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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: C53-00022
Interviewee: Lawrence C. Manni (LM) Interviewer: E.
Charlton Prather (CP)
Interview date: October 21, 1999
Interview location: Unknown
Transcribed by: Alyssa Culp
Transcription date: February 04, 2015 to February 19, 2015
Audit Edit by: Will Clark
Audit Edit date: February 23, 2015 to March 5, 2015
Final Edit by: Jane E. Duncan
Final Edit date: June 10, 2015 – June 16, 2015

E. Charlton Prather: We are privileged to have today Dr. Lawrence C. Manni, MD, who is the longtime director of tuberculosis¹ control in Florida. Indeed, he has spent essentially his entire professional life in tuberculosis control. He came to Florida from Michigan, from a tuberculosis hospital there. And part of his very fruitful career was being director of the Florida Tuberculosis Control Board, which had its demise with a governmental reorganization act in 1969.

But here, he was director of the W.T. Edwards Tuberculosis Hospital and he came to Florida to take over the directorship of one of our major tuberculosis hospitals, located in Tallahassee as a point of interest. And, from there, spent a very, very fruitful good career in tuberculosis control. And indeed continued in tuberculosis control as a radiologist, reading chest films,² for many years even after he had formally retired.

It is a pleasure, to have today, to talk about and reminisce some about the history of tuberculosis control in Florida. Dr. Manni, we are complimented that you would come, and I just thank you sincerely for your willingness to come and share with us your great career impartial to that the history tuberculosis control in Florida. What got you interested in tuberculosis?

Lawrence C. Manni: Well, Skeeter, when I finished my internship, which was one year, I was broke and it was during the Depression.

1A widespread, and in many cases fatal, infectious disease caused by various strains of mycobacteria, usually *Mycobacterium tuberculosis*.

2A projection radiograph of the chest used to diagnose conditions affecting the chest, its contents, and nearby structures.

CP: Well, aren't most of us? (laughter)

LM: I didn't have one red cent to speak of. I was looking for something to do to get a little nest egg to go into private practice.

CP: Ah, yes.

LM: And I had a chance to work at the American Legion Hospital in Battle Creek, Michigan, which was a tuberculosis hospital complete with the thoracic surgery³ and all the up to date treatment that they had at that time. So, I went there with the idea of working one or two years and then go out into private practice. And what—I got married shortly after going to work, and a family started shortly after that, and I never did get that nest egg put away. (laughter)

Then I was promoted and given an increase in salary, which looked very good. And then, a little later, the doctors were being drafted for service, due to the war at that time: World War II. And I was advised not to go out into practice and stay there, because I was essential where I was. And when I did apply for military service, I did get a letter back telling me that I could not be taken because I was needed where I was and I had to stay where I was so that kept me in the tuberculosis hospital.

CP: (laughs) How long did you stay there?

LM: I stayed in Battle Creek from 1936 to 1949, and I became medical director of that hospital before I left.

CP: Wow, 13 years. You started out as a fresh intern, little man on the tokem (sic) pole, and ended up as medical director of the hospital.

LM: Right.

CP: How long did you do that? How long were you medical director?

³Thoracic surgery encompasses the operative and surgical critical care of patients with acquired and congenital pathologic conditions within the chest.

LM: I became medical director in 1942, so it was seven years that I was medical director at the American Legion hospital.

CP: And what stimulated you to come to Florida? I think you came to Florida from there, did you not?

LM: Yes, in 1949. My wife had a rare condition called Raynaud's syndrome⁴ and I was advised that the cold climate up there in Battle Creek was bad for her and that I should seek residence in warmer climate. I had an opportunity to come to Florida. First went to the hospital in Orlando. I was there one month, and then they asked me to go to Marianna and take over the medical directorship of the Northwest Florida Tuberculosis Hospital; which was based on the old Air Force base in Marianna. So, I went to Marianna, I think it was May of 1949. I was medical director there.

CP: Um-hm.

LM: With the promise that when they built the new hospital in Tallahassee, I would be medical director of the W.T. Edwards Hospital⁵ in Tallahassee.

CP: And when did you come? When did that hospital open?

LM: In 1952, the W.T. Edwards Hospital was opened.

CP: And the Marianna facility was closed?

LM: That was closed, yes.

CP: As part of that. How did you like your Marianna experience? That was an old barracks.

⁴A rare disorder of the blood vessels, usually in the fingers and toes. It causes the blood vessels to narrow when exposed to cold or stress.

⁵Between 1952 and 1969, 12 tuberculosis hospitals were built in the state of Florida, in honor of W.T. Edwards. When the vaccine for TB was discovered the hospitals were closed.

LM: That was old barracks buildings and some of them were fallen down. The termites had pretty well taken care of some of those buildings, but it was a great experience. And it was a great experience for my family, for the children. They had a great time there in Marianna. We loved Marianna. It was a very nice town, people were just great.

CP: From Battle Creek, Michigan to Orlando, Florida to Marianna, that was not a cultural shock for your children?

LM: No, they adopted the place very readily and just enjoyed it. I think they, it was more of a shock to come to Tallahassee.

CP: (laughs) Yeah. Well, you mentioned W.T. Edwards. Do an aside and tell us who W.T. Edwards was?

LM: Well, W.T. Edwards was the chairman of the tuberculosis board. If I go back before I came to Florida, the tuberculosis board was set up by, I believe, Dr. Sholtz—or Governor Sholtz⁶.

CP: Yes.

LM: Sholtz. And Mr. Edwards was the brother-in-law of Ed Ball⁷ and I believe related to the Du Ponts⁸. His wife, I believe, was a Du Pont. And, if I am correct, his wife had tuberculosis and she died. When the Du Pont estate was being settled there was a question of what to do with that large sum of money and Mr. Edwards prevailed upon the legislature to build a hospital for tuberculosis in Orlando with that money and federal money, WPA money.

And the hospital in Orlando was finished in, I believe, 1938. Then Mr. Edwards was appointed as chairman of the tuberculosis board and there were two other members on that board when I came to Tallahassee. At that time they were trying to get more hospitals built. There was a waiting list of patients to get into Orlando. At that time, the old airbase at Drew Field⁹ in Tampa was closed and the airbase in Marianna, where there were hospitals at both of these airbases.

⁶Governor David Sholtz (1891-1953) was a Florida Representative, a state's attorney, and a city judge before he became the 26th Governor of Florida, serving from 1933-37, during the Great Depression.

⁷Edward Gresham Ball was an American businessperson. He was a powerful figure in business and politics in Florida for decades.

⁸The Du Pont family is a wealthy American family, descended from Pierre Samuel du Pont de Nemours, known for their philanthropy.

Mr. Edwards and his help had a cigarette tax passed back then, whereby the state would charge two cents for a pack of cigarettes, an extra tax. One cent would go for building tuberculosis hospitals, and I believe the other cent would go to the county. With that cigarette tax, they built the new hospital at Lantana that was opened in, I believe, 1950. It was a three hundred and fifty bed hospital. And that cigarette tax, plus federal matching money, built that hospital.

{Then there was a movement to build a new hospital at Tampa and at Tallahassee. And the Tampa hospital, where the old Drew Field was, was opened in 1951 or '52 somewhere in there. And the Tallahassee hospital, W.T. Edwards Hospital, was opened in '52, 1952. There was also in the works to build another hospital over towards Jacksonville, at I believe MacClenny, but that never did materialize. I think it was because they had found that, with these other hospitals, that they had picked up the slack and taken care of the waiting list of patients. And then as antibiotics came into use, why the hospitalization was not near as long and we didn't need that other hospital.

CP: What was the duties of the board, TB (tuberculosis) board?

LM: The TB board was the controlling board of the hospitals.

CP: It was established by law.

LM: It was established by law. They had nothing to do with tuberculosis control in the counties. That was taken care of by the health department. But they had the care of the hospitals.

CP: Now you became director of W.T. Edwards and W.T. Edwards didn't close. How did you get in to be the director of the TB control board?

LM: Well while I was director of W.T. Edwards Hospital—the first director for the TB board was Dr. Sweeney then he was replaced by Dr. Davies (?). Dr. Davies left to go up to Seattle, Washington to the university there. I applied for the position of director of the TB board and was accepted and given the job.

⁹Drew Army Airfield was a World War II United States Army Air Forces base. It was the headquarters of Third Air Force and was primarily used for advanced combat training of fighter and bomber units prior to their deployment to combat theaters overseas.

CP: Given the sealed.

LM: So then I became director of all the hospitals for the TB board in the state of Florida.

CP: And how long did you do this? You were there when the board was abolished, I think.

LM: Yes. When there was a state reorganization the TB board was eventually abolished.

CP: That's the '69 Reorg [Reorganization] Act¹⁰.

LM: And then the hospitals, the care of the hospitals, went to the state department of health. And Dr. Sowder¹¹ asked if I would take the job as bureau chief of tuberculosis control. That would include the hospitals and the advisory of capacity to the county health departments.

CP: Remind me of the year that transition took place. When did you come to the state board of health?

LM: In 1970.

CP: 1970. I was there, but I don't have a good handle on dates like you do, it must be a difference in mine and your memory abilities. (laughs) Let's go back to Marianna a minute, maybe the first anti-tuberculosis drug, with any effectiveness, was streptomycin.

LM: Yes.

CP: And you had done—streptomycin came in '41-42, was it available to you in TB at that time?

¹⁰This revision of the state constitution in 1968 consolidated 200 state agencies and boards into 23 departments. The next year the Florida Legislature created the Florida Department of Health and Rehabilitative Services (HRS) and the state board of health was abolished. County health departments were transferred to HRS under the Division of Health.

¹¹Dr. Wilson T. Sowder was a prominent figure in Florida's public health system for over 30 years. His dedication to Florida's health began in the 1940s, when he served as a venereal disease control officer with the US Public Health Service. Under his tenure as a Florida state health officer, he developed health departments in each of Florida's counties. Dr. Sowder was interviewed as part of the Florida Public Health Oral History Project on June 24, 1997.

LM: It was available. It was very expensive and the patients were expected to pay for it or obtain it in some way or other. So it wasn't used very widely. And of course research had been going on for various different drugs for the treatment of tuberculosis. Penicillin was tried, sulfa drugs were tried and streptomycin came along and we thought we had a miracle drug. It looked like it for a time, but then all of a sudden patients would become sicker than they had been. The organism the tubercle bacilli became resistant to the streptomycin and they became much sicker and usually died.

CP: Oh boy. That was early days before.

LM: That was in the '40s when we started using streptomycin.

CP: What did you do before then?

LM: Bed rest, mostly and prayer.

CP: Bed rest and prayer.

LM: And collapse therapy.

CP: Collapse therapy, now what's collapse therapy?

LM: Well we collapsed the lung with different types of surgery. It was felt that if we could rest the lung, besides just lying in bed, rest the lung so it didn't function, it could heal. So we put air around the lung between the lung and the chest wall. That was called a pneumothorax. And patients would get an injection of air every few days and keep that—gradually collapse that lung and it did help, it improved.

But there were complications like fluid developing, empyema¹² things like that. And we also put air in the abdomen, pushed the diaphragms up so the diaphragms couldn't function. The diaphragm being the largest muscle of respiration and that required an injection of air every few days. And another collapse therapy was to crush the phrenic nerve, the phrenic nerve which runs

¹²Empyema is a collection of pus in the space between the lung and the inner chest wall.

from the neck down to the diaphragm by finding the nerve just above the collar bone, crushing it with a hemostat and we paralyzed that diaphragm so it could no longer function.

That was another form of collapse therapy. And then the other form, which was rather a cruel type of treatment was to remove ribs and collapse the whole chest wall. We started out with two and a half ribs, usually the first two and a half ribs. And then two to three weeks later take out two or three more ribs and, if necessary, take out one or two more. After the ribs were removed they would have to use wear a pressure dressing to press the chest wall in and keep it collapsed and collapse the lung. I haven't seen any of those patients lately, but I'm sure there may still be some of those patients alive today.

CP: Well, apparently, it took care of their tuberculosis, if they are still alive.

LM: Yeah, I have the pleasure of seeing one or two patients every year up in Michigan, when I go up in the summer time, that I had back in the '30s.

CP: Really? That must be fun reunions.

LM: It is, it's great.

CP: And they were treated with these, what now would be antiquated (sic) crude techniques.

LM: That's right.

CP: But it worked?

LM: It worked. We had no medications at that time. They had tried various things like gold solutions and all kinds of things but none of them worked. Until we got the antibiotics, and of course, as I said, streptomycin looked to be a miracle drug, but alone it wasn't. And then a few years later, the latter part of the '40s, found out that taken with another drug, we called it PAS¹³: Para-aminosalicylic acid, that the two together was very good. And this became the standard of treatment. And then later on, I think it was '48 or in the early '50s, another drug was found: Isoniazid. It was a medication that we had on the shelves for many years, but had never tried it for tuberculosis.

13 An antibiotic used to treat tuberculosis. This organic compound has been use since the 1940s.

CP: Fascinating.

LM: This was a great discovery. And of course, back in those days we kept patients in the hospital for years, months, weeks, or months. The drug treatment varied, I would say, on an average of one and a half years to two years and some patients it was for the rest of their life, taking one or two drugs.

CP: And they never got cured? They were in remission, but still had live organisms.

LM: We never talked about “cured”, back then we talked about “arrested”.

CP: Oh, good point, keep talking.

LM: We said they were arrested of their disease, but they were not cured, because they could break down at any time. And many of them did. And if they had, had antibiotics at that time and at first we only had the three, to repeat the antibiotics sometimes was not successful, it just wouldn't do it.

CP: The organisms developed a resistance to them.

LM: The organisms developed a resistance.

CP: What did you do about those poor souls?

LM: We just kept them hospitalized. That was about all we could do.

CP: Kept them fed and watered and rested.

LM: Right.

CP: So that's the reason for the need for so many beds. But today we are down to one hospital in Lantana and it only has 100 beds, or less than that now, are total TB beds. To jump of ahead of

you, too, I read somewhere recently that Lantana is one of the two hospitals in the US still exclusively dedicated to tuberculosis treatment. TB hospitals in the US have closed.

LM: Yes, and I think that is a very good thing to keep that hospital because they are doing an excellent job with the resistant organisms; and are finding a way to treat people who have resistant organisms. At the present time I think we have over ten or eleven drugs to treat tuberculosis.

CP: Wow.

LM: But some of them are secondary and when the patients become resistant to the primary drugs, then we have to treat them with secondary. And some patients have to receive from five to six different drugs a day.

CP: Wow, that is some contrast to daily dose or every third day dose of streptomycin in your beginning.

LM: And of course surgery is very rare now for tuberculosis and at one time I can remember when we were doing—50 percent of our patients were receiving some type of surgery.

CP: Some type of relapse surgery.

LM: Where we would have to remove portions of the lung to remove the diseased area. It was the only way we could get it out of there. And then you were never sure if you had all of it.

CP: So all the hospitals employed thoracic surgeons?

LM: Yes, all the hospitals had their surgical suites and their surgeons.

{CP: I read somewhere that about a third of tuberculosis organisms isolated today are totally resistant to all drugs available. Can you speak to that? That would put us right back to the pre-1940s.

LM: That has become a very big problem in this country and especially in the European countries. I saw a report just recently about total resistance of prisoners in Russia. These people,

when they are discharged from prisons, nothing is done as far as their tuberculosis concern and they are spreading drug resistant tuberculosis. We have some of those patients in the United States today. And that is why I think Lantana hospital is so important, because they are doing that type of treatment and are successful.

But when a patient is totally resistant to all the drugs that we have it is a very difficult situation. Now when we first started noticing resistance, we might find that they were partially resistant maybe to one drug or they might be totally resistant to one drug, partially resistant to another. So we could use the other drugs, we had a selection, and we might have to treat them longer, keep them in the hospital longer, but we could treat them. But when you find that they are totally resistant to all of the present drugs, then it's out of the question of treatment with—

CP: We are back to rest and prayer again. Back where we started.

LM: I have often said and I was told this when I first started to work with tuberculosis, that tuberculosis could probably be eliminated if we found every person that had active tuberculosis and isolated him. Put him in a hospital and kept him there until he died or got well. And if we found every person positive to the tuberculin skin test, meaning that he had been infected sometime during his life and keep track of them on an annual basis we might sometime, someday, eliminate tuberculosis.

CP: That is pure community/epidemiologic control, that's not drug control. Fascinating concept was that feasible at all?

LM: Well we haven't found it feasible. (laughs) It is very difficult to get patients to take their drugs for the time prescribed; they get to feeling better—

CP: And quit their drugs and they reactivate.

LM: They reactivate.

CP: And become communicable again.

LM: And they may become resistant too if they reactivate.

CP: Oh yes.

LM: So it's a big problem but if we could isolate each and every one we might—

CP: Keep them under observation. Yeah, that makes theoretic sense but it doesn't sound very humanly practical.

LM: No not when we are criticized for getting into human rights.

CP: Oh yeah, you would. You would be stepping on my rights toes. Yes, you would. Let's move to 1970 when you came to the state board of health with an entirely new role, you still were responsible for the efficient and proper operation of the several hospitals of which there were three in Florida at that time: W.T. Edwards in Tallahassee, Tampa, what was its name?

LM: Tampa was the Southwest Tuberculosis Hospital then when they closed the hospital in Tallahassee they transferred the name of W.T. Edwards to the Tampa hospital. And then later on the Lantana hospital, which was the Southeast Tuberculosis Hospital, was renamed the A.G. Holley hospital, who was the chairman of the tuberculosis board after Mr. Edwards died.

CP: Oh, A.G. Holley. As an aside is Mrs. Edwards still living?

LM: No, Mrs. Edwards has passed.

CP: Too bad. Is any of her family living? Anyone who knows her history?

LM: No, I don't know.

CP: That's purely an aside. I have done a little bit of looking for her to talk about Mr. Edwards and the beginning of the TB system in Florida, but I haven't been able to find her so I worried that she might be dead. But you, now, are responsible, your responsibility to the state board of health includes preventing unnecessary hospitalization. So you move from the end stage of TB, the hospitalization process, to preventing the need for hospitalization/community control. How did you adapt to this new role of being the community control officer for the state of board of health? Except in 1970 it was the division of health, wasn't it?

LM: I knew the personnel.

CP: In 1970, you changed roles. You went to the division of health in '70 and now found yourself equally responsible for community control, or I would like to state differently, for preventing the need of hospitalization and your entire background had been addressed to the, from a community point of view, to the end stage of tuberculosis, because if hospitalization is required, the community control effort has failed. How did you adapt to this new role?

LM: Well, while I was director of the state board for tuberculosis I became very well acquainted with most of the health officers in the health departments and with the control people in Jacksonville: Dr. Sharp¹⁴, Dr. Wharton¹⁵, and others that were there. Often met them and talked with them at conferences and meetings and knew just what was going on and I often was asked to speak to county health departments by the county health officers on the subject of tuberculosis.

So that it was not difficult for me to step into that position and make regular visits to the health departments and consult with the health officers on tuberculosis and set up treatments, outpatient treatments in the health departments for tuberculosis. We began changes, shift of outpatient treatment, eliminating patients going to the hospitals. Now, that was a problem because some patients just would not adapt to outpatient treatment. They wouldn't do what they were supposed to. So you had to be very careful in picking which patients couldn't go on outpatient therapy and which patients should be admitted to the hospital.

CP: Yes, yes.

LM: But it, those patients that were chosen it worked out very well. Usually, the patients that were chosen for outpatient care were those that did not have what we would call far advanced tuberculosis. They would have minimal disease or what we would call moderately advanced. And they could be mobile and some of them could remain on their job, after maybe a couple of weeks of treatment before going back to work.

¹⁴Dr. C. M. Sharp was the director of the Florida State Board of Health Bureau of Tuberculosis Control in 1953.

¹⁵Dr. Dwight J. Wharton is listed as director of the Division of Tuberculosis Control in the 1960 Florida Board of Health Annual Report.

And depending on their sputum of cultures, if they had positive cultures we kept them at home and when their laboratory tests came back with good results then they could go back out to their job and out into the public. And those with minimal tuberculosis often did not have any sputum and therefore were not contagious. But it worked out real well and eliminated the hospitals and left us with only the one hospital and that gradually went down to, at one time I think there were only about fifty beds in Lantana for patients. And the patients that were sent there were those that had to be committed because they would not abide by the rules, regulations that we had at that time.

CP: Committed, like a judge ordered them to be sent there?

LM: Yes. Then a good many of those patients were also alcoholics. We had a lot of them that were alcoholics and they were hard to control. They had to be hospitalized where you could control them. And even in the hospital it was hard to control them. But that's where we are now. And I have always felt that—I never like to use that term “eliminate” or “eradicate” tuberculosis, because I just can't see that it ever will happen. I'm sure it won't happen in my lifetime.

CP: Unless we get a new drug that's really a gold bullet.

LM: And people will say, “Well, why don't we have a vaccine?”

CP: Okay, I'll say that: “Why don't we have a vaccine, Dr. Manni?”

LM: We have tried. There has been research for a vaccine, and we have found that we have the tuberculin skin test, which tells you whether a patient has ever been affected with tuberculosis; but it will not produce immunization. The best immunization that I know of, and I think has probably given me some immunization, is maybe getting infected occasionally with the tubercle bacilli and then getting well.

CP: Did you ever have clinical tuberculosis?

LM: No.

CP: Yeah, but you were around it a lot.

LM: I surely have taken in the organism. I've been in it a whole lot.

CP: Is there a way to test for immunity?

LM: Not that I—

CP: Is there a blood test that we can tell whether or not you are immune?

LM: No, not that I know of.

CP: Okay. But totally reinfection is rare, is it not, after drug therapy?

LM: Yes.

CP: Well, is it true that a positive tuberculin implies the presence of live tubercle organisms somewhere in the body?

LM: No, it does not imply that there are live organisms it implies that there has been an infection sometime during the life of that individual, but that infection has been healed and there are dormant organisms that can reactivate.

CP: If we would get one of those nodes or piece of lung tissue and submit it to the lab they could revive the organism out of it?

LM: Probably they could. Because they will culture from sputum and sometimes from lymph gland specimens and they culture live organisms.

CP: I also see in the public media that tuberculosis rate in the US is going back up at a frightful rate from an all-time low for new tuberculosis cases in about 1982 or '83 when there was hardly any tuberculosis in the US and now we got a whole bunch. Do you keep up with the data?

LM: I don't keep up with too much of it. I guess most of my information comes over TV or newspapers or magazines.

CP: That's where I'm getting mine. (laughs) I am not keeping up with it either. But from a community control point of view, what are some of the highlights after you became director of tuberculosis control of the state's efforts to control tuberculosis? I know immediately after the war, chest x-ray surveys were very popular, and the old state board of health bought a lot of survey trucks that had x-ray units on them, and they'd come by and park on the corner and everybody encouraged to come in and get their chest x-rayed.

LM: Yes, that was a very good procedure at that time it paid to take chest x-rays of everybody that would submit to it; because the percentage of reports from those x-rays was high enough to be of value. But as we gradually found all the active cases of tuberculosis, and hospitalized them and treated them, the active cases out in the public became less and less, and the percentage dropped so that it was not—

CP: Economically feasible. Cost effectiveness.

LM: And so that the x-ray units were eliminated. Now they—a unit that did come to this part of the state went to Gadsden County, Pensacola, Leon County, and other counties around here has just been done away with in the last year or two.

CP: Oh, really? I didn't know that. So, it was still effective up in rural, north panhandle Florida?

LM: It was mostly used for suspects where they would go in and do skin tuberculin tests and they would x-ray all the positive skin test people. And like in Gadsden County where you had a few migrant workers who had picked up cases of tuberculosis, every once in a while with this unit. And Leon County had—like the homeless shelter picked up cases in that area. So, it was a valuable tool and was very helpful.

CP: How much mass tuberculin testing? Was there much, school kids for example? Did you send nurses or doctors to schools in tuberculin tests on selected grades or everybody on some sort of systematic basis?

LM: For a while there, we did tuberculin skin tests in the schools for numerous grade levels and picked up cases of tuberculosis because we knew that if a child had a positive test he was a contact of some case even though he did not have active tuberculosis and therefore we went to the families and relatives and churches that they belonged to, and organizations and checked all of them and would maybe find a case.

CP: The source case for that child.

LM: Yes.

CP: Would you treat the child?

LM: Yes, with Isoniazid¹⁶, which is a preventive. It, I guess, takes the place of a vaccination or a vaccine.

CP: Yes, Isoniazid does good. Yeah, then you did the Isoniazid for one year at that time and then it was reduced to nine months. And you may not be aware but there is some work going on right now in Florida testing the efficacy of two months of Isoniazid.

LM: Two months?

CP: Two months. They got some initials where a nurse or a worker, a TB worker, actually carries the drug to the patient and watches them swallow it. You mentioned that patients, too many of them are unreliable for taking their drugs so public health service has funded a little activity for the direct observation of the patients taking their drug. They pay the workers to carry out the drug and say, "It's time for your drug, take it." And they watch them swallow it. (laughs) How do you react to that as an old TB guy?

LM: Well, that is necessary in some cases. Now I can relate to when I was medical director of the W.T. Edwards Hospital we occasionally would have a—I don't know what you would call it—but we would kind of go through the rooms of the patients and clean out their cupboards and things. And surprisingly, we would find that some patients would not take their medications and would store them. And we would find boxes full of pills.

CP: Really?

LM: Now one of the other medications, like Para-aminosalicylic acid or PAS, which had to be taken in fairly large doses and it was hard on the stomach. We made it up in a liquid form, because it was easier to take that way; because if they had to take in a pill form, it was twelve one-gram tablets a day, and those were big tablets. So, we made it up in liquid form; and they

¹⁶An organic compound that is the first-line medication in prevention and treatment of tuberculosis.

would pass it out in little medicine glasses and leave it with the patient, expecting them to take it, and they would empty the container. Some of them would put it in their urinals; some of them poured it out on the window's ledge and you could go out, outside of the building and look and see the stains out of the building of the PAS that they had poured out. (laughs)

CP: What did you do about that? How could you motivate the patients? Or did you?

LM: Well, we would talk to them and try to impress on them the importance of taking the drugs and some of the patients I can remember who stored in a shoebox or something that had it and would say, "Well, when they went home, they wanted to give it to their wife or their children to be sure they didn't get tuberculosis." They wanted to treat them.

CP: Oh, boy.

LM: That is one of the excuses.

CP: But city drugs, ever since we have had drugs, have been free through the county health departments haven't they?

LM: Yes.

CP: So, you didn't have to hoard it. The county health department will give you all you need.

LM: Right.

CP: In tuberculin testing, how long did that go on? Was there much of that under your tutorage or under your leadership that was mass tuberculin testing surveying?

LM: Yes, we got down to a point where we picked special areas where we felt there was a risk.

CP: Yes, where there was a nest of tuberculosis?

LM: Yeah. And of course if we happened to find any case of active tuberculosis, say in a school teacher or something or say in a bus driver, then we would do that group of contacts. And maybe a student at the university, we would occasionally find a foreign student who was here on education leave with active tuberculosis. And then of course we had to tuberculin skin test all—

CP: All of his contacts. Which was usually the entire student body, huh?

LM: Right. (laughs) And then in jails we used to—at one time the case rate in our jails was very high and we recommended that all the jails, when they admitted a new client, that they be x-rayed, chest x-rayed. That met with a lot of opposition and it was expensive, some jails were very good at it where they didn't have a large number coming in all the time.

CP: And the health department gave the x-rays?

LM: Yes. And we would find quite a high rate of tuberculosis.

CP: You would? On the admission, inmate admission.

LM: And there was another movement at one time that all general hospitals have a chest x-ray of every patient that was admitted.

CP: I want to recall that, that was Florida statute at one time. Was it not?

LM: I don't know if it was a statute or not but I know they were doing that.

CP: Strongly urged, by the tuberculosis control people, as a case finding tool.

LM: Um-hm. I can remember going back to medical school days, now this was in the thirties, one of the groups of patients that came into the hospital, that had a chest x-ray, were the diabetics.

CP: Really?

LM: Every diabetic patient that was admitted to the university hospital, in Ann Arbor, had a chest x-ray.

CP: What was the justification for that?

LM: Because diabetics had a high rate of tuberculosis.

CP: Oh, so it was just x-ray for tuberculosis case finding. Is that still so? Is it still so that diabetics are—

LM: Well they are one of the group that are high risk. If they have a positive skin test, I believe they do not cut down the number of months of giving Isoniazid prophylaxis they still give the diabetics a year.

CP: A full year. Uh-huh. Wow. Diabetes is going up in the US, too, if you've noticed on TV.

LM: Yeah, in the elderly, I guess.

CP: And in primary. Primary diabetes is up, but particularly what they call type two diabetes¹⁷ in the older folks. So me and you need to begin to be careful because in a few years we are going to belong to that group ourselves.

LM: Yeah. (laughs) I'm getting there.

CP: Let me hark back into my childhood days where many homes had a little house out back where the tuberculosis patient stayed, tuberculosis patient in the household. Those were probably popular in your day, when you was in practice. Tell me about those and there was a name for those little houses. What was the name of them?

LM: I think that was burr (?) house. There was a doctor in this area, in Quincy I believe, or somewhere here, that had the little houses named for tuberculosis patients in the back yard. The patient was kept out there in the house, his food was brought to him. Other things that were

¹⁷A chronic condition that affects the way your body metabolizes sugar (glucose). With type 2 diabetes, the body either resists the effects of insulin — a hormone that regulates the movement of sugar into your cells — or doesn't produce enough insulin to maintain a normal glucose level.

necessary were taken care of in this burr house. And there were—when I came to Florida, I would question about those, but I never could find one, they had all been destroyed. Later on, I heard that there was one here in Tallahassee over the area, Railroad Avenue, somewhere over there. I never did see it, but I was told that by an individual, not recently, that he remembers that house in the backyard of his family.

CP: I think I know where one is right now, not in Tallahassee. I haven't looked very carefully in recent times driving along US 129, but for your sake, I am going to stop and look at this particular place. Because I think that little house has been moved to a back corner and is being used—I don't know what it is being used for, but I think it is still there. The least I can do is take a picture of it and bring it to you.

Pause in the recording

CP: A burr house, thank you for that. Were they effective for preventing transmission, one and two for the open air recommendation for the TB patient, fresh open air?

LM: Well, open air I don't know as that was particularly beneficial. I can remember when I was a child, one of the schools where I was had what they called a preventorium. They had a special building built outside the regular school building and certain students—in fact one of my sisters was a student in that group. And they had special clothing to wear in the winter time, hoods, heavy jackets, and boots and the windows were wide open and if it was snowing it might snow in there.

And they went outside in the cold. And at the University of Michigan in the early days they were the only university medical school that had its own hospital and had a floor for tuberculosis patients and they had, like, porches. They would wheel these patients out, in their beds, on these porches to lay out there in the—

CP: In the sun and fresh air.

LM: Whether it did them any good or not I don't know.

CP: I have mental pictures of Saranac. Saranac, New York, the famous TB hospital there. But I have mental pictures of the sidewalks with bed after bed lined up on sidewalks of tuberculosis patients laying out there in their bed for the sunshine and the fresh air. And they were systematically carried out on some systematic basis for that. Back to this house at the school when you were a child, was that for tuberculosis children?

LM: As far as I know they didn't have tuberculosis but it was, they called it a preventorium as I remember.

CP: To prevent, huh?

LM: Yeah, now—

CP: You didn't have to go out there and breathe any yourself so you didn't know what it was?

LM: No, but when I was a child, the neighborhood that I lived in, there were—I found out later, I didn't know it at the time—but the neighbor right next door, the mother died of tuberculosis, one of the older boys died of tuberculosis. Back then families were large. I think they had 11 or 12 kids in that family. A family across the street, there were 13 kids, they had two or three that later on had tuberculosis. We didn't know at the time, but I found this out later.

So our family and all the families there, we were all exposed and everything, because we played with each other and visited in their homes. But tuberculosis, back then, was quite a prevalent condition and the hospitals, or sanatoriums as they were called, were full of patients. And another thing about tuberculosis you don't see today, like we saw then, we saw tuberculosis of almost every organ and part of the body. I can recall cases of tuberculosis of the eye, tuberculosis of the nose, tongue, any part of the body.

CP: Wow, that was kind of difficult, pre-antibiotic age, to manage, was it not?

LM: We had patients, some come in, with just a sore throat, chest x-ray would be normal, they had a sore throat of long duration and take a smear of those throats and culture it—well we didn't have cultures back then, we just did smears and would see the organisms. And there wasn't anything we could do for those people, because they soon were not able to swallow, became very ill and died.

We had patients who we would say had generalized tuberculosis. They had tuberculosis on almost every part of the body. And we, back then, more or less classified our patients as to the possibility of them getting well as to their background, native background. The American Indians, we had Indians, they did very poorly.

The African, Asian, or African Americans, especially those that came—I was in Michigan then, those who came from the south had very poor resistance to tuberculosis. And then when we would take the Caucasians, we would classify them in three classes: the redheads, the blondes, and the brunettes. The redheads we just didn't give them a chance. The blue-eyed blondes were next and the brunettes. If anybody was going to get well, they would get well.

CP: Was that a pretty good based observation or was that an old wives' tale?

LM: (laughs) It isn't true today.

CP: Upon what basis was that? How did you all explain that? Or you just observed it?

LM: I think with the American Indians they had had no exposure to tuberculosis so they had not built up any immunity and the same way with the African Americans. Then when you get to the other classification it was a little more difficult. The brunettes were more or less people from, family from middle Europe, Italy, France there had had contact with tuberculosis. Some of these fairer people, Scandinavian races, had never had any contact with tuberculosis until they came to the states so they had no immunity. But that's about the only basis we have of classifying.

CP: Now redheads, you just didn't pay them any attention, you knew they were goners.

LM: There was nothing you could do for them.

CP: Huh. How about us bald heads? (both laugh) That was in your Michigan days. Well this is a fascinating story and you really watched tuberculosis go from a major plague to almost nothing in the United States under your own jurisdiction and now that you've retired it's all coming back again. I think there is a message there, isn't there?

LM: They seem to be really concerned about what's happening. I guess they have a right to be if you don't have anything you can treat it with its—

CP: That's worrisome.

LM: If you don't isolate them, keep them from spreading it, why its—

CP: It's going to spread.

LM: It's going to spread.

CP: It is still just as communicable as it always was. What part did the tuberculosis association play in all this?

LM: Well they were very helpful in spreading news about tuberculosis and getting people—educating them about tuberculosis and getting them to be aware of it and get in and take x-rays and tuberculin skin tests. They also helped, in many cases where patients had no resource of income of any kind, the tuberculosis associations did help.

CP: Oh. monetarily they did help.

LM: And they helped counseling the families and things like that. They were a big help.

CP: Well they saw with the advent of antibiotics that tuberculosis was a thing of the past; the organization changed its name, no?

LM: Yes.

CP: Florida Tuberculosis and Lung and now it's just the Florida Lung Association.

LM: Right.

CP: Gives attention to all of the chronic lung diseases.

LM: I can remember when I was a kid, my mother always contributed to the tuberculosis association.

CP: And we got a little sticker in my hometown to put on the front window of the glass of the front door. The little double cross sticker that you stuck on to show that you are an anti-tuberculosis person, that you supported the cause of tuberculosis control.

LM: Now do you remember when it was a—well they could arrest you for spitting on the sidewalk?

CP: Now did we ever have a law like that in Florida?

LM: I don't know if we had it in Florida or not. There was, in some places there was a law like that.

CP: In some magazine recently of peculiar laws there are several states that still have state laws prohibiting the spitting on the streets; I recently read that, so it is still around. Did you ever get arrested for spitting on the street?

LM: No, never.

CP: I never spat on the street because my mother would have slapped me down. That was not a thing to do and that was anti-tuberculosis was it not?

LM: Right.

CP: Now what have we left out Dr. Manni?

LM: What?

CP: What have we left out?

LM: Well there is a lot you can talk about with tuberculosis. I often have told nurses and others that the more I learned about tuberculosis, the less I knew about it.

CP: That fits.

LM: And I think that's really true today. We know an awful lot about it but with this new thing coming along of resistance, there is a lot we don't know about it.

CP: That's obvious.

LM: And it becomes more difficult. The more you learn about it, the more difficult it becomes to treat it.

CP: (laughs) I don't know, with your tongue tuberculosis and eye tuberculosis pre-antibiotic days, well I'm going to guess that was difficult to treat because you just didn't have any treatments so you kind of ignored it and went back to rest and prayer.

LM: Right and when I first came to Florida they had just opened up the other—the two airbase hospitals and when there was just the Orlando hospital there was a waiting list and it was a matter of choosing which patient would be admitted to the hospital and it was more or less on the basis, I guess, of the extent of the disease. I don't like to say this but I came to the conclusion that some patients who were real, real sick had no chance of getting well, were not admitted.

CP: Yeah. Well that's a hard thing to do but you see the appropriate use of your resources.

LM: Right.

CP: Treat those like in military triage, accidental triage, give attention to those that there is hope for and make the rest of them comfortable.

LM: And when we opened W.T. Edwards Hospital we had about 300 beds available. And we immediately, of course, had a waiting list and we couldn't take them all in at once because we didn't have the help.

CP: Yes, didn't have the staffing for that.

LM: And as we gradually built up the help and we could gradually fill up the hospital. It wasn't long before we had every bed filled.

CP: And still a waiting list?

LM: And still a waiting list. Now the Tampa hospital was a little larger and they had 350 to 400 beds and Lantana was 350 or 400 and of course still had the Orlando hospital. I can't remember the date it was closed, but the Orlando hospital had 250 to 300 patients and a surgical unit, they did surgery there. And as I said before, as antibiotics took hold and we were treating patients, we didn't have to do as much surgery; gradually the percent of surgical patients dropped immensely. And then as we went to outpatient treatment in the health departments and early discharge of patients, the census in the hospitals dropped and we were able to close the hospitals one by one.

CP: What impressed me with the new tuberculosis hospitals is the staff housing that's on the grounds, for example, here at W.T. Edwards in Tallahassee. The staff housing that was built as a part of the original structure is elegant, it's nice. Speak to that. Why did you feel it necessary to build housing for employees?

LM: It was very difficult to get doctors for the TB hospitals and several of the doctors at the various hospitals had been TB patients and they went into the field of tuberculosis and treatment. And the salary was not very good. And to get a doctor to come and work there it was almost necessary to offer them a home.

CP: You offered all the perks you could think of?

LM: And all the perks. And that was about the only way you could get doctors to come to the hospital. We were always short of doctors and always trying to get doctors to come to the TB hospitals. And of course a lot of doctors were afraid of tuberculosis and back then the doctors in private practice, most of them did not want to have anything to do with the tuberculosis patient. They (inaudible) "Take them, get them in a hospital."

CP: Scared to death of them. Well when I'm reminded of an axiom of when I was in medical school in the '50s the older physician that gave us a series of lectures on the art of medicine that I remember so well he telling us, "To protect your personal health and you consider every patient that enters your presence as having two diseases until you know for sure they do not. One is tuberculosis; you treat every patient like he has tuberculosis until you know for sure he does not.

And the other one is syphilis. Every patient that enters your office has syphilis until you know for sure that he does not. If you will consider that you will protect yourself from those two diseases and a whole bunch of other stuff." Remember Dr. Johnson admonishing us with that

regularly and that was almost so when you were getting started, maybe not so much for syphilis, but certainly for tuberculosis. Sick people had a high risk of having tuberculosis.

LM: Back then, I can remember, we had the cardinal signs of tuberculosis if a patient presented to a doctor with pleurisy¹⁸—

CP: That was tuberculosis.

LM: —that was tuberculosis, get him in a hospital. If he coughed up a little blood, he had tuberculosis. Let's see what are the others, there were several other things. Today, you know that these same signs can be many other things.

CP: A multitude of other things. But tuberculosis is still one of them, and I think every physician needs to have that in his differential, wouldn't you?

LM: And a spontaneous collapse of the lung, that was a sure sign of tuberculosis back then.

CP: What pearls have we left out?

LM: I often say the doctors today: young doctors, nurses, others, have never seen tuberculosis as it can be.

CP: No, I don't think they have.

LM: As I said, I have seen it involve every organ of the body and would have patients come in with an anal abscess and had been drained, doctor took chest x-rays maybe and here was tuberculosis. Patients come in with gastrointestinal symptoms and a chest x-ray shows tuberculosis. And might have a knee joint or some other joint or some kidney trouble, it was just something back then.

CP: (inaudible)

¹⁸Inflammation of the membrane that lines the lung and chest cavity.

LM: Involvement of the skin and eye. I have seen patients had to have their eye removed because of tuberculosis.

CP: Oh, boy. I wonder how common some of that stuff is today. You don't hear about it anymore?

LM: No I don't hear about it. And meningitis was quite frequently common. We used to watch patients for signs of meningitis. Stiffening of the neck and that sort of thing. But you don't hear—that only occasionally you might hear of a case of meningitis due to tuberculosis. And we always had several patients on what we called the Stryker frames¹⁹ for tuberculosis of the spine. And the Stryker frames of those days were made with plumbing pipe; galvanized steel pipe. We made them there at the hospital; we made the front frame and the back frame.

And then we had straps that we could strap around them so we could flip them. And you'd have to get a good strong man at one end and a strong man at the other end and these frames were up on blocks on the bed and then you'd have to get ahold of this frame and flip it over. (both laugh) And sometimes they would slip a little bit, it was very difficult and then later on the striker frames came out—Dr. Stryker, I think, was a doctor in Kalamazoo, Michigan that came up with these frames. Then they were on swivels so you could just pull a little key and—

CP: And they were balanced appropriately. (laughs)

LM: We back then, we were draining tuberculosis abscess all the time.

CP: Out of the lung and other places?

LM: Oh, in the back, the sorest abscess they would have from vertebral tuberculosis and would drain those and yes it was—and often times following surgery we would get fistulas²⁰. It was a whole lot different back then, but they don't see any of that today it is very, very rare.

CP: Why do you think that it is different? Did the antibiotics alter the clinical course to that degree?

19A Stryker frame, named for its inventor, Dr. Homer Stryker, a Michigan orthopedist, is an apparatus specially designed for care of patients with injuries of the spinal column or cord. It is constructed of pipe and canvas and is designed so that the patient can be turned 360 degrees without difficulty.

20An abnormal connection between two hollow spaces such as blood vessels, intestines, or other hollow organs. They are usually caused by injury or surgery.

LM: I think the antibiotics altered it. And I really believe that there is a difference in the virulence of the organisms.

CP: That's a good point.

LM: And as I had mentioned before that people exposed to tuberculosis build up immunity, a partial immunity. I think I have got.

CP: Yeah, apparently you've got some. I seem to recall from epidemiologic literature that there has been a distinct cycle of coming and going of tuberculosis as long as we have been looking, since the 1600s in particular in London, England in particular. Are you familiar with that? How do you interpret that as related to our present situation? Are we just on cycle?

LM: That I don't believe I could—

CP: Okay, I have in mind a statistical chart, it shows the overall worldwide rate of tuberculosis coming down, it's going down. But it goes through about a 70-year cycle, whichever 70 years, it peaks with a lot of tuberculosis and then following that, it falls off to very low levels. So, there is the peak and the valleys, but it is continually going down. And I mention that because it fits with your idea: if we got a real epidemic of tuberculosis, then everybody gets a little bit of immunity from it, it's going to fall off. But when those folks die off, it is going to go back up again.

LM: It may be too that we get a little too confident and a little careless. I think we did that back after antibiotics when we started treating patients as outpatients and shortening their course of hospitalization.

CP: Wasn't that true in a lot of diseases and we are now suffering the consequences of a lot of that with these resistant bacteria that we got all over the place, of all kinds, including tuberculosis.

LM: Yeah.

CP: Yeah. We kind of smiled at it and just give them another shot and go ahead. Or another round of pills and you'll be okay, fascinating story, Dr. Manni.

LM: Well, tuberculosis has been a fascinating disease and it's one that I think will be with us for a long time.

CP: It has been a long time.

LM: It isn't like smallpox and some of these others that we have been able to eliminate.

CP: And your entire professional career was addressed to tuberculosis.

LM: Right.

CP: Yeah, it was. That's fun. Is there anything else we need to tell our potential viewers before we break for lunch?

LM: Not that I can think of.

CP: This is fun, this is what— I really appreciate having this opportunity to hear you talk about your experiences in tuberculosis and to remind all them young people—you know there is really nothing new under the sun, is there? And on behalf of the University of South Florida, Dr. Manni, and the College of Public Health, I just say thank you sincerely for taking the time and sharing with us today.

LM: Well, you're welcome and I enjoyed it.

CP: And I am Skeeter Prather. That's good.

End of Interview