



Recalling CDC's Field Training Era

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A career sanitarian...a sanitarian-turned food-safety scientist...an environmental health engineer who became a rear admiral: three CDC USPHS retirees who each helped build the agency's world-class field training program in environmental health after World War II, paved the way for the next generation of environmental health professionals who learned by doing, and are grounded in problem solving and the basics of environmental health.

These pioneers—Jerrold Michael, DrPH, ScD, PE, assistant surgeon general (Rear Admiral, USPHS - ret.); Richard Clapp, DSc, MPH (CAPT, USPHS - ret.); and Frank Bryan, PhD, MPH, (CAPT, USPHS - ret.)—spoke at CDC during a recent visit and tour of CDC's Chamblee campus, which was the focal point of the field training program during its 15 years of existence from 1946 to 1961. During that time, nearly 38,000 local, state, and international public health workers took more than 1,600 courses. Their work more than five decades ago at CDC is still being used today in more than 3,000 state and local health programs throughout the nation.

“The CDC Field Training Program was the largest continuous public health training program effort of its kind. Frank, Jerry, and Dick were field instructors for the environmental sanitation courses, the largest component of the CDC training program,” says Alan J. Dellapenna (CAPT, USPHS), an environmental health officer serving as historian for the Indian Health Service. Dellapenna's research into the history of sanitarians in the USPHS led him to discover the rich history of the CDC Field Training Program.

“Their team trained a generation of local, state, and international sanitarians, standardized environmental health practice in the US, and laid the foundation for the professionalization of environmental health with the establishment of a network of undergraduate degrees in environmental health,” he says, describing the staff of the program as among “the best and brightest public health professionals of their era.

“When their time as training officers ended, they went on to diverse leadership roles in public health. The legacy of their work continues,” notes Dellapenna.

Michael: Early Field Training Work ‘Great Education’

Jerrold M. Michael had a 20-year career in the Commissioned Corps of the USPHS before serving another 25 years as professor of public health and dean of the School of Public Health at the University of Hawaii. He also served for 11 years as a professor of global health at George Washington University. Despite such an incredible career, Michael considers his time as a field instructor at CDC a key highlight. He came to the agency in 1953, three years after joining the USPHS and fresh from a research project with CDC that sought to determine whether polio could be spread by vectors.



Jerrold M. Michael (far right, with hat on) teaches graduate engineers the process of measuring stream flow and field water analysis in Chamblee, GA, 1957. *Photo by Training Branch, Communicable Disease Center*



CDC makes a water purification film at the Audio Visual Production Unit of the original CDC Training Branch in 1958. (Michael is pictured on left with pointer). *Photo by The National Library of Medicine*

His second CDC posting, at the ripe age of 23, was an assignment to local government where he served as deputy director of health in the Phoenix, AZ, Department of Public Health. “It was a great grounding. You got an understanding of where public health functioned. I was then transferred to one of the most exciting times of my career – to Atlanta and CDC’s Southeast Field Training Station,” Michael says, recalling that he was involved in training sanitarians and overseeing a three-month engineering training program. He also worked with state and local health departments to conduct shorter training courses and helped produce many of CDC’s famous black-and-white environmental health training films. (See photograph).

“It was a great education,” says Michael, describing how in the 1950s when the program was in its prime, he and the other field instructors would do it all – cleaning up the classroom early in the morning, running the classroom equipment, giving lectures, and driving a school bus-type vehicle to the field locations in the afternoon, before cleaning the classroom again, then heading home.

“There was joy in teaching and you know that when you teach, you learn,” Michael told the CDC audience.

The vast majority of the students, says Michael, were veterans of WWII. “They were a highly motivated group. They were prepared to better their professional status and prepared to learn. I don’t think I ever had a student who was younger than me.”

A member of the Navy medical corps at the end of World War II, Michael was able to find common ground with his students and the student-teacher relationship flourished. “It was the perfect environment for education – a group that was eager to learn, faculty-interested and positive, who had a commonality in many ways. It was a terrific experience.

“For me, helping people become more proficient in their professions was a career-shaping opportunity,” he adds, pointing to his subsequent, almost 40-year career in academia, including his role as dean and professor of public health at the University of Hawaii’s School of Public Health.

Clapp: 18-hour Days the Norm, Armed Health Inspectors

Richard Clapp, now in his 90s, retired from CDC in 1974. He worked on the Chamblee campus from 1948 to 1973, heading the environmental health training program. He describes his life’s work as the establishment of the undergraduate environmental health programs.

His early USPHS career in general sanitation took him all over the United States, including New York, Arizona during World War II, and Washington, DC just after the war. In 1947, Clapp was assigned to the CDC Field Training Station in Columbus, GA. In the mid-1950s, PHS assigned Clapp to the American University in Beirut, Lebanon to teach environmental sanitation to international students in classrooms and field locations throughout the Mideast.

Clapp also was one of the agency’s first EIS trainees. He said it was a “fascinating course,” noting that he was part of a team that investigated a suspected outbreak of anthrax in Nepal that turned out to be bubonic plague. The EIS training had a lot of application to the sanitation training courses he was delivering to students. Clapp also recognized that students would have difficulty absorbing all the intensive material in the 12-week course, so the agency made a significant amount of reference material available to them after the course ended.

“I found that this material, which we updated regularly, had spread all over the world. I visited a person in Iran who had adopted a lot of our material. Someone in the Philippines had made copies and sold it for a lot of profit,” he added with a laugh.



Students from state and local health departments with instructors Jerrold Michael and Richard Clapp at the Chamblee training facility in 1955. *Photo by Training Branch, Communicable Disease Center*



(L-R) Bryan, Clapp and Michael recall their experiences as environmental health field training officers based in Chamblee’s Training Branch in the 1950s. *Photo by Jesse Thompson*

Clapp says he'll never forget visiting one particular city health department officer in Newark, NJ, who conversed with him from behind his desk while cleaning his pistol. "Health inspectors were armed," he says, adding that many WWII veterans in the program were enforcement-minded.

Bryan: Food Safety Champion Began Career in New England Field Training Station

[Frank Bryan](#), food safety champion, started his public health service career at the New England Field Training Station, in Amherst, MA in 1956. The station, one of several field stations set up after World War II to provide training for sanitarians, was a joint activity of the State Health Department, the University of Massachusetts and CDC. The CDC staff consisted of two training officers and a secretary. The main activities were to conduct 12-week environmental health, decentralized two-day-a-week courses that lasted several months in Boston and Connecticut, provide short topical training courses for public health personnel from the New England states, and give 10-week field training to University of Massachusetts sanitary science students.

"Most of the trainees from New England had diverse backgrounds and were not college graduates. Other trainees, however, came from other states, Canada and other countries," recalls Bryan, adding, "In all the stations, the people we trained became the supervisors of state and local health departments."

After two-and-a-half years of this activity, training stations were closed, and Bryan was transferred to the Environmental Health Section of the Training Branch in Atlanta. His activities there included participation in the 12-week environmental health training activities, which were conducted at the CDC Chamblee facility. He participated in the final three courses of this type.

"These courses concluded with a sanitary survey of all aspects of environmental health concerns of small communities. (These were done in Sparta, Sandersville and Swainsboro, GA). When CDC's main campus building at Clifton Road was completed, the environmental health activities were transferred there, and this ended the direct association with the CDC Chamblee facilities," Bryan says.

After the last 12-week course, training efforts shifted to courses usually of three days to a couple weeks in duration, and many of them were conducted at the request of and within states, he recalls. Subsequently, Bryan specialized in the epidemiology and control of foodborne diseases. He helped to bring the Hazard Analysis and Critical Control Point (HACCP) concept into common use through his foundational food safety work at CDC in the mid-1960s and mid-1980s.

Bryan retired from CDC in 1985, but he continued training and epidemiology activities for more than two decades with states, international agencies and the food industry. This included doing hazard analyses in homes and at street-vending stands in developing countries; setting up HACCP systems in foodservice establishments and chains; participating in expert committees of the WHO; and conducting foodborne disease investigation, HACCP, food microbiology and food safety training courses in states and many countries.

Legacy of Work Continues Today

The legacy of the field training program and the work of Bryan, Clapp and Michael are best exemplified by how their efforts touched the next generation of public health workers, such as individuals like Gary German, director of human resource development in FDA's Office of Regulatory Affairs. Today, German coordinates the training programs for the agency's field staff in more than 3,000 state and local food-safety agencies. German recalls how in awe he was of CDC as a graduate student at East Tennessee State in 1972 working on his Master of Science in Environmental Health degree.

"My thesis was comparing programs where you took chemistry and biology majors and training them to be sanitarians," says German, who came across Clapp's name in CDC literature about training and development for sanitarians. "I wrote to him and he actually took the time to send me something back. I remember how thrilled I was. That information was woven into my thesis.

"I'm 61 years old now. It's now my time to give back to the young people. I believe at that time he was mentoring or giving back to this profession we have," he says, noting that Clapp's taking the time really made a difference in his public health career.

Hank Koren, author of 19 books in environmental health, history, supervision and management, and occupational health, retired in 1995 as founder and coordinator of the Environmental Health Program, which he established in 1967. Koren also established the first totally paid Environmental Health Internship Program at Indiana State University in 1969. During his 25 years heading the program, 1,150 interns earned more than \$3 million through the program, graduating with seven months of on-the-job experience. He recalls the impact CDC's field training program had on his public health career soon after joining the Pennsylvania Health Department in 1955.

"It was during nine weeks of field training that I fell in love with the field of environmental health. From then on, I was constantly involved with the Public Health Service," he says, emphasizing that CDC taught him the correct way to do things.

While working for the city of Philadelphia, Koren turned to CDC again and again for expertise – often disseminated through films as well as trips to the Chamblee campus for classes. The training covered the full gamut of topics, from milk sanitation to swimming pool safety, to radiation exposure and hospital-infection control.

"When you think of CDC and training, you have to think Richard Clapp," says Koren. "When you think food problems, you think Frank Bryan."

In fact, Koren recalls being part of the special training of a newly discovered foodborne disease that Bryan had uncovered. "His work was immediately translated into the field, and we had his knowledge in our hands and knew what to do as field personnel as soon as he found a problem. That's how quickly CDC was working at getting everything out."

Koren's association with Michael was particularly close – it was Michael who recommended him to become an assistant professor at Indiana State University, where he went on to develop the environmental health program, and later graduated 500 students from the program, many of whom became USPHS officers. Their close association as colleagues continues today.

"If it weren't for the CDC and the Public Health Service officers, a whole generation of people, including me, would have never learned about the field the way it really is. On top of that, we would not have taught the next generation of people to become proper environmental health practitioners," explains Koren.

Just as important, Koren says, is that the field training "turned us into highly proficient generalists who understood the specialties and could look at the full picture of a problem. That's what is so lacking in the field today," he concludes. "We were taught that environmental health was an integral part of public health. You have to understand the public health ramifications of what you do in environmental health. That's important, and that's what we were taught."

This *Inside Story* by Anne Wainscott-Sargent.

Environmental Health Training Today

The NCEH Environmental Health Services Branch (EHSB) of today is carrying on CDC's legacy of providing high-quality training to our nation's more than 3,000 state and local environmental health programs.

Examples of training taught in classroom and distance-learning venues include the [Environmental Public Health Leadership Institute](#), [Environmental Health Training in Emergency Response](#), and integrated pest management and performance standards for environmental public health programs.

EHSB is developing state of the art virtual reality scenario training in environmental outbreak investigation techniques and a complete environmental health online training course. More information about [EHSB, and its training opportunities](#).