

Reflections on Public Health: Captain Hart and Sanitation

[Announcer] This podcast is presented by the Centers for Disease Control and Prevention. CDC – safer, healthier people.

[Captain Kathleen Y. McDuffie] This is part of a series of interviews highlighting the public health career of Captain Russell Hart, a retired Environmental Health Officer in the U.S. Public Health Service Commission Corps. In this segment, Captain Hart reflects on one of his first public health tasks, which involved improving sanitation in Southwest Georgia.

[Captain Russell Hart (retired)] You saw the children in these schools -- a lot of them were very emaciated -- and it was because of this hookworm. See, practically all the children went barefooted and they didn't always use a facility to deposit their human waste and so they were on the ground. And the barefoot boys would walk through this material and these organisms, the hookworm, would get into the bloodstream, and you know what happens when that occurs. So that was the other problem that we had, was the privy end of it, and get rid of that.

[Narrator] Hookworm is an intestinal parasite of humans that usually causes mild diarrhea or cramps. Infection occurs through direct contact with contaminated soil, generally through walking barefoot or accidentally swallowing contaminated soil. In the early 1900s, a species of hookworm called *Necator americanus* was widespread in the Southeastern United States. Following education campaigns and increased sanitation, infections in the U.S. have been largely controlled. Hookworms have a complex lifecycle that begins and ends in the small intestine. Hookworm eggs require warm, moist, shaded soil to hatch into larvae. These barely visible larvae penetrate the skin, often through bare feet; are carried to the lungs; go through the respiratory tract to the mouth; are swallowed; and eventually reach the small intestine. This journey takes about a week. In the small intestine, the larvae develop into half-inch long worms, attach themselves to the intestinal wall, and suck blood. The adult worms produce thousands of eggs. These eggs are then passed in the feces. If the eggs contaminate soil and conditions are right, the cycle will begin again after 5 to 10 days.

[Captain Russell Hart (retired)] In most of the cities in Georgia at that time, they didn't have running water. And as a result, they had to have an outdoor privy, they called it. And that was really an experience to me. I'd come out of a city where you had indoor toilets and all of that, and it's hard for me to understand this. So then they'd have -- every week, they'd come by and they had an opening on the back of the toilet -- it sat on the alley. And they'd shovel the excreta into the wagon and move on to the next house. And I didn't like this idea of doing things. And at the time, we had -- the government had money to help do things in the field of public health. And I had been going around -- I had 14, 15 counties I had to visit in Southwest Georgia. And I'd been going around making the acquaintance of people in those counties. And Thomas County was one where they had a Mayor and a Chairman of the County Commissioners -- fellow by the name of Beverly, Mayor Beverly, and he served in both capacities. And also, he was in the lumber business, and this was perfect for building privies. So I went to see him and talked to him and sold him on the idea immediately, see, because he saw some profit, from his viewpoint, in helping people in this second thing. And so I said, well, we need a building to build these. He said, I've got just the thing. He said, I've got an airport building where we used to put planes, and

that's vacant at the time. He said, you can move in there, set up your plant, and get to work. And he says, I'll furnish the lumber. Well, I said, these people are going to be hard-pressed to pay anything. I said, we furnish all the labor. What are you going to do about the money?

I said, some of them probably don't have whatever your big charge would be. He said, we'll take care of that. He said -- I showed him the plan, how much lumber it took to build this privy, and he said, I can furnish the lumber for \$15. And he said I'll charge them \$1 on their water supply a month until they pay the \$15. I said, that's perfect. I said, I don't think you'll find anything. So we built thousands of privies in that hangar. We had a line production -- one group was building one part of it and the other, another part of the privy. The side walls, the riser, the floor, the roof. They were building that in these groups and, at the end, it all came together, see, for a house. And then we had a group that was out digging pits around -- all around the house. Because you had to have a pit and you had to have a curb to put around that pit. So they were out there digging pits and putting these curbs in to keep the dirt from falling in. And then we had a crew carrying these things out, we had a crew on the ground that were setting them up and placing them, putting them to work and that sort of thing.

I used to visit the barbershop where my wife's friend owned. And they had a watchmaker who sat in the front of the barbershop in a window and he had a seat and he'd repair watches. And I made a friend of him. And one day, a fellow came in and he said, I want to introduce you. He knew I was an engineer and I was interested in public health work. And he said, there's a fellow I want you to meet. He's with the state health department. His name is Eggert. And he said, he comes in here quite often, and he said, I want you to meet him. I think you and he can get together and have some common interests. So one day, this fellow came in. And I met him. And he took a liking to me. He said, well, I'll tell you, we need to build health departments in Georgia. He said, we have very few health departments. I'd like for you to start working on building local health departments. Well, I said, I got to know a little about them. So we went in -- I had a number of sessions, how you go about this thing. He coached me on them. And so when I got ready -- when they turned me loose -- I went into these cities and the first person I went to see was the newspaper man. Told him who I was -- I was with the state health department, I was interested in talking to the right people in the city and in the county about the development of a health department. I said, the state has federal money to match local money for the development of a health department. And I said, that health department consists of a full-time doctor, a full-time nurse, and a clerk and an engineer or a sanitarian. And I said, that's the setup. And I said, when we can get the local people to agree to that, I'll bring the representative, the director of local health department from Atlanta down to close the deal with you and see that the money is there and all that sort of thing. Well, see, they got busy then. So I talked with the League of Women Voters and I told them what we could do with a local health department, how school children could be examined and checked and all of that sort of thing. And it was a health thing, countywide. Well, once you got those women interested in it, believe me, things moved. They got these politicians and they told them what they wanted, see? We want this health department that this man's talking about.

And so it wasn't a hard job if you knew the right people. And I got to know the right people through the newspaper man, see? And so then I'd get the state man -- Dr. Lunsford was the state director of local health work. He'd come down and they'd sit down and work out the details of

the organization and the amount of money that the state would throw in and all that type of thing. I enjoyed that type of work. That was real interesting. And I set up, I guess, about a dozen local health departments that way in the South -- maybe not that many -- about ten local health departments in Southwest Georgia, through that method of approach to it. And so I felt quite good about that because, now, they have a full-time unit looking after people's health there, and that was a big improvement over a part-time doctor that they had, as a rule, who was only on the job upon request, see?

[Captain Kathleen Y. McDuffie] The efforts of Captain Hart made a great impact on public health throughout the Southeast. Captain Hart demonstrated how the united effort between government leaders, public health professionals, and the community is vital for the improvement of health conditions. His story represents only a fraction of the advances made in sanitation and public health in the 1900s. These successes paved the way for modern public health systems. Thank you for watching.

[Announcer] For the most accurate health information, visit www.cdc.gov or call 1-800-CDC-INFO, 24/7.