

## **Bruce Weniger**

First, this is Dr. Bruce Weniger, who is currently a CDC employee. I am David Sencer doing the interviewing. It's March 31st 2008 at 1:15, Bruce knows that this is being recorded and has signed the permission for us to use it.

**Sencer:** Tell me a little about your early days, Bruce.

**Weniger:** Well, I got involved with the Smallpox Program actually before I -

**Sencer:** Let's go back to earlier than that-where are you from?

**Weniger:** Well, I was born in New York, and grew up in New York and went to college at Brown for a few years and then an Experimental School in New York State, University at Old Westbury, and then did a year of Law School at Berkeley, and then did my pre-med courses when I decided that law was not as interesting as I thought medicine would be, and then completed those and got into UCLA School of Medicine and did my Medical and Public Health Degrees at UCLA in Los Angeles.

**Sencer:** Why did you come into Public Health Service?

**Weniger:** Well, my role model there was Sandhu - I am trying to remember his name. I am forgetting the name of the person who was on the staff there who had been a CDC EIS graduate, I'll probably think of it eventually-and became interested in public health because you were treating the whole community rather than one patient at a time and it was exciting. So immediately after doing that two years of pediatrics training I applied to the EIS Program and got in, in 1980 and started in Parasitic Diseases and then did Preventive Medicine Residency at the University of Oregon State Health Department and then Phil Brachman assigned me to the Field Epidemiology Training Program in Thailand where I did a three-year tour of duty as the Second WHO Advisor to the FETPs [Field Epidemiology Training Program] basically carbon copies of the Epidemic Intelligence Service, and the Thailand one was the first one outside of CDC around the world. I went back to CDC after that for a few years, working in International Health and then went back in 1990 to found and start the CDC HIV AIDS Field Research Station in Bangkok in collaboration with the Thai Government that I'd gotten to know

during my first assignment there. So we began that project and when I left it had about 40 Thai nationals and two Americans, me and Nancy Young, and now it's a multi-million dollar project with like 10 or 15 Americans and 100 or so, or more, Thai nationals.

**Sencer:** How did you happen to get involved with the Smallpox Program?

**Weniger:** Well, I was at the time at the UCLA School of Public Health and Medicine and Davida Coady was on the faculty there, had worked in India on smallpox and at the time in '75 there was a need for surge, if you pardon the expression, of a large number of personnel to go into Bangladesh and India because of some problems with the displacements of people from natural disasters and a whole bunch of new outbreaks that were occurring, and so I was among about a dozen or so people from Los Angeles, UCLA and elsewhere that were brought over as short-term consultants for WHO and she recommended my name. Peter Drotman, Mike Cenerelli, Mark Strasburg, and a number of other names you may recall were in that cohort that went around June of 1975 to Bangladesh and spent three months there.

**Sencer:** This was before you came to CDC?

**Weniger:** It's actually before I came to CDC, but I still got credit with my little ribbon on my uniform, Stan Foster was kind enough to give me credit for that.

**Sencer:** Who was your supervisor in Bangladesh?

**Weniger:** I would say Nick Ward was one of them. Of course, Stan Foster ran the program and Andy Agle was there handing out the big stacks of money that we needed for buying off this epidemic, which is how I sort of feel we solved - we basically eradicated smallpox by buying it off with hiring tens of thousands, and hundreds of thousands of health workers around the world to do the grassroots work of searching for every last case and surrounding the cases and vaccinating and so forth. Those are two of the names, and Daniel Tarantola was there as well, and a number of other names that will come to mind I think as we progress.

**Sencer:** What was your first impression of the Smallpox Program?

**Weniger:** Well, it was remarkable in many ways. Obviously as a young epidemiologist still in training, technically, I just took everything for granted: that we would hire people on the spot, 15 or 20-30 people off the street literally, or the brother or cousin of somebody who was already on our team, pay them 7 Taka a day, and the nature of the job was basically assigned to search teams to go to this village, you go here, you go there, and then our role for the most part was checking that they actually did the work and when we went to a village and they said nobody showed up showing this Smallpox Recognition Card, we knew that fellow didn't do the work, he didn't get paid and he was fired. So it was basically a supervisory role of organizing search campaigns and of course once we found cases, we assigned people to stay in that village and vaccinate, guard the patient, pay money to the patient's family to feed them, keep them at home and vaccinate within that containment ring.

**Sencer:** What were some of your most vivid recollections of things that happened while you were there?

**Weniger:** After 30 or so years, one's memory fades. I brought some journal entries that I had written back then that I think captured more live what I was feeling. Let me see if I can turn to some of my impressions here. These are still on my way to the location, here's our welcome in Delhi on the 15th of June; Martin Jones from WHO brought us in. I do remember it was about 114 degrees as we walked from the airplane to the terminal. Let's see if I can come up with something interesting other than the details with the actual work in the field.

I am in Narsingdi, we had our district meeting in Dhaka - this is 23rd of June, 1975 - I'm in Narsingdi, we had our district meeting in Dhaka this morning, ordered some supplies and already ate a hearty lunch at the American Recreation Association, courtesy of Finance Officer, Tim so-and-so, loaded the jeep with my luggage and took off. Roland and I - This is Roland Sipple - ...rode two Suzuki 80s on the two-hour drive through the countryside. What a thrill to speed along on a motorcycle past the rice paddies and lush fields of green jute with the sun setting behind one's shoulder and the clouds making beautiful formations in the clear, blue and pink sky. Bangladesh has the most lovely clouds, majestic, substantial and pure white almost

like kinetic sculpture. We rode into Narsingdi under the full moon's light. What a challenge riding a cycle through the crowded hamlets and bus stops that clustered along the highway."

Let me skip some of this now, and I can leave copies with you. Let's turn to 25 June, 1975.

Yesterday a trip to Parkouri outbreak; today, we took a five hour ride in a dingy to two outbreaks down the Magoni River. Many forced vaccinations and a magnificent meal. Details to follow when I have time - Very tired, left at 5:00 am, returned at 5:00 pm.

The village of Chardigaldi had no active cases, but there had been much resistance to the vaccinating team, so Roland and I split up to carry out what was becoming standard procedure, to vaccinate by force those villagers who have intimidated the vaccinators. These refusers are often the young, strong family men; but the surprising fear of seeing a white man with absolute assurance and calmness, walk into their home, asking to see their vaccination scar and ordering the vaccination, overcomes all resistance. Often it is the older women who try to run away, and whose arms must be grabbed and held. One man locked himself in his house. At first I thought it was a woman, since they are more afraid of vaccination and extremely embarrassed about being seen by a man. I told the resident supervisor to inform the person that if the door was not opened in one minute, I would break it down. Half the village was screaming at him to open up. Finally, the door was unlatched and I discovered an absolutely terrified man clutching his child. I tried to reassure him with an arm round his shoulder, but the fear in his eyes was unchanged. I shall never forget his look and the absolute terror that I must have caused him. We vaccinated them both immediately and left and perhaps the relative painlessness of it and speed of our departure afterwards calmed him down.

Unfortunately this is the price that must be paid if smallpox is to be eradicated from its last stronghold among this illiterate, uneducated, poverty-stricken rural population. We were treated to a royal meal in the bari of the resident supervisor of a nearby outbreak in Chandwani. As several men cooled us with palm frond fans in the tiny crowded hut, we were served rice and curry, roasted duck, eggs, chicken, prawns and

lentil chickpea stew. The custom seems to constantly put more food on your plate, unless you make a fuss that you have had enough. They seem prepared to serve Roland, Mateus and myself enough for 10 people. After a dessert of Bengali spaghetti served in warm milk and sugar, of which I ate half, balancing my responsibility to be a gracious guest with my concern over milk that might have sat for hours; covered with flies in the hot sun after coming from a tuberculous cow. Then we were treated to paan, which I decided I might as well try. Its sliced betel nut and lime rolled in a betel leaf and chewed for many minutes and eventually swallowed. After chewing mine about 10 times, I realized it would make me sick to swallow it and an unmannered guest to spit it out. So I stuck it in my cheek and prayed for the soonest opportunity to get rid of it. Within a few minutes that side of my mouth was numb and every swallow of the copious juices that were being secreted by my captive mouth was a carefully planned exercise in controlled nausea. Fortunately conversation was not possible with our interpreter chewing his paan and after taking a picture of this incredible repast surrounded by half the village peering in the windows, I was able to leave for our boat jettisoning my paan on the way.

I think that will be enough for now and as we have some more opportunities.

**Dr. Sencer:** Do you think you contributed anything to the eradication?

**Weniger:** Well, I don't think I contributed anything in the way of new strategies. I was just another foot soldier on the front lines, working in my assigned areas. Originally I was in Narshingdi with Roland Sipple from the United Kingdom and then the latter half of my three-month tour of duty was in Dhaka, the capital city; responsible for the southern suburbs on the island of Keraniganj in the Northern suburbs, and obviously I was just one small component of the procedure of the whole effort. In retrospect in terms of what we think now about how the campaign was done, I really wonder if we could have done it again in the same way. These days we'd have to have written consent forms and so forth for vaccinating and -

**Sencer:** How did you communicate?

**Weniger:** Well, I knew a few words of Bengali. You know, " guṭibasanta haya?"  
"Are there any smallpox patients here?" But I had an interpreter.

**Sencer:** I was thinking, how did you communicate with Dhaka when you were in the field? How did Dhaka communicate with Atlanta?

**Weniger:** Well, we were in Narshingdi which is only a couple of hours away by ferry boat and motor cycle that travel, or vehicles when we finally had them. We did not have radios. Others who were more remote used radios to communicate back to Dhaka, but I don't recall having a radio to make - I'm not sure how we did it, it's been so long, we might have sent telegrams or just come in on a weekly basis.

**Sencer:** You didn't have a cell phone?

**Weniger:** No, we didn't have cell phones.

**Sencer:** You didn't have email?

**Weniger:** No email, no cell phones.

**Sencer:** Do you think your experience in smallpox changed your career?

**Weniger:** Oh! I think it definitely did. I think I was already focused on public health and coming to CDC at the time, but it certainly cemented that to be part of that great effort and so when polio eradication came around 15 or 20 years later, I was clearly quite excited about that and I think someday measles would be eradicable because it doesn't have a natural host and someday it would be nice if the world could figure how to eradicate measles. But it was seminal in that respect. Since that time of course, I have been working in many areas, most recently vaccine technology and have an interest in injection safety and I have realized that some of the practices that we did carry out in terms of the bifurcated needles, although we provided plenty of needles to the health workers, it's clear we weren't thinking or educating, or strict enough as we would be today with ensuring that every patient got a separate sterile needle put back in the holder to be re-sterilized, and it's probable that in those days we were effectively transmitting Hepatitis-B from patient to patient in a large degree.

Fortunately, HIV was not around at the time and I think if it had been we would have seen the effects of it. But clearly it would be difficult to conduct the campaign today in the same way we did then, or at least it would cost so much more and would require so much more manpower and perhaps take much more time.

**Sencer:** If you were in charge of the program in the 70s, would you have organized things differently?

**Weniger:** I don't think so, and I am not sure, at the time I had enough experience to be able to see areas where it could be improved. Clearly we were working with difficult circumstances. We didn't have the fancy satellite telephones they have today for communications and I do recall that if you had four things or five things you wanted to accomplish in one day, whether it was buying fuel for your vehicle, or arranging some shipment of something, or getting to a village, if you accomplished one of those five things you had succeeded. I mean things were difficult in those circumstances.

**Sencer:** Did you work with other people from the United States while you were out in the field, or were you the only -?

**Weniger:** Well, for the first part of my assignment I shared the Narsingdi District with Roland Sipple and we lived in a Dak Bungalow, which is like a Government guesthouse in that town about two hours or so away from Dhaka. But for the most part we were working with interpreters that we hired locally who could speak enough English for us and who could work with the local population. I do recall that one of our missions was to publicize the reward for reporting a case of smallpox, and I recall vividly we had one individual who had reported a case. It turned out to be a real case, and so it was time to recompense him. I can't remember exactly how many Takas he was getting at the time or what its value is in U.S. dollars, but probably it was the equivalent \$500.00 of US in his income situation and we made sure that everyone in that whole area, we had bull horns, and anytime you make any kind of noise, crowds assemble and you have 500 or 1000 people watching you, we announced clearly, this gentleman had reported a case of smallpox and he was now being paid this princely sum and that was part of the effort to get the public to cooperate in finding all these every last case and stopping the chain of transmission.

**Sencer:** Did you get a lot of chickenpox reported?

**Weniger:** Yes. Most of the reports we were getting were chickenpox and the big differential which we learned quite carefully was how to distinguish one from the other, and to me one of the key criteria was if you could take your thumb and push it over a blister or a pox and it burst and liquid came out that was more likely chickenpox, among all the other differential criteria. This was just a few months: this was June, July, August of 1975. The last case in Bangladesh was in October of 1975, so it was on the tail end of the epidemic. We had basically only one confirmed outbreak to deal with in Narsingdi.

**Sencer:** Were you involved in any of the refugee camps?

**Weniger:** Yes-the refugee camps were in my area of responsibility in the Northern suburbs of Dhaka and I do recall when we went to visit the refugee camps searching for cases, that the refugees themselves seeing foreign persons, white persons, assuming we were connected to the refugee effort, would come up and complain to us that the responsible authorities were stealing all the donated food and other supplies for the refugees and they were not getting anything, and this was just a few weeks before there was a revolution in which Mujibur Rahman was overthrown and assassinated and it had been rumored that the amount of corruption going on in terms of selling rice, donated by other countries, on the black market or to other countries, was occurring widely, and that was one of the many reasons for overthrowing him. So I remember waking up, I probably have another letter home that I wrote to my parents after the coup in Bangladesh. I have to look and talk at the same time.

**Sencer:** Did you ever have a feeling that you were in physical danger?

**Weniger:** Yes. There was one time when we had a disagreement with - Roland and I with the storekeeper who wanted to charge us a deposit for some bottles and we discarded the bottles and all of a sudden a crowd of 500 people surrounded us and right outside the Dak Bungalow; and it's a such a populated country that we were really probably in danger of being torn apart for the disagreement with the shopkeeper, and so a senior official in the town brought us into the Dak Bungalow with the person who

was complaining about us and resolved it with payment of whatever the value was of the Coke bottles or Fanta bottles that we had discarded; and it was not a danger resulting from smallpox eradication, but just from a disagreement; and we learnt quite easily, you've got to be very careful when you are a foreigner in a country, to avoid crowds forming. We were told, for example, if there was ever a car accident, if you are ever involved in a car accident, don't stop the car because the local villagers who are upset there wouldn't be any justice, will tear you apart and kill you-just keep driving to the next town and turn yourself into the district officer and if you have ever driven in Bangladesh, you know people don't pay much attention to vehicles, they are using the roads to walk and it's driving - Here's the letter I was looking for about the coup d'état. It's dated the 16th of August, 1975.

Dear everybody: Since I have been here I haven't had a boring day and yesterday was no exception. At 5.30 in the morning I woke to the sounds of machine gun and rifle fire that seemed really close. Every so often the house shook from explosions, probably the cannons of tanks. Somehow I knew immediately that this was a revolution. The Sheikh's house is only a few blocks away... This was the Sheikh Mujibur Rahman, leader of Bangladesh -

...and we guessed correctly, this fighting was the assault on his residence. It was really rather exciting standing just inside the doorway to the roof of our house. We could hear the bullets flying overhead, sharp cracking noises that seemed to come from the President's residence which we could just see from our roof. Probably 200 rounds were fired during the first half hour and about 10 explosions, tapering off to some sporadic fire for the rest of the morning. Bangladesh radio came on about 7:00 am to report the death of the Sheikh and to announce the curfew. Jennifer, my assistant, lives five blocks from the guest house...She was the daughter of a U.S. diplomat in the country and was volunteering to help us with the smallpox eradication...and awoke with a tank in front of her house. Amazingly enough the telephones worked and we telephoned the Smallpox Director to inform them of the fighting...

This was Stan Foster.

...since his part of Dhaka was quiet, by calling friends around

the city I was able to learn that probably half a dozen Government Ministers, mostly relatives of the Sheikh, had also been wiped out. Our first fears were that the Iraqi Bahini, a sort of private army of the Sheikh, not unlike Hitler's S.S. might oppose the army coup and fighting between the two groups could lead to a messy Civil War. But 36 hours later as I write this letter, things are calm and getting more relaxed all the time.

During the hour and a half lifting of the curfew yesterday, I rode my motorcycle over to the house of a Bengali friend who knows a lot about the political situation; and she reported how the house of another minister was attacked and all killed except one servant that managed to escape. The streets were eerily empty, a strange sight in a city that is normally bustling with every imaginable form of vehicle, ox carts, rickshaws, baby taxis, cars, buses and hordes of pedestrians. Soldiers were posted with rifles and machine guns on strategic corners and the streets were scarred with the tread marks of tanks. There is somewhat of a holiday atmosphere among the people on the streets, since except for the deaths of the few corrupt families that were in control of the Government there is no indication of any other violence. Last night the city was as quiet as a graveyard. We sat on the roof watching the moon and the clouds, listening to the BBC and Voice of America as well as Radio Bangladesh, the source of all the information. Military cars would occasionally drive by, presumably patrolling the curfew.

This morning we received a cross-notification from another district that someone had died of smallpox after coming from a certain section of Dhaka. So we were faced with the necessity of going out to check out the information to see if there was any smallpox there. We heard that some vehicles were traveling the roads despite the curfew, such as diplomatic cars and such. So we decided to go to the smallpox office to organize a search team. We had heard that the army would probably stop us, but being internationals and showing something official looking, we would be allowed to proceed. So we put our U.N. passports in our pockets, picked the Land Rover that had the most official looking insignias, seals and posters on it and took our houseboy, in case we needed an interpreter for the three mile ride. I drove slowly and carefully and was fully prepared to stop if anyone flagged us down, but surprisingly none of the

troops bothered us as we drove by the tanks and machinegun emplacements. It confirmed to me my long-held belief, that no matter where you are or what you do; if you act like you belong there nobody bothers you. At the smallpox office, we were able to learn that things were quiet in the countryside as well as Dhaka and that our radio contact with the advisors in the field is still in operation. By the time we put big red crosses on our car to look even more official, we found out the curfew had been lifted for three hours anyway. Old Dhaka where we searched for outbreak was as crowded and normal looking as ever. We weren't able to find any smallpox, but it will be necessary to send in a really large search team to comb the area in a few days when things are expected to be back to normal. I tried sending a message home to say I am alright, but the U.S. Embassy says they can only send general messages to Washington that all Americans are believed to be safe, which is probably true.

This is a letter to my parents and family in the States.

I expected that some sort of revolution in Bangladesh in a year or two, but was really surprised that it would happen now. Not that the Sheikh didn't deserve to be overthrown. He had appointed all his relatives to Government posts, which they used to rake in large amounts of money, doing things like taking the relief supplies donated from abroad and smuggling and selling them in India. He had also been bringing the country closer and closer to India and the Soviet Union and further away from the Islamic world. That is probably why the army chose the day of India's Independence celebration to stage the coup and indirectly slap India in the face. There is fear among the Bengalis that India might invade a la Czechoslovakia in 1968 when Indira's Government crisis effectively ties our hands vis-à-vis Bangladesh interference. We are all hoping that in a few days the curfews will be over and our smallpox work can continue. There are only 38 known active cases of smallpox left in the country and it would be a shame if this political crisis prevented the success of our program. As it is, the WHO Director General who is due to arrive today to meet the Sheikh has cancelled his trip. Unfortunately the Government health structure will probably be in a shambles for weeks and this is not good for our program. I spent the afternoon swimming and sunning by the pool at the InterContinental talking with other foreigners staying there during the crisis. It's really a

rather pleasant way to spend the revolution. I love their banana splits. Love Bruce.

**Sencer:** Of the foreign nationals who worked at Bangladesh, I think there were more people from the United States than any of the other countries. Were you involved with people from some of the other countries?

**Weniger:** Yes; we had periodic meetings in Dhaka for those who would get to Dhaka and we had Olaf Ringard from Sweden. Right now I can't remember off the top of my head, I'd have to open up the small Pox Bible and read the list of expatriates that were there, but they were coming from many, many countries. In fact, many years later, when I went to Thailand for my assignment, my counterpart in the Ministry of Health was Dr. Payakonnson who was a fellow smallpox worker in Bangladesh, who then became Head of the Division of Epidemiology that ran the Field Epidemiology Training Program in Thailand.

**Sencer:** The smallpox program was really a sort of breeding ground for many people who made a very profitable career in public health?

**Weniger:** That's right, and I think that the Polio Eradication Program over the last decade or so has been the same thing for the next generation of bringing people into the field.

**Sencer:** You think they are going to make it with polio?

**Weniger:** I think so, eventually. There are some difficult problems in that there is virus sitting in test tubes frozen in freezers around the world from laboratories, and every last one has got to be found out. Another problem we face in our work is how to convert from the inexpensive easy oral polio vaccine to the much more expensive injectable vaccine which costs ten times as much; and so people -

**Sencer:** In which you won't be able to use the jet injector?

**Weniger:** Well, you will; and we are actually studying the use of the jet injector for an intradermal delivery of influenza vaccine. Others in Cuba and Oman under WHO sponsorship are studying the use of injectable polio in an intradermal dose

which can reduce the dose by 20% of the normal dose, and that would affect dose-sparing and as well perhaps be a way to do it without needles which is a big problem. So we are actually working in our vaccine technology program on intradermal delivery with or without needles for such indications.

**Sencer:** I think the fear has been, again of Hepatitis and so on, but with the intradermal you don't think that's an issue?

**Weniger:** Well, if you are using standard needle syringe, there are many drawbacks to using intra-dermal. The Mantoux test is very difficult to do. Even here at CDC, I recall my last two intradermal T.B. skin tests were not performed correctly by the nurse and if they can't do right here at Mecca, you can imagine how difficult it is in much of the world. But there are new technologies being developed for quick and simple intradermal delivery that don't have the high failure rate of the traditional Mantoux test. The ideal ones would of course be without a needle, so you don't have the problem of potential reuse or the syringe or needle-stick injuries and so forth.

**Sencer:** Anything else about smallpox you'd like to add?

**Weniger:** Well-probably I will think of it as soon as we turn off the camera. But I think it represents in my mind what can be accomplished when the world works together and overcomes all the tremendous boundaries that existed. We had the Soviet Union cooperating with the United States across that terrible Iron Curtain and Cold War. We had all racial groups and political groups meeting together, and to some extent that type of cooperation continues to occur. We still have truces in various Civil Wars around the world to let the kids be vaccinated against polio during the Polio Eradication Program; and so it shows you what can be accomplished if people come together and set their minds on very difficult goals. You will never satisfy every possible objection, and there are those who also say polio can't be eradicated so why are you wasting all this money. But I think if you have the vision as Bill Foege and DA Henderson and others who were the leading strategic strategists for this effort, it can be done and it will be done again with other diseases I hope.

**Sencer:** That's a good note to end on. Thank you, Bruce.

**Weniger:** Thanks a lot.

**Sencer:** That will end the formal interview, but here, your  
briefcase there would you hold it up so I could get a -?

**Weniger:** Yeah, well what this is: these were carrying bags that were given to all the eradication people. It is obviously WHO sponsored: World Health Organization; and this Smallpox Eradication Program. I can't read the Bengali but these were made in Bangladesh for the staff to carry their papers. I ended up actually bringing an attaché case with a WHO logo on it and it was necessary because we were carrying bundles of cash, I mean literally stacks of money. This was probably in the equivalent of their society; hundreds of thousands of dollars walking around because we would have to pay all these hundreds of health workers and one of the photographs there is payday, where we would sit down and we'd check if someone was still on the list and had done their job, and would get a stack of bills and that would be once a month. So I'm surprised we didn't have more armed robberies carrying around that kind of money.

**Sencer:** I remember riding a train from Delhi to Patna with Bill Foege with a briefcase so big of Rupees.

**Weniger:** And nobody knew what was in there?

**Sencer:** Right. Well thank you very much, Bruce. That's a good interview.

**Weniger:** Dave, you're welcome. Thank you.