From MCWA to CDC—Origins of the Centers for Disease Control and Prevention

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Fifty years ago, on July 1, 1946, the Communicable Disease Center, predecessor of today's Centers for Disease Control and Prevention, began operations. CDC (the acronym was the same as it is today) evolved out of a wartime program of malaria control. In his history of the Public Health Service, *Plagues and Politics*, Fitzhugh Mullan calls it the PHS's "largest institutional legacy from the Second World War."

After the outbreak of World War II in Europe, President Franklin D. Roosevelt declared a state of limited national emergency. In 1940 the War Department called on the Public Health Service for assistance in organizing public health activities in the vicinities of military camps and maneuver areas, most of which were in the South. Malaria presented a serious threat in these areas, and in the spring of 1941, PHS assigned its chief malariologist, Louis L. Williams, Jr., as liaison officer to the headquarters of the Fourth Service Command of the Army in Atlanta, Georgia, to assist with malaria control.

Early in 1942, not long after the Japanese attack on Pearl Harbor, PHS obtained funds to establish an independent malaria control program for military bases and essential war industry establishments in 15 southeastern states, the Virgin Islands, Puerto Rico, and other Caribbean areas controlled by the United States. The program, called Malaria Control in War Areas (MCWA), was headquartered in Atlanta, with Dr. Williams at its helm. Organizationally, MCWA was part of the PHS State Relations Division, headed by Joseph Mountin. This was an appropriate arrangement because MCWA worked closely with state health departments in the campaign.

Joseph Mountin, the principal force behind the founding of CDC.

The first report of the new program, covering the years 1942 to 1943, described MCWA's activities as follows:

> During the 1942 mosquito season, control operations were promulgated in areas contiguous to 900 Army, Navy, and war-connected establishments. By June 30, 1943, the number of war establishments increased to 1161, embracing work in 317 counties of 21 States, the District of Columbia, and Puerto Rico. Working through State health departments, full use was made of coordinated medical, entomological, and engineering sciences to obtain maximum control with minimum expenditures of manpower and materials.

This team approach to malaria control, involving medicine, engineering, and entomology, had been developed earlier by Dr. Mountin and was adopted by Dr. Williams. Malaria control largely meant control of the *Anopheles* mosquito, vector of the disease. In *Sentinel of Health,* a history of CDC, Elizabeth Etheridge comments on MCWA:

From the beginning, engineers and entomologists dominated. Physicians assessed malaria cases in the field, and parasitologists ran the laboratory, but major emphasis was always on mosquito control, the engineers' specialty. They determined control methods, directed operations, surveyed and designed drainage construction projects, and mapped field activities. Entomologists, first commissioned in large numbers in 1943, provided the necessary expertise on mosquitoes. The wartime need to save time, money, and equipment dictated that temporary measures like larvicidal control take preference over permanent drainage projects.

There were few malaria specialists in PHS or in the country in general, and MCWA had to train most of those recruited to the program. Training in malaria control became one of the responsibilities of MCWA, and a training division was established in 1943.

Obtaining necessary equipment also presented a challenge in a

wartime situation. MCWA relied heavily on bicycles for transportation during its first year, but trucks were clearly needed to distribute the larvicide efficiently and for the transportation of workers and equipment for the draining of swamps. MCWA Executive Officer Mark Hollis happened to overhear a conversation in 1942 about the availability of surplus trucks at Camp Blanding, Florida. Working outside of official channels, Hollis convinced the engineer at Camp Blanding to set aside for him as many of these trucks as possible. Hollis, who had graduated from the University of Georgia, had prepared the ground for his request by swapping University of Georgia and Georgia Tech stories with the engineer, who was a Georgia Tech alumnus. MCWA thus acquired 123 badly needed trucks.

Although digging ditches for drainage was an important method of control, the major emphasis was on larvicide. At first, the insecticide Paris Green was used, but diesel oil soon became the larvicide of choice. The spraying was done by men with knapsacks and compressed-air sprayers, by power units on trucks and boats, and even by airplanes. In 1944, the focus shifted to residual spraying with DDT, then relatively new and viewed as a miracle insecticide. With additional funding from Congress, MCWA extended its DDT spraying program in 1945 beyond the military areas to highly malarious regions in nine southeastern states. Houses were sprayed with a formulation of DDT that adhered to the walls, furniture, and other surfaces and retained its insecticidal property against mosquitoes for long periods.

Meanwhile, MCWA had expanded its activities in other areas as well. Early in its history, it became involved in the control of the *Aedes aegypti* mosquito, vector of yellow fever and dengue. In 1944, typhus control was added to the responsibilities of MCWA.

In anticipation of the return of U.S. troops from tropical regions, the unit also began to concern itself with tropical parasitic diseases. The malaria control training program was expanded to include a tropical disease education. MCWA also began to respond to states' calls for help with infectious disease problems, such as an outbreak of amoebic dysentery in a mental institution in Alabama.

As the war drew to a close, Mountin and the MCWA staff began to think of ways to keep the organization alive and functioning. Mountin envisioned MCWA becoming a center for efforts to eradicate communicable diseases, dedicated to serving the needs of the states. With the blessing of Surgeon General Thomas Parran, Mountin proposed the creation of a Communicable Disease Center (CDC) built on the foundation of MCWA.

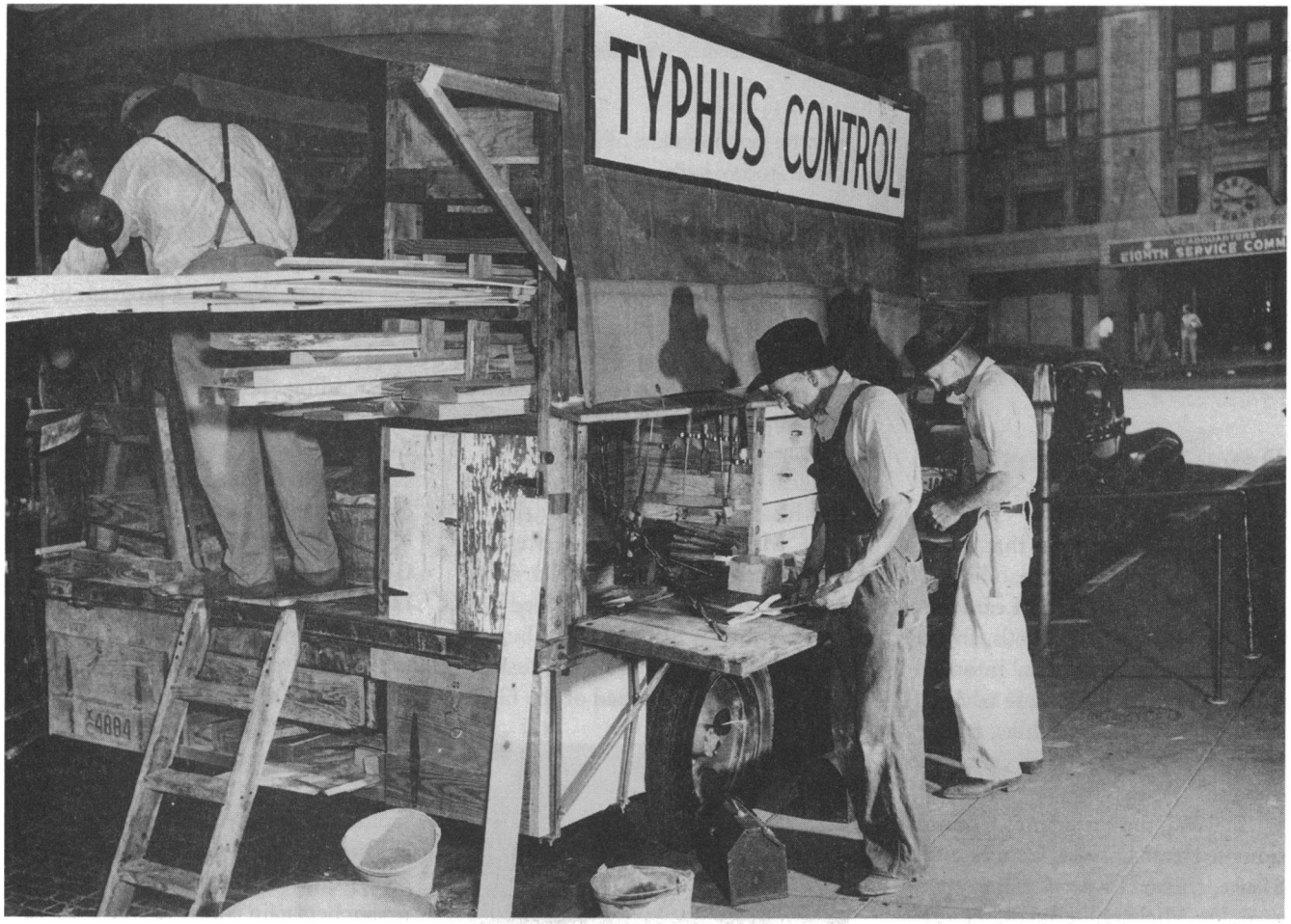
He was concerned, however, that the National Institutes of Health (NIH) might object to the establishment of what could possibly be viewed as a rival organization within PHS. To avoid antagonizing NIH the designation "institute" was not proposed for the new organization.

In her history of CDC, Etheridge describes the meeting at which Mountin proposed the establishment of CDC. He was prepared to counter the objections that he expected from NIH Director Rollo E. Dyer, but much to Mountin's surprise, Dyer immediately assented to the idea. Dyer was seemingly willing to leave disease control to CDC and to have NIH concentrate on basic research.

CDC began operations on July 1, 1946, with Mark Hollis, who had headed MCWA since 1944, as its first director. Hollis only planned to stay on through the transition, however, and was succeeded by Raymond Vonderlehr in January 1947. At first, CDC largely continued the work of MCWA. During its first two years of existence, for example, more than half of its staff members were engaged in malaria control.

The scope of the Center's activities, however, soon began to expand significantly. In 1947, a Veterinary Public Health division was added and CDC took over the PHS Plague Laboratory in San Francisco. The Plague Laboratory's epidemiology program

Power dusting or spraying from boats was one method used by Malaria Control in War Areas to control mosquitoes in the 1940s.



Typhus control became an additional responsibility of Malaria Control in War Areas in 1944.

became the CDC's Epidemiology Division, which blossomed under the leadership of Alexander Langmuir, after he joined the staff in 1949. Cold War concerns about biological warfare helped to stimulate the creation of the Epidemic Intelligence Service in 1951, with Langmuir playing the key role in its establishment.

CDC also soon was engaged in work relating to other public health problems, such as diarrheal diseases and polio, and in providing medical assistance to local jurisdictions faced by epidemics and disasters.

Plans were developed for a new headquarters building for the Center. In 1947, Emory University donated 15 acres of land on Clifton Road to the Public Health Service for the CDC's use. Because of a series of budgetary and other delays, however, the new CDC home was not ready for occupancy until 1960.

Over the past half century, the CDC's mission has continued to broaden. Both laboratory research and epidemiological activities grew in importance after 1950. As the focus shifted from insect control to medicine and biomedical science, the composition of the staff reflected the change. The number of medical officers, for example, increased from seven in 1946 to 63 in 1952. PHS programs in venereal disease were incorporated into CDC in 1957, as were tuberculosis programs in 1960.

CDC also began to expand its activities beyond the bounds of infectious disease to include areas such as nutrition, chronic disease, and occupational and environmental health. To reflect this broadened role, a 1967 name change to National Communicable Disease Center was followed by a change to the Center for Disease Control in 1970. The name was changed again to the plural "Centers" in 1980, and then to its current designation, the Centers for Disease Control and Prevention, in 1992.

From a relatively circumscribed program focused on the control of malaria in military areas, CDC has now grown to a complex organization with some 6500 employees whose broad mission is to promote health and quality of life by preventing and controlling disease, injury, and disability.

Dr. Parascandola is the PHS Historian. The photographs were provided by the Technical Services Branch, Program Support Center, Department of Health and Human Services.

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