David Sencer

This is an interview with Dr. David J. Sencer, former Director of CDC, about the West Africa Smallpox Eradication Program in the 1960s. The interview was conducted on July 7, 2006, at CDC during the 40th anniversary of the launch of the program. The interviewer was Victoria Harden.

Harden: Dr. Sencer, before we get to smallpox, I'd like to establish that in 1966 you were the Director of CDC and managed the overall direction of the West African Smallpox Eradication Program. You were born in Grand Rapids, Michigan, on November 10, 1924. Would you describe your childhood and your pre-college education?

Sencer: I don't remember very much about the early years. My father died when I was 4, in 1929, just at the beginning of the Depression, and my mother had to go to work. I was an only child in an empty house and had to fend for myself. I went to elementary school in Grand Rapids and started high school there as well. My mother felt that I needed to be in an environment where there were more men, however, rather than living just with a lonely widow. So she encouraged me to apply for a scholarship to Cranbrook School, a boarding school outside Detroit, and I was awarded one. My mother had to pay $32 a month, which in 1936 was quite a burden on her, but between that money and the scholarship, I was able to attend Cranbrook School for 5 years. I think I received a very good basic education in an environment which was much more masculine than being home with my mother.

Harden: At that time, did you have any notion of what you wanted to do for a career?

Sencer: When I was in high school, the things that really interested me were the sciences: biology, chemistry, geology. I was more interested in the sciences than I was in the "softer" things.

Harden: You went to Wesleyan for your college education in the middle of the war, in 1942. Tell me about going to college at this time, and how this prepared you for medical school.

Sencer: Actually, that's the beginning of the war, 1942, not the middle.

Harden: Yes, the beginning, you're correct.

Sencer: My first year was a normal undergraduate year. There was no pressure to speed up my education, and the draft was not threatening. I took normal liberal arts courses-English, German, history, and 1 course in biology.

The next year, however, the pressure began to build. The military had a variety of programs-the Naval V-12 Program and the ASTP[Army Specialized Training Program]-through which college students could actually enroll in the military, be paid a small stipend as able-bodied seamen or privates, and continue their college educations with a commitment to become military officers after graduation. I was in the Naval V-12 Program at Wesleyan.

By that time, assessing my various interests, I had also decided that medical school would be the best career route for me, and I was thinking of getting into biomedical research. We didn't call it biomedical research at that time, but doing research in medicine was my goal. Suddenly, however, I found that I had to accelerate my program. I took organic chemistry first thing in the morning, followed by inorganic chemistry, which actually provided the introductory material for organic chemistry, plus physics. The only things that I could find to fill out my schedule were 2 courses in German literature. That year I struggled with a very heavy classroom load and completed all of my pre-med credits. Although I had not expected it, the Navy officials at Wesleyan informed me that I had to leave the undergraduate program because I had completed my pre-med credits. There were no openings in medical school, however, so I was sent to naval boot camp.

Harden: Let me interrupt you, just for 1 moment before we go forward. You said you had determined that you would go into medicine. Would you explain how you came to that decision? Did anybody push you in that direction?

Sencer: No, no. There was no role model. That was the way my own thinking just evolved, considering my various interests.

I went to boot camp and learned close-order drill, how to evacuate a lifeboat, how to climb a rope, and other things like that. I became a hospital corpsman, which at that time was known as a "pharmacist medic." I was at Mare Island Naval Hospital and then at the Naval Hospital, Camp Pendleton, the Marine Corps base. My name was on a list to be transferred to the Marine Corps. During this period, someone asked me if I wanted to go to

medical school. I said, "I have a choice between the Marines and medical school? I'm a coward. I'll go to medical school."

Initially, I went to a 2-year medical school at the University of Mississippi, in Oxford. I was in a class of 27 people. After I finished my 2 years there, I transferred to the University of Michigan for the final 2 years of medical school. Soon after I got to Ann Arbor, a routine chest x-ray showed that I had minimal tuberculosis. For a year, I was hospitalized at the university hospital because effective drugs had not yet been discovered and so tuberculosis was treated with bed rest. In Ann Arbor, when they said bed rest, that is what they meant: bedpans, meals in bed, etc. Once a month they would weigh you. You would roll out of bed onto a stretcher, and they would weigh the stretcher and you. After a year of bed rest, you collapsed on the floor when you tried to stand up because your knees weren't used to carrying your weight.

Harden: What did you do all that year? Did you read?

Sencer: I read and listened to the radio. I read the New York Times, Harper's, the Atlantic Monthly, and the Saturday Review of Literature. The hospital's 1 rule was that you could read anything you wished as long as it had nothing to do with your job. I read no medicine, no journals. This was good because it opened up a whole new variety of things to me. When you have been in the grind of pre-med and medical school, you don't have time to think about a world outside of science. I also listened to the radio. I had an FM radio, and in those days, that was unusual. I could get the political broadcasts, the Town Meeting of the Air, and similar things that got me interested in politics. That year was a life-changing interlude. I won't say I enjoyed it, but it was probably the best thing that happened to me. I also learned to knit.

Harden: And would you say this had a lot to do with your later interest in worldwide public health?

Sencer: I think it planted seeds. I did not immediately become an advocate of anything, but the reading, listening, and thinking planted seeds and gave me a background in things other than science and medicine. I went back to medical school and finished on a part-time basis because they were very cautious in those days about not over-stressing patients with tuberculosis. I

finished in January 1952 or December 1951. I have the distinction of being both the first and last in my class. I was a class of 1, so if I want to brag, I can do it. If I want to poor-mouth, I can do that, too. I'd met my wife before I went into the hospital, and after I got out, we got engaged and got married.

I started my internship in Ann Arbor, a rotating internship in medicine. I continued with what we called a residency in those days and call a fellowship nowadays. I had a residency in internal medicine for about a year and a half. One day on grand rounds, the Chief of Medicine said to me, "Sencer, you know the military's looking for you?" I said, "Well, no. I'm 4F." He said, "Not anymore. They say you're 1A, and they want you. They wrote and asked if you were essential, and I told them the department would fall apart for exactly 2 minutes if you left." By this time, we were also expecting a baby, and we were preparing to move out of our apartment before the baby arrived because no pets or children were allowed. Here I was, then, faced with 2 decisions: what to do and where to stay. I contacted the navy to see if I could re-enlist, but they turned me down because of my medical history with tuberculosis. The navy did say that if I were drafted, it would be happy to take me into its quota. I thought that was a terrible way to do business.

One night, I was at a concert in Ann Arbor and saw a friend who was a professor of public health, Cy Axelrod [S.J. Axelrod]. I told him my problems, and he said, "Join the Public Health Service (PHS)." I said, "What's that?" He explained and said that the PHS had a tuberculosis research program that I might be able to join. I wrote the Public Health Service and said that I want to join their tuberculosis program. They responded with the question "Why?" and I answered, "I know why, what I want to know is when." Finally, in January 1955, I became a Public Health Service officer in the tuberculosis program.

Harden: Do you think you would have stayed in internal medicine and gone into private practice had you not come into the PHS to satisfy your military?

Sencer: We liked Ann Arbor, and I thought that I might just stay on at the university.

Harden: But instead, you joined the Public Health Service and began to

work in tuberculosis and migrant health.

Sencer: At first, I just sat around in Washington. They did not seem to know what to do with me. I worked as a code clerk on some research projects in tuberculosis. Eventually, I was sent to Idaho to run a survey of the health status of migrant laborers. When I arrived, I found a little caravan of 2 house trailers used as examining rooms, a mobile x-ray truck, and a mobile laboratory. To gather data, we had to drive to labor camps around the Snake River Valley, so I learned how to drive a car with a trailer attached. We would go into a labor camp, hook up the water, and talk with them about coming in for examinations.

Several things about this assignment changed my whole attitude about medicine. I began really seeing people who were disenfranchised. These were people who claimed to be from Eagle Pass or Farr, Texas, but you knew very well they were from the other side of the border. They had come to Idaho for 6 months, but they could not get citizenship during those 6 months, so they had no rights in Idaho. The farmers weren't interested in paying them anything more than the minimum wage, and there was no health insurance. We didn't see much disease in these camps, actually, because the migrants were a fairly healthy group. They had to be in order to work in the fields 12 hours a day.

One case we did encounter was that of a young man who had a tuberculosis of the knee. Idaho had agreed to accept people in the hospital if they had infectious tuberculosis, but he didn't have infectious tuberculosis. We were faced with the question, "How do we get him treatment?" Finally, we decided that the only way was to bend the rules a bit. We convinced the young man that he was under 18-he was actually 20-because if he was under 18, he qualified for Crippled Children's Services, a federally funded service. By this subterfuge, we were able to get him treated.

A few days later, we found a 12-year-old girl who had far-advanced tuberculosis in the hospital in a town we visited. The hospital administrator called us and said, "Get her out of here." He obviously did not want to have to treat her any longer. I went to see her parents, and I said, "Don't visit your daughter, because if you do, they'll make you take her home." Instead, we made arrangements to have her transferred to the tuberculosis hospital about 100 miles away.

To go to the hospital, however, she had to possess 2 pairs

of pajamas and a toothbrush. Well, pajamas, what are they? Migrant workers did not own them. I said, "Let's see what we can do." I went to the TB Association, but they would not provide the money to buy the pajamas. Their attitude seemed to be, "She doesn't buy Christmas Seals, so we won't help her." I went to the Latter-Day Saints, as this was a big Mormon area. "She's not one of ours," they said. I went to the Catholic church, and the priest said, "They never baptize 'em down there in the valley," but he gave me $10 anyway. I gave it back to him. There was a small community of Quakers outside of town, and I went out and met with their elders, and they said, come back at 6:00 PM. I went back at 6:00, and there was a whole pile of clothes. I thought, "Oh boy, this is an opportunity to talk to them about problems with the migrants." But they wanted to talk about the fact they were playing baseball on Sunday in Boise, not the thorny and politically volatile problem of migrant people. People were willing to help a little on an individual basis, but no one wanted to address the larger problems.

Those problems, however, got me interested in public health because public health measures provided a way in which you could do more for large groups of people than what you could do trying to help 1 individual at a time. I had begun thinking of a career change into public health when I got a letter saying, "You're being transferred to Columbus, Georgia, to run the tuberculosis research station there." This seemed like a great opportunity to me, so we moved, but it was my wife's first experience in the South, and Columbus, Georgia, was really "South" at that time. She was not a bit happy. I, on the other hand, had a wonderful job.

And the PHS then sent me to the School of Public Health at Harvard. Getting a Harvard MPH [Master's in Public Health] was in my view a necessary "union card" for moving forward in a public health career. I learned very little at Harvard, except from the other students. What they taught me was much more important than many of the courses that I took.

After finishing my MPH, I returned to Columbus for a year and then transferred to Washington, to a job that I thought was just terrible. Finally, however, I realized that it provided an excellent opportunity to learn how things really happen in Washington. I worked in the Bureau Chief's office essentially as a "gofer," but I learned about the budget process, about interagency problems, and about how things really transpired at this level. Then, in 1960, I was transferred to CDC as the

Assistant Chief, and I fell in love with an agency.

Harden: That is what I understand. Elizabeth Etheridge stated in her history of CDC that you always thought the best job in the world was to be Director of the CDC.

Sencer: Absolutely.

Harden: So, obviously, your mind had shifted. Your Washington training served you well in learning how the bureaucracy functioned. Now walk me through your rise through CDC until we come to the beginning of the smallpox program.

Sencer: For the first 2 years, I was the Assistant Director. Larry Smith [Clarence A. Smith] was the Director. To become familiar with all of the activities of CDC, I obtained copies of all articles published by the print shop at CDC and scanned them.

During those 2 years, I was intimately involved with decisions relating to how polio vaccine would be licensed. In 1955, when the Public Health Service licensed the inactivated vaccine [Salk vaccine], the PHS bought all of the existing vaccine and distributed it to the states but did not give the states any money to help organize distribution programs. For the states, the easiest way to reach children was to give it through the public schools. The result was a shift in polio cases back towards what was known as "infantile paralysis." By the 1950s, polio had become a disease more of older children and young adults, but after school-aged children began receiving routine vaccinations, it was the preschool-aged children who became vulnerable to infection with polio. These tended to be the children of people living in the inner cities with low incomes, who could not afford to have pediatricians vaccinate their children. There were outbreaks of polio in the late '50s and early '60s in Kansas City, Chicago, and other cities, all concentrated in the inner cities.

When oral polio vaccine came on the horizon, the Surgeon General's Public Affairs Officer J. Stuart Hunter suggested following the same distribution procedure. We at CDC opposed this. We wrote legislation stipulating that the Public Health Service would provide vaccines, not just against polio, but also against all childhood vaccines, to state and local health departments and that this vaccine could be used for children under 5 years of age. The legislation also included money for

the states to organize immunization programs. This shifted federal law from a focus solely on polio to a broader emphasis on general immunization against childhood diseases, including diphtheria, tetanus, and whooping cough. This law stood as basic immunization legislation for a long time. Vaccines against measles, German measles, and chickenpox were subsequently added to the law's coverage.

Between 1963 and 1966, I was CDC Deputy Director; Jim Goddard [James Goddard] was Director. Jim was a wonderful guy. He was gung-ho, do everything. After about 6 months, however, Jim decided that he was in the wrong job. He thought he was better suited to run a small agency that needed to grow or an agency that was in trouble and needed to be fixed. CDC was neither. So Jim began looking for another job, and, basically, I did the day-to-day management of CDC during those years. In 1966, Jim was appointed Commissioner of the Food and Drug Administration, which was an agency that was in great trouble at that time and still is.

I became CDC Director in 1966. At the same time, USAID [US Agency for International Development] transferred the Malaria Eradication Program, which was in great trouble, to CDC. Malaria eradication was failing because it was based on premises that did not work. Suddenly, CDC had the responsibility for a program that was failing. We also inherited staff in 16 different countries, and we had to fund them out of the CDC budget. It was a huge problem. CDC became the biggest employer of people in Haiti through the program. The whole Malaria Eradication Program became a direct CDC hire, and we could imagine the staff of the Malaria Eradication Program 1 day marching down the streets as part of a political uproar in Haiti. But over time-not in 1966, but over time-we brought about major changes in the way malaria was approached around the world. We worked with WHO [the World Health Organization] to get away from the concept of eradication and to begin emphasizing control and prevention of deaths in children.

Later, in 1966, the smallpox program started. Actually, it goes back before that. Let me reconstruct the history as well as I can remember it. I will talk about CDC's involvement in smallpox, not the whole smallpox eradication effort around the world. During World War II, Alex Langmuir [Alexander Langmuir], the Director of Epidemiology at CDC, had been very interested in biological warfare. The Epidemic Intelligence Service (EIS) was created, in fact, because of the threat of biological warfare

during the Korean War. During Congressional testimony, Dr. Justin Andrews, who was the Director of CDC at that time, was asked about how we planned to address biological warfare. Justin thought real quickly on his feet, and said that since military draft obligations could be fulfilled through service in the Public Health Service, CDC would establish an epidemiology service of young people who would be trained to recognize abnormal occurrences and thus be able to provide early warning against biological warfare. That is how the EIS began.

Alex, of course, had been plotting for such a program, and he happily seized the opportunity posed by biological warfare to implement it. For a long time, he had been interested in smallpox, and he got D.A. Henderson [Donald A. Henderson] interested as well. In 1962, Don Millar [J. Donald Millar] was sent to Indonesia as an EIS Officer as part of a malaria assessment program, and while there, he saw smallpox for the first time. He became very interested in the disease, and when he came back, surreptitiously carrying some scabs of smallpox for the lab, he was put in charge of what was called "smallpox surveillance" in the Epidemiology Program. He was it. No one else was involved.

Henderson and Millar began discussing whether smallpox was a disease that could be eradicated. In contrast to malaria, which has a mosquito vector and animal hosts as well as human hosts, smallpox is directly transmitted from person to person and has no animal reservoir, which makes it possible to eradicate. We had a good vaccine, which made the disease susceptible to eradication. The military had invented a jet injector, which could be used to give rapid vaccinations to large numbers of people. CDC helped the military modify the jet injector so that it was possible to give intradermal injections, since smallpox injections had to be given intradermally.

The intradermal jet injector was tested with smallpox vaccine in the friendly islands of Tonga. Everybody made cynical jokes about why they picked Tonga-why not choose a lovely Pacific island with gorgeous beaches? Our audiovisual group here at CDC made a beautiful movie of this, called Miracle at Tonga, with the waves crashing up on the scene. But the actual reason it was chosen was that Tonga had never had smallpox, and there had never been any vaccinations, so it was a virgin territory in which to try out vaccinating people with a jet injector, and it worked very well.

In 1965, after a couple of years in Geneva, the World

Health Assembly of WHO passed a resolution calling for the worldwide eradication of smallpox. President Lyndon Johnson also issued a statement saying the United States would support this initiative and contribute to the effort.

Harden: Was CDC involved with getting President Johnson to issue that statement?

Sencer: Yes, but I had nothing to do with it. Alex and D.A. Henderson worked with Jim Watt [James Watt], who was the Director of International Health for the Public Health Service. They also worked the streets of Geneva to get the resolution passed, and they deserve a lot of credit for this. It involved a lot of hard, political horse-trading. The Indians were against it, and representatives from countries that had been burned by the failed malaria eradication said, "Oh, no, no, no." But D.A. Henderson had become quite familiar with WHO, and WHO had become quite familiar with D.A., which I think becomes important as we go on.

One day in 1965, Jim Goddard was out of town, so I took a phone from Dr. A.C. Curtis [Arthur Clayton Curtis], who was in the African Bureau of USAID. He asked if CDC would like to take on a measles eradication program in West Africa. This call came at a propitious time. Dr. Harry Meyer at NIH [National Institutes of Health], in the old Division of Biologic Standards, was testing out different strains of measles vaccine in large populations. Measles was a terrible disease in Africa, with high mortality in children. It was a real killer. Many of the field trials in which Dr. Meyer was involved were done in West Africa, and the measles vaccine proved to be a tremendous success. USAID looked at the results of Meyer's efforts and decided that it might be a good time for CDC and USAID to expand the measles vaccine program in West Africa. I told Dr. Curtis that we were not interested in measles eradication, because measles eradication was not feasible, but that measles control might be feasible if we could couple it with smallpox eradication. If we could do that, CDC would be interested. And he said, "Sure." It was as simple as that.

Then began the hard work of negotiating agreements with USAID, writing what they call pro-ags [program agreements or E-1s], and all sorts of documents that had to be written about each country, and getting each country's agreement with the documents. Dr. Henry Gelfand, on CDC staff, spent lots of time

going from country to country, getting country agreements, getting things signed, trying to recruit people to become part of the program. All of this was happening in late 1965 and early 1966. Finally, all of the paperwork was done. USAID had agreed to fund the program. We had a 5-year agreement with USAID for a program to start on July 1, 1966.

D.A. was a good friend of mine, and of the family, and his daughter and our oldest daughter were also very close friends. They were in the same grade in school. His daughter often told my daughter that they were moving to Geneva in November, but when I would ask D.A. about this, he would reply, "Oh, no, I'm not going. I want to stay here and run the CDC program." His daughter Leigh, however, continued to say, "We're getting ready to leave in November," and D.A. continued to insist, "Oh, no, no." But finally, he said that he was moving to the WHO in Geneva, arguing "I was ordered to do it." Well, you know his mouth was drooling to take on the WHO program all the time.

When D.A. was transferred to Geneva, Don Millar was appointed head of the Smallpox Eradication Program. Don had been studying at the London School of Tropical Medicine for a year. He had gone there because there were people in England who were very much interested in smallpox and could provide him with additional experience and training. You will be interviewing Dr. Millar, I'm sure, and you might want to ask him about his dissertation at the London School. I'll let him tell the story. By the fall of 1966, Don had come back from England. He was the logical one to head up the Smallpox Eradication Program (SEP).

In the early part of 1966, the SEP had been run out of D.A.'s Epidemiology Program. The people in the Epidemiology Program were provincial in some ways. They thought that epidemiologists were the only professionals needed to craft a solution to any infectious disease problem. A big program like this, however, requires logistical experts as well as epidemiologists, so I pressed the Epidemiology Program to add Public Health Advisors to the staff of the SEP... I pushed hard to have Billy Griggs appointed as a deputy to D.A. Henderson, to deal with the nitty-gritty of organizing and paperwork and so on. As the SEP began staffing up for the West African program, Billy made sure that there was a person called an "Operations Officer" with each of the epidemiologist "Medical Officers." The Operations Officer took care of the logistical things that had to be done. You'll be talking to many of those.

Harden: As CDC Director, what made you buy into that idea? Did the time that you had spent with the migrants influence your realization of how many "operations" details were involved in such a public health effort?

Sencer: Yes. When I first came to CDC, there was an older man (he's 9 days older than I am) by the name of Bill Watson [William C. Watson Jr.]. He had been in the Venereal Disease (VD) Program for a good number of years, and it had been transferred to CDC. Larry Smith was the Director of CDC at that time, and he had previously been the Director of the VD Program. He knew Bill's capabilities. He had moved Bill out of the VD Program and appointed him Assistant Executive Officer at CDC.

I got to know Bill very well-he was a close personal friend as well as a professional colleague. He often told stories about how the VD investigators worked, and through listening to him, I began to understand that the logistical effort was a key part of disease control programs. People who could get out in the field, knock on doors, talk to people, and understand how people behaved were essential. The first assignments given to VD Public Health Advisors usually were in local health departments. They tracked down contacts of cases of syphilis and gonorrhea and tried to bring them in for treatment. After a couple of years of this work, they would become supervisors, with responsibility for several other people.

Harden: And they weren't physicians.

Sencer: Oh no. They were a group of people who were recruited at the baccalaureate level. They were not disappointed pre-meds, but rather people who were interested in people. There were certain schools at which the PHS traditionally recruited because the PHS knew that these schools would turn out the sorts of people that they wanted. The recruits would move up in a supervisory managerial chain that stood behind the physician in charge. In a state health department, there would always be a senior Public Health Advisor behind the physician who was the state VD Control Officer. The Public Health Advisor pushed, pushed, pushed. He or she never made a medical decision but pushed the physician to make the necessary decision and assume the leadership role. And they learned quickly that this was how you get things done. You don't have to make the decisions yourself if you can get somebody else to make the right decisions.

Harden: That's very interesting.

Sencer: Yes. A history of the Public Health Advisors is being written. I think they're looking for a publisher.

Harden: You were explaining how the SEP was organized-what types of people were needed. What did you look for in your staff? What did they need to be able to run this program successfully?

Sencer: I looked for Billy Griggs to make good personnel decisions. The physicians had already been pretty much recruited by D.A. We lost a few real misfits the first year in training. Many of the physicians who were recruited were EIS Officers. Stan Foster [Stanley O. Foster], for example, had been an EIS Officer. He had left CDC and was back in residency training. D.A. called him and said, "You want to go to Africa?" And Stan said, "Sure," and he came back to CDC. Rafe Henderson [Ralph H. Henderson], who had been appointed to be the regional epidemiologist on the ground in West Africa, had been at CDC for quite some time. He had been on some of the early trips to West Africa. Rafe had very good sense about people, too.

I put my trust in the people who were running the program. I knew Billy Griggs made good decisions; I knew Don Millar made good decisions; I knew D.A. was charismatic and a great stimulator. He was not the best manager, but while he was here, he developed some excellent management techniques. I knew what was going on, but I did not micromanage. My philosophy is to hire good people to run something, and then you let them run it.

Harden: When did you make your first trip to Africa?

Sencer: In the smallpox program? I think my first trip was for the 25 millionth vaccination event. They had a big celebration in Ghana, in 1968, to mark the 25 millionth vaccination that was given. This was a great public relations opportunity for the Smallpox Eradication Program. USAID thought it was wonderful. Many ambassadors were there. Jim Lewis, who you'll be interviewing later, was the Operations Officer in Ghana. He made most of the arrangements for this great to-do. It was out in the country, about 90 miles north of Accra. There were tribal chiefs in uniform, with umbrellas and gold robes and dancing, and so on. Events like this were called durbars. I remember that the

American Ambassador shook his head, saying, "I've been to a 12-chief durbar, but this is the first time I've ever been to an 18-chief durbar." The Surgeon General was there, and he gave the 25 millionth vaccination to a screaming little girl.

After the event, while we were there, we had more meetings. USAID had also recruited a reporter from the New York Times,. Fred Friendly's son. They had the military attaché's DC3 from the embassy in Dakar. The next day we flew for breakfast from Dakar to Abidjan, had breakfast at the airport with the Minister of Health and the ambassador; flew to Monrovia, Liberia, for lunch with the Minister of Health and the ambassador; and to Freetown, Sierra Leone, for dinner. We refer to that as "breakfast in Abidjan." All of this was good public relations. It showed that the Surgeon General of the Public Health Service was with us-that is, that we had support from the top. It reinforced at USAID, too, the importance that we gave to the program because we were able to get the Surgeon General to participate.

From Sierra Leone, we flew to Bamako, in Mali. The pilot had never been there. He flew east until he found the Niger River, and then he followed the river up to Bamako. Mali, at that time, was a Marxist country, with mostly Chinese activity there. It was Chinese construction, Chinese this, Chinese that, Chinese all over the place. We spent some time in Bamako, then flew out to a market town, and then took the Dodge trucks out to the Dogon Territory. This was located at the "end of nowhere," out with cliffs that fall off into the sub-Saharan plateau. The Dogons are the people who had the big, big masks. They had dancing and thousands and thousands of people getting vaccinated. It was very colorful. There was a missionary there, with whom we stayed. He had been in the mission field for 40 years. Ten years out, 2 years back, 10 years out, 2 years back. We slept under the stars, where there were no artificial lights. It was a wonderful experience. The next day we flew to Timbuktu and then went on through Niger, Togo, Dahomey, and back to Lagos, and home. That was my first major trip to Africa during the Smallpox Eradication Program.

Harden: Tell me more about how you ran CDC as Director at this time.

Sencer: Even in those days, I was known for "walking around." I wanted to know what was happening, so I walked around to see things. I would ask questions, and it scared people sometimes.

There was 1 person I recall, into whose office I seemed to walk every time he was reading his paperback instead of working. Finally, he didn't even put it in his desk drawer when I came in.

Harden: Could you say a little more about the bureaucratic relationship of the Smallpox Eradication Program to the Department of Health and Human Services, to the Public Health Service, to the National Institute of Allergy and Infectious Diseases at NIH, and any other federal agencies?

Sencer: The West African program was self-contained as far as budget and management were concerned. We had our money from USAID. Billy Griggs handled most of the dealings with USAID concerning paperwork. At the front office level, we did not have too many problems with USAID. The collaboration was something that we knew about on a day-to-day basis, but it was not something that gave us problems. We had good leadership, and our philosophy was to get good people and let them do the work.

Harden: What was the toughest problem that you faced?

Sencer: During the African program? You know, most of the problems, Billy handled. Ask him about that because the toughest problems were paperwork and things like that. Our real problems with smallpox began after the African program. The 1 thing that the African program did was to demonstrate that mass vaccination was not the way to go in smallpox eradication. You'll get Bill [William H. Foege] to tell this story himself, but early in the program, Bill was working as a medical missionary in eastern Nigeria. He was volunteering as the smallpox epidemiologist for that area. He did not have enough money to buy enough vaccine for the mass vaccination program, so he began looking at spot-maps of how smallpox was moving from village to village and how long it took to move from village to village. He said, "If we could prevent smallpox from moving from 1 village to the next, maybe we could break the chain of transmission." He developed a scheme of getting village leaders to tell them when there was a smallpox case. He and his team would then go in and vaccinate the people in that village and around it-the contacts of those with smallpox-to contain the disease. And suddenly, smallpox in his area began disappearing. He hit it at the low point in transmission, so he was able to get to all of the foci of smallpox, and smallpox disappeared from his area.

This strategy was presented in a variety of ways to others in the program. Finally, it became possible to see if it would work on a large scale. In Sierra Leone, Don Hopkins [Donald R. Hopkins] was the Medical Officer and Jim Thornton was the Operations Officer. Sierra Leone had the highest rates of smallpox in Africa and was as backward as they come. Don and Jim knocked out smallpox in months. This impressive demonstration caused Foege's strategy to be adopted for the whole West African program.

Harden: What mechanism did you use to tell everybody, "We're changing the way we're doing the Smallpox Eradication Program?" And what convinced you that Dr. Foege's approach was the way to go?

Sencer: This was a scientific study. They needed to show convincing data that the strategy worked, and they did. I didn't have anything to do with it other than to say, "Yes, you've got the data to support your argument. We will do it that way."

Harden: But I understand the World Health Organization's approach to smallpox eradication did not change so rapidly, even in light of these data.

Sencer: Yes. WHO was reluctant to accept this. They had been selling the concept of mass vaccination, and they were reluctant to begin talking about a new approach. They had sold countries on mass vaccination, and to change strategies would require that they go back and re-educate them. After the West African Program was completed, D.A. finally accepted that this was the way to go, and it was after the African program that the hard work in smallpox eradication began. That is another story, of India and Bangladesh and so on.

Harden: Once you had achieved zero pox in West Africa and had finished the program, CDC no longer received funding from USAID. You did not want to let the program completely die, however, because you wanted to continue surveillance activities, as I recall. At that point, you appointed Bill Foege to be head of the Smallpox Eradication Program. Would you talk about the follow-up from CDC to the West African program?

Sencer: When we reached zero pox in West Africa, Bill came back to CDC. Don was still in charge of the CDC smallpox program for a

while. Then the International Red Cross called and said that they were concerned about the famine in West Africa, which occurred as a result of the Nigerian War. The Red Cross asked if Bill Foege-they asked for him by name-would come and do surveillance of how bad the famine was. Bill went, even though his wife was very reluctant to have him go because she knew if he went, he might not come back soon because he would want to stay and see things through. He went out and developed a surveillance technique for the famine, and we began feeding CDC people in, to maintain the surveillance activities and to identify where the famine was at its worst, so that relief activities could get to those places. This was being done with CDC money at this point, but we had little authority to pay for famine management in African countries. We were able to do it under the guise of protecting the United States from the possibility of the recrudescence of smallpox. Some of the travel was being paid for by USAID, but CDC was paying all the salaries.

Then the State Department began getting worried about what was happening in Biafra, the secessionist state. State asked if we would send somebody in to do a rapid assessment. Karl Western [Karl A. Western], who had been at CDC for a good number of years, agreed to go. He was taken out to 1 of the islands off of Nigeria and flown in at night to Biafra. We had no official presence in Biafra. Karl did a magnificent job of showing that the famine in Biafra was the worst famine that had occurred since the potato famine in Holland after the war, but that it was localized. He also showed that 1 organization's relief activity would set up in a village, and then other organizations' relief activities would come in in competition. You'd get the Lutherans, you'd get the Catholics, you'd get the Worldfam, Oxfam, and so on. This meant that some villages were getting all of the aid, but the major part of the country was not getting any. Aid was flowing to places where it was easy to get to but not out in the bush.

As a result of Western's work, I got a call 1 night from Jesse Steinfeld, the Surgeon General. He said, "You and Western get to town, right now." On a snowy January night, we went to Washington, to the White House. We went into the Situation Room, and who should show up but Henry Kissinger. Suddenly, we were briefing Henry Kissinger on famine in Biafra. At that time, Kissinger was the National Security Advisor. In typical Kissinger fashion, he was playing USAID, which was arguing that

there was no problem in Biafra, against the State Department, which was arguing that there was a serious problem in Biafra. He was enjoying the bureaucratic struggle. He didn't give a hoot about famine. It was the bureaucratic struggle. Kissinger later became Secretary of State.

We also briefed the State Department person who was going to Congress the next day. One of the major signs of malnutrition is edema of the legs, which is caused by protein deficiency. Assessing edema in a population was a quick way of determining how bad the famine was. This Assistant Secretary of State kept calling it "endema," and we kept saying, "No sir, it's 'edema.'" "Oh, yes," he would say. He got to Congress, however, and in his testimony, it was "Endema, endema, endema."

Harden: I want to drop back into the smallpox program and ask if there is any other event of significance that springs to your mind like the 25 millionth vaccination event you described?

Sencer: We went to a village, Ede, in Nigeria, for the observance of the 10 millionth vaccination in Nigeria. When we got there, there was the Timi, who was the chief of the village. He was wearing a leopard-skin cap and robes, and when he went out into the town square, everybody gathered around. He stood up and gave the most erudite history of smallpox in Nigeria, back into the early days of colonialism. It was beautiful.

Afterwards, we went in to his house and saw a plaque on the wall that said, "Honorary Kentucky Colonel," and another plaque that said, "Honorary Alumnus of Western Michigan University." Surprised, I asked him to tell me about those plaques. He said, "I'm an expert in the talking drums, and the State Department takes me to the United States to give lectures on the talking drums. In return, Kentucky made me an honorary colonel, and Western Michigan made me an honorary alumnus."

We asked, "What are talking drums?" He said, "The drums talk. They don't talk in code, they talk in Yoruba. Would you like a demonstration? I always keep a drummer out in the courtyard across from my house in the morning, so he can tell me what's going on in the village on the drums." He then asked his drummer to demonstrate the drums. One of the USAID people said, "Have that man across the way come in and bow to the Timi and throw the cat out." So the drummer pounded away, and this guy came running across, bowed to the Timi, picked the cat up, and threw it out.

I said, "Hmm, put-up job." He said, "All right, you tell him what to say with the drums." I was smoking in those days. I said, "Tell the man to come and take a cigarette out of my pocket and light it. He pounded the drums, and this guy came in, counted 1, 2, 3, 4, to me, reached into my pocket, took out a cigarette, put it in my mouth, reached into his robes, and pulled out a lighter. He said, "You know, it's true. We speak in syllables. The drum has a head that you can squeeze the side of, and it changes the sound, the tone, but it has trouble with English words.

Don Millar said, "How would it say 'Dr. Millar?'" He said, "Oh, that's Yoruba. Do-ki-tar-mil-lar." And that drum began going, "Do-ki-tar-mil-lar, do-ki-tar-mil-lar." You could hear it. Bill Foege-he was known as the tallest man in Africa-said that when he was coming to a village, the drums would pound out, "The tallest man in Africa is coming." Learning about the talking drums was a wonderful experience.

Harden: What else did you learn about Africa in the program?

Sencer: What did I learn about Africa? Oh, my goodness. In those days, it was a wonderful, wonderful part of the world. There was a lot of concern about improvement, but they were not as highly politicized as they are now. You would get outside the capital city and find wonderful people who were shaking off colonialism. One of the things about the West African program is that there were 2 very distinct parts of Africa in which we worked: francophone Africa and anglophone Africa. Each had a very different medical system. The French were much better organized than the English. When colonial government ended, the English just picked up and left. The French left things behind and left some Frenchmen behind, too. They pretty much controlled the currency, and communications, and so on.

Harden: Let me change the question slightly. What did Africa learn about the United States and CDC?

Sencer: Thank you for asking. One day in 1969 in the World Health Assembly, the Minister of Health of Mali, which had been a Chinese-Marxist country, made a speech. This man said, "I want to thank the United States for giving us assistance in our smallpox eradication program, but not so much for the vaccine or the machinery or the Jeeps but for the people that the United

States sent to help us." That, to me, was the crowning glory of the program. The Africans recognized that it was people rather than things that the United States gave to Africa. We had sent to Africa young guys and gals who had had no experience in diplomacy, who had no experience with politics and so on, and they went out, altruistic and wanting to get a job done. "We've got a job, let's go do it, we can't do it ourselves, and we've got to get the people in Africa to do it. We'll be there to stand behind them and push. We'll give them the tools, we'll give them the know-how, but they've got to do it." And they did it.

Harden: I have just a few more questions. In the middle of the West African project, some people recommended that smallpox vaccinations be stopped in the United States, and this became a hot topic of discussion at CDC. Would you comment on that?

Sencer: Actually, it was a little after the West African program, because it was in 1972 that we really came to the belief that we could safely stop smallpox vaccinations. By then, enough eradication had been achieved, not only in Africa but in other parts of the world, to minimize the threat to the United States. The risk of importation was so slight that the risks of continuing vaccination with the predictable adverse reactions that occur with smallpox vaccine far exceeded it. As usual, we had a meeting of our immunization advisory committee to go over all of this.

We met on a Saturday morning. I had invited the Medical Officer of Health of Great Britain, George Godber, with whom I had seen recently, to come to our meeting. George was a fascinating person. He was the architect of the National Health Service in England. Ruddy-faced, white hair, monocle. He had lost this eye, and he said, "Why spend money on 2 lenses? I only need one." He kept a handkerchief up in his sleeve to pull out and wipe his eye. He was a real character but highly articulate. He wrote and spoke beautifully. At that meeting, we struggled mightily with the wording of our recommendation on smallpox vaccination. George finally said, "Dave, excuse me, this is your country. But it is my language." He clarified the wording for us.

Harden: If you were going to start the program over again, would you change anything about how it was run?

Sencer: No.

Harden: Not a thing?

Sencer: Not a thing-as long as I could have the same people.

Harden: How did the program change your career at CDC? What impact did it have?

Sencer: It changed CDC, and since I was part of CDC, it changed my career. What it did was push CDC into international health, into global health. It was the first time that we had responsibility for a large international program from its inception. We had inherited the malaria program, but the West African Smallpox Eradication Program was totally a CDC operation. This was the beginning of CDC's global involvement that continues to this day, not just of ideas and equipment, but of people. In Dakka, at the old cholera lab; we started the field epidemiology training programs in different countries. It just goes on and on and on. I think that individuals grow with the organization. You don't pull the organization. The organization pulls you.

Harden: Since your role in the smallpox program was here at headquarters in Atlanta, did it have any impact on your family?

Sencer: Not as much as it might have, although I did a lot more traveling after the program began. I was not a traveling salesman, just home on the weekends, but I did have to travel a lot. It became worse with traveling to Washington, but I think my family were envious of my going to Geneva for 2 or 3 weeks every year for the World Health Assembly meeting, and things like that. But I don't think it had any great impact on the family.

Harden: But all 3 of your children are in the field of health in 1 way or another. Am I right?

Sencer: Yes. Our oldest daughter, Susan, is a pediatric oncologist. Our middle daughter, Ann, is a nurse practitioner in oncology, and our son, Stephen, is Deputy General Council at Emory, but he handles a lot of the research and intellectual property sorts of things there.

Harden: Before we stop, is there anything else that you would like to add?

Sencer: I'm tired.

Harden: Thank you very much for speaking with me. I think this gets us off to a wonderful start for these recollections.