyroid gland doesn't produce enough of certain important hormones.

12An inherited disorder in which the body is unable to process certain protein building blocks properly. The condition gets its name from the distinctive sweet odor of affected infants' urine and is also characterized by poor feeding, vomiting, lack of energy, and developmental delay.

CP: Speaking of associations you worked with and others, I'm recalling the law enforcement folks.

NS: Yes. Yes.

CP: Wasn't the laboratory somehow involved in law enforcement? Speak us to that.

NS: From the beginning, one of the bureaus in the state board of health was the bureau of narcotics. And when narcotics inspectors—they were pharmacists mostly (inaudible)—and when they collected specimens, they had to have them analyzed: whether it was marijuana or any of the other narcotics, the more potent ones.

And so, they would bring them into the laboratory, and we were set up in the Jacksonville lab, a chemistry lab, to do those testing. And then, the department of law enforcement, particularly the county coroners, when they did their autopsy questioned a foul play, at that time we did the examination of blood and stomach contents and so on for any toxic poisons or anything.

Now, this— We did this for a number of years, and then gradually the load became big, the state grew so rapidly. So, there were separate departments set up, so that the department of environmental regulation takes care of the enforcement of the water requirements to the department of—What's the?—narcotics, that's it.

CP: Law enforcement.

NS: Law enforcement. Yeah. Department of law enforcement has their own laboratory.

CP: Now has a very big lab of their own.

NS: And they—in fact, our chemists was their—started their laboratory.

CP: They stole our chemists?

NS: They took our chemists. Yeah. Our chief chemist.

CP: Speaking of them, too, I'm recalling Florida and the nation getting into testing for alcohol blood level in drivers. Weren't you somehow one of the drivers on the floor board of that too?

NS: Yes. Yes. When the drunk driving law was passed, there had to be a way of testing whether the driver had any alcohol in his blood. And so, there were several tests available, one of them being the Breathalyzer, and there were other ways of testing in the blood itself. And so, we offered that test as far as a blood test in our chemistry laboratory.

But the Breathalyzer test has to be done out in the field. And the law enforcement personnel did that. But they had to—they used sophisticated equipment and they had to be certified that they did the test properly. And so we were involved in certifying the personnel that did the test and also to certify the instruments that they used; which we still do.

CP: Yes. Okay. That's a lot of fascinating firsts that you've had there. You haven't spoken to environmental health very much, and I want to think—you spoke of veterinary public health—but environmental health in the sense of water supply, sewerage disposal, sewerage operations, sewerage plants, of which you have some firsts in all of those areas too.

Let me stimulate your memories for work of the state board of health laboratorian [sic] water supply.

NS: Well, our activity with water supply was primarily drinking water. And the county health departments had the responsibility for certifying the drinking water quality of the state. And we did—and they looked to us to do the testing of the water samples. And we did thousands of them, hundreds of thousands of tests.

And the builders, the contractors, those involved in building new houses had to have their water supply approved if they used wells. And very often in the country, in the suburban areas, they had their own wells. And we tested those wells.

CP: Okay. And you certified to the purity of it? Certified the—

NS: The county health—well, we did the test. The county health department carried out the program.

CP: Okay. But the basis of their certification was a result of your testing, wasn't it?

NS: (inaudible) tests. And not only that of course, they had to do an inspection to go along with it.

CP: Okay. So, there's a part of you in environmental. Do you recall our experiences in milk? I know that the state board of health was the—started in Florida, the first testing and certification of milk. And I remember when the pasteurization law was required or pasteurization law passed in Florida. That was during my time, which is relatively recent. (laughs)

NS: Yes, we did the— First of all, the county health department inspectors went out into the dairies and inspected the dairies. And they brought samples into us, which we examined. And many of the county health departments had their local ordinances, which required testing of milk products including ice cream and other products that—cottage cheese and that sort of thing.

And so, in those counties that had their requirements, they would bring the samples into us and we did the testing for them. Now, a lot of that now has gone over to the department of agriculture.

CP: Yeah, I think all of it has by law. Since me and you left, it's all gone. Most of our attention to water and the sewerage and that has gone.

NS: Well, one thing that we did—a little bit out off the subject—in environmental, is we had a physician who was interested in the ragweed pollen and all the problems you have with—

CP: Allergies and hay fever?

NS: —with allergies and hay fever. And so, we did a study; we set up these pollen collecting stations, again with the health departments, in selected health departments throughout the state. And we used to take the slides and do a pollen count.

And some of the county health departments, they would let it be known that this information was available. And of course the news media took hold of it. And they would call on the telephone and announce it on the TV and all that sort of thing.

CP: What, the pollen—the daily pollen count?

NS: Pollen count.

CP: And coming out of your lab?

NS: It's a little unusual story about that. We had this one station that the count was so high, it was just unbelievable, it turned out that someone who had selected the station had put it right near an area where they had an unusual large clump of trees that shed pollen. (CP laughs) We finally cleared that up.

CP: That's called a sampling error.

NS: That's right.

CP: Yeah. The congenital defects.

NS: Well, we worked with the— Some of the county health departments that were involved or interested in congenital defects, and Dr. Simon Dolph, who was with us, had an interest in it. And we did studies for him; was funded by the public health service. And I can recall we gave a report in Wilmington, Delaware at the hospital, the DuPont Hospital there. It was well received too.

CP: On congenital defects, what were you all doing? What did the laboratory do?

NS: What we were doing was looking for the presence of viruses or other—

CP: Possible agents.

NS: —other possible agents, and chemical agents also.

CP: Yes. Around clusters of congenital defects?

NS: That's right, yeah.

CP: Yeah. Like spina bifida¹³?

NS: Spina bifida? Yeah.

CP: Yes. As a major one. I'm thinking of lead. You know? And I remember that Florida was the first to show that lead screening is a valuable thing. The rest of the world is now finding out that that's a valuable thing for youngsters.

NS: Well, we provided a service. The need here was because we had a lot of old housing with lead-based paint chipping off. And these children, who had developed the disease of eating lead.

CP: Yes, the paint chips.

NS: Paint chips. And so as you know, lead contamination caused mental retardation.

CP: (makes noise) Very quick.

NS: And so—very early in life. And so, we, through the county health departments, started offering a test where they're doing lead—lead—a blood lead, we called it. And we did that testing there. And that's still being done.

CP: That's now kind of highly recommended. I think it's—I don't think it's required yet for a screening, but it's highly recommended by the state health department in certain areas of the state. And a lot of screenings going on.

¹³A developmental congenital disorder caused by the incomplete closing of the embryonic neural tube. Some vertebrae overlying the spinal cord are not fully formed and remain unfused and open.

But the mass technique for that, now as I want to recall: the fancy uptown laboratories all could do that, but it was up to your laboratory to work out the techniques for making it mass available.

NS: And also the test is so involved because there's so much lead in the air, and wherever lead and gasoline and in the soil, lead batteries. So, we had to be sure that the tests we did was truly a contamination [of] the blood of the child rather than outside contamination. So we had to be very, very careful how the specimens were collected and how they were handled.

CP: Interesting point. Let me turn a page with you. Let's talk about your role as administrator of the state laboratory system. Can we do that?

I'm aware you had your ups and downs. And you had the change of your bosses. You had the change of departmental bosses, and the philosophy of your work from the outside changed periodically over time. And I'm aware that the demands on you were greater than the resources provided to do those demands. Why don't you speak to some of that?

NS: Well, you asked me before, "What was highlight of my career?" And this was not the highlight. This is the part of my job that I really did not remember with affection, particularly when the state—when the constitution was redone and the department of health was taken out of the constitution and allowed the establishment of a department of HRS [health and rehabilitative services], which I have nothing against.

But it really created havoc as far as the administrative side of the—

CP: Yeah. How you got your work done. That was in 1969.

NS: Nineteen sixty-nine. It started out, if you remember, with health and rehabilitative service and department of corrections.

CP: That's correct.

NS: And the department of corrections—well, the whole department was just too large to handle. And they finally decided that maybe they'll separate out the department of corrections. And we wound up with HRS, the Health and Rehabilitative Services.

CP: Yeah. That new department, for the listeners' benefit, encompassed a little better than one-third of all state employees were in this one department, the department of health and rehabilitative services. How did that impact your administration, Nathan?

NS: Well, it changed a lot. The ballgame was different. For one thing, our headquarters until this reorganization was in Jacksonville because that's where the state board of health originally had been established.

When HRS was established, the headquarters was moved to Tallahassee, which was perfectly all right, as far as no problem. But how do you move a laboratory there that's already established, and who's going to pay for the move?

So, for quite a while, we went back and forth as to whether the laboratory would be moved there. Well, they decided they couldn't afford that, so then they wanted to move my job.

CP: (laughs) Move you to Tallahassee? That doesn't make a lot of sense either, does it?

NS: No. Again, they had a perfectly right to do it but that was about the time I retired. I had an option. (CP and NS laugh)

CP: Now, for you to administer the lab, technically and administratively, that would be rather difficult to do at 180 miles, would it not be?

NS: Yes. It really would. But I have to say this: that Doctor Sowder and you, when you became health officer, were very helpful—

CP: We were sympathetic.

NS: —in trying to keep the laboratory in business, to get funding. We had problems with funding, there's no question about it. And as time comes on, we find that, more and more, we had to depend on outside funding for certain activities.

For instance, tests for Medicaid; federal funds were available through the county health departments. And we were really the forerunners of working out a system where the county health departments would allocate some of their Medicaid money—

CP: For laboratory—

NS: —for laboratory testing.

CP: In essence, you billed—for the first time in history—you billed your brother for services performed?

NS: That's right. We didn't like it, but that was one of the things they required. You see, one of the problems you have in public health, one of our main goals, is to find out what is going on in the community. And when you start charging for laboratory tests, and you're depending on the information to find out what's going on in the community on basis of the laboratory specimens that are submitted, and if you charge for it, they are not submitted.

CP: You decrease your bias in your sample.

NS: And so you decrease the sample. And that was one of the downside, I think.

CP: It's still going on, isn't it?

NS: Well, it's—yeah, it's more, it's going on more. But I've been out of the department ten years now, but I must say that with the reestablishment of the department of health, I think some of those things will be—

CP: We'll see them turned around.

NS: —will be cleared up.

CP: If it won't embarrass you, speak to your most trying financial problem in your career with the laboratory. And this is not to embarrass you; this is for the record and for history.

NS: Well, one of the trying one was our salary range was never competitive with private industry. Which we—now it's understandable that perhaps because we have the—maybe a little better retirement benefits and outside benefits that the salary might be less.

But we were so far out of competition in some of the urban areas, in the Miami area and Jacksonville, where the salary ranges were considerably higher, that we were unable to fill some of our senior positions.

CP: Or if you were to train one up to assume the senior positions, as soon as he got there, private industry hired him away.

NS: That's right.

CP: So, you were a good training ground for industry.

NS: Yeah, yeah, that's right.

CP: That was a plague during your entire career, was it not?

NS: Well, I think that's a—it's always a plague that you train for someone else if you don't have control over the salaries. But, of course, I will say this: that funding was available, but it was something that you could never predict for the future. In other words, you may have a program going—

CP: You couldn't do much for the planning, huh?

NS: Yeah. You could have a program that's established, and then you find out that the positions had been taken away from you. And then you had to scramble to determine how you were going to provide that service with either fewer positions or positions from some other department.

CP: That was a significant problem for your entire administration, as I want to remember. Was it not?

How did the change—I remember at the outset, the laboratory director when we first began laboratories under Doctor Porter; Doctor Porter was director, but he brought in a Doctor Aims, as you remember, as first laboratory director and made Doctor Aims assistant state health officer by title.

And over the years that changed: from your position being directly accountable to the state health officer to the height of the HRS organizational scheme; you found yourself some four or five layers removed from the big boss. How did that impact your service?

NS: Well, it provided a slowing down, I think, of our efficiency. The way it was set up was that there were a group of activities that were outside the county health departments that had to serve the entire state, like the bureau of entomology and vital statistics; laboratory.

And so, there was established what we call an office of laboratory service and a program office. And so, this was another layer that we had to go through to get to the secretary.

CP: To the decision levels.

NS: Yeah. Yes. Right.

CP: Was that frustrating?

NS: Oh, very. (inaudible) was. Yeah. (CP laughs) What was frustrating—I don't know if this should be off the record—but I would get a call in the afternoon to say that there will be—in Jacksonville—[that] there will be a meeting next morning in Tallahassee at 9 o'clock.

So, I'd get up at 5 o'clock in the morning to drive to Tallahassee and meet until 4:30. And then it was too late to catch a plane, and I didn't want to spend the night, so I drove back home. So, I got home at 9 o'clock. It was a long day.

CP: But you were expected to be at the meeting?

NS: It was another reason I retired. (CP laughs) You can knock that all out, but I had to say it anyway.

CP: No, no, no. That's important to the history, and if part of our frustration. I'll tell you mine in the similar circumstance, simply for your record. Under our service with HRS to be—you could be called at twelve noon for a meeting at four o'clock in Tallahassee.

NS: Yeah. Well, that's worse.

CP: And then drive to Tallahassee to get there to be advised that, "We're sorry, the meeting has been called off. Can you be here in the morning at ten o'clock?" You know? Now, that was frustrating. That was frustrating.

NS: Yeah, I bet. I never really had it that bad. (laughs)

CP: Doctor Schneider, you've brought us a number of—

NS: You know, the old saying is, "If everybody hung their troubles out on a line, you'd run like the devil to catch your own."

CP: You are so right.

NS: So, you had more trouble than I had.

CP: (CP laughs) Good point.

NS: You can take that off if you want.

CP: No, I think that's important. I think that's important to what it is we are doing here. Those are significant pieces of history. You've brought to us a number of—a pile of paper I noticed over there to your back. Highlight for us what you were going to leave with us.

NS: Well, one of— Of course, I've got a few of my reprints of my papers that we published. I'd like to leave that with you that you could put in a record. And then, I was active with the Florida Public Health Association.

CP: Yes, you were. We didn't talk about your association with the national laboratory; we didn't talk about your visit with President Johnson either.

NS: Yeah. How did you know that?

CP: I just happen to have a picture of you and President Johnson standing in the oval office.

NS: Well, okay, since you brought it up, I'll tell you.

CP: All right.

NS: The—before we were talking about the licensures and the regulation of laboratories?

CP: Yes.

NS: Well, it was during my administration—I was president of the state and territorial public health laboratory directors; all of the states of the United States—that the clinical laboratory improvement act was passed by Congress, which really was started with our regulation activities in Florida and California and New Jersey, New York. And so, as president when President Johnson signed the bill, I was invited to attend that.

CP: The bill signing.

NS: Yeah.

CP: Did you get a pen?

NS: No, I didn't get a pen.

CP: You didn't get a pen?

NS: No, they didn't offer. Now it was only two hundred people there. (CP laughs) But I had a seat in the east room of the White House.

But then I was active in the Florida Public Health and I did get the meritorious service award that was—and actually, I think I'd take a little credit for being active in some of the activities that were carried out by the FPHA.

CP: I think you can justifiably take credit for the actions.

NS: And then, I was active with the public health laboratory and the APHA. And also—

CP: APHA, American Public Health Association.

NS: American Public Health Association, which I had just got my forty year pin about—

CP: You did? Forty years ago?

NS: —About four—about five years ago.

CP: Congratulations. And you're still an active member obviously?

NS: Oh yeah, emeritus.

CP: Very good. Yeah, what offices—? Did you hold any offices with the APHA?

NS: Well, I was just a delegate, not really on the board there. But in the laboratory section, I went through the chairs from the secretary to chairman, chairman elect and so on. Program, did all the things that usually called on for each of the laboratory—for each of the sections.

And, likewise, in the Florida Public Health Association, I was secretary, vice president, [and] president. That was a memorable year.

CP: Your involvement with bats in Florida is famous internationally; for showing that the fruit bat carries rabies. Why don't you speak to your role in that?

NS: Yes. That was a—came as a surprise. That one day, a bat was submitted to the Tampa laboratory; it had bitten a person, and the person was familiar with bats and rabies in other parts of the world.

And so, when the laboratory in Tampa examined it, lo and behold, they found on the slides negri bodies that looked like rabies. And this was in an insect-eating bat, an insectivorous bat; not the vampire bat, by any means.

And so we start—we did this study. We got funding from the federal government, made a report of it nationally, and it got newspapers. And, of all things, once one discovers something like that, they find it elsewhere. So it showed up in California, and I think in—Ken—Was it Kentucky?—either Kentucky or New Jersey, I forget which one.

But anyway, we examined thousands and thousands of bats. And there are two types (inaudible) bats. They have the bats that live in caves. We never did really find—well, I think we did find one bat that had the virus in it. But we found it mostly in what they call the free-living bats, the yellow bats and the brown bats. And found in the brown bats.

And so, we did numerous studies on that. And we were able to demonstrate that the bats do carry viruses. And so, we found out that those who—whenever you see a bat lying on the ground as if they're—been hurt; the kind that you can—that are not active that you can pick up—those are the ones to leave alone, because those generally are infected with the rabies. In fact, in our study, twenty-five percent of those bats had rabies.

CP: Really?

NS: Yes.

CP: That makes me think of the raccoon that's tame too. And I know that you—speaking of rabies—you were very involved in defining the raccoon rabies (in the state?).

NS: And in the fox, and in the cat, and in the dog.

CP: So you were involved with all of them?

NS: And we did rabies. That was—

CP: I have a feeling that we have hardly scratched the surface of your career in public health, Doctor Schneider. And it's a fascinating one.

NS: We covered a pretty good groundwork. Now you see why I can't tell you what the highlights are, because every day was a challenge. When I got up in the morning, I always read *The Times Union*, our local paper. Namely because I had to make sure I could answer a question that some taxpayer or inhabitant called about. (laughs)

CP: Would be asking that day.

NS: That day.

CP: Very good. Doctor Schneider, on behalf of the College of Public Health at the University of South Florida and the library system of the University of South Florida, we thank you sincerely for sharing your fascinating history in public health with us.

NS: Yeah. Thank you for inviting me. [I] enjoyed it.

End of Interview