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### Colombian Field Epidemiology Training Program

[Notes From The Field]

Cardenas, Victor MD, PhD, MPH; Sanchez, Carmen MD, MOH; De la Hoz, Fernando MD, MSc; Jara, Jorge H. MD; Velandia, Martha MD; Martinez, Mancel MD, MPH, MSc; Raad, Jorge MD

Victor Cardenas, Carmen Sanchez, Fernando De la Hoz, Jorge H. Jara, Martha Velandia, and Jorge Raad are with the National Institute of Health, Bogota, Colombia. Victor Cardenas is also with the University of Texas-Houston School of Public Health, El Paso. Jorge Raad is also with Caldas University, Manizales, Colombia. Mancel Martinez is with Juan N. Corpas University, Bogota, Colombia.

Requests for reprints should be sent to Victor Cardenas, School of Public Health, University of Texas-Houston, 1100 N Stanton Ave, Suite 110, El Paso, TX 79902.

Note. A video and examples of teaching materials can be obtained from Dr Cardenas.

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In 1991, the Division of Epidemiology at the Ministry of Health of Colombia (population 37 million) was eliminated in a period of major administrative government changes. Paradoxically, this occurred just prior to a major health crisis brought about by the reemergence of dengue and hemorrhagic dengue and by the spread of cholera eltor from Peru. In 1992, a health sector reform was launched in Colombia aimed at extending health insurance coverage, increasing competition among health care suppliers by introducing private investors, and further decentralizing health services through increased local self-sustainable financing capacities. At the same time, the emerging challenges underscored the need for reinvigorated public health leadership, particularly at the local level.

To contribute to meeting these national health needs and to provide a constant supply of highly qualified field epidemiologists, the Colombian National Institute of Health responded by establishing, in 1993, the Servicio de Epidemiologia Aplicada (Applied Epidemiology Service) as a Colombian national field epidemiology training program. These programs are developed with the technical assistance of the US Centers for Disease Control and Prevention (CDC) and loosely patterned after the CDC's Epidemic Intelligence Service, a 2-year training residence in applied epidemiology. During its initial 5 years, the Applied Epidemiology Service has trained 28 field epidemiologists, and 14 more are currently enrolled. Graduates of the program serve as mentors for current trainees.

Trainees are selected from a country-wide pool of applicants sponsored by their local health services. Training for the Applied Epidemiology Service begins with an intensive 3-week field practice followed by a 2-year apprenticeship conducted at the assigned trainee work site. During apprenticeship, participants are trained to acquire competencies in the areas of epidemiologic process, communication, and professional skills. The core activities of the training include conducting field investigations of acute public health problems; designing, operating, and evaluating a public health surveillance system/program; and analyzing epidemiologic data. Trainees present oral and written communications, including papers on their projects for public health surveillance bulletins.

Examples of service trainees' successfully developed projects include timely field investigations of cholera epidemics, collaboration in organizing the public health response that led to a remarkable laboratory-documented decline in the cholera incidence in Colombia, and field investigations

highlighting the deterioration of dengue surveillance and control programs and the urgent need for an organized and well-funded public program to eliminate *Aedes aegypti*. Trainees have participated in national efforts to prevent injuries, the leading cause of morbidity and mortality in Colombia, and have contributed to the setting up of surveillance and control programs. They also have helped the Ministry of Health establish a hepatitis B vaccination program as part of the national immunization schedule, investigated the reemergence of beriberi, contributed to documenting the occurrence of nosocomial transmission of HIV in a dialysis unit, and helped to investigate and control the largest Venezuelan equine encephalitis epidemic since 1969. In 1996, Applied Epidemiology Service trainees assisted local health services in monitoring a nationwide influenza epidemic; as a result, routine influenza immunization for high-risk populations was established. Recently, a field investigation of trainees found telephone surveys useful in monitoring the performance of local chronic disease and injury prevention programs. During the period of 1993 through 1997, service trainees helped investigate more than 60 outbreaks or clusters.

The Applied Epidemiology Service also provides a national task force for immediate response in regard to disease outbreak investigation and control, as well as a network for surveillance and epidemiologic research. Among the surveillance outputs are the development of an injury surveillance system at the National Institute of Legal Medicine and Forensic Sciences and the publication of public health surveillance bulletins.

Factors key to the service's success are its systematic approach to a set of tasks traditionally undertaken at the National Institute of Health, such as assisting in the study and control of epidemics and providing technical assistance to local health services in the development of public health surveillance and disease control programs. The service's sustainability was secured early on by the National Institute of Health's commitment to funding. The service also promotes communication through existing public health education programs and teaches local health officials the importance of field investigations of epidemics in terms of controlling and preventing further disease. Very important for the institutionalization of the service has been the advocacy of public health leaders in Colombia, who serve ad honorem on the service's Advisory Committee. This steering group evaluates performance and provides specific policy recommendations. Among its members are a representative of the Ministry of Health and distinguished faculty of the National School of Public Health of Antioquia University (Medellin), the Master in Epidemiologic Science Program at the University of Valle (Cali), and other local university programs in Bogota. Since the establishment of the service, the National Institute of Health has sponsored an annual international course involving faculty from national university programs (e.g., those in Cali and Medellin) and US schools of public health (University of Michigan, Emory University, Tulane University, and University of Texas), as well as CDC epidemiologists. These courses were attended by 289 health professionals during 1994 through 1997.

As is the case with field epidemiology training programs in other nations, Colombia's Applied Epidemiology Service has met the expectations of participating institutions and continues to contribute to advancing the agenda of public health in Colombia. The service is financed by local health services that sponsor potential trainee candidates; in return, most of the training takes place at the local health service, although trainees are asked to participate in response teams to investigate and control national epidemics. The direct cost of each trainee to the National Institute of Health is estimated at \$7000 a year, excluding trainees' estimated salaries (\$12 000 a year); each trainee remains employed and fully paid by each sponsoring organization.

In the wake of a prolonged national political crisis, the institutionalization of the Applied Epidemiology Service is still far from complete. However, the service has proven to be an essential national health program and a model for other countries. Many of the activities jointly developed by the service, Colombian and US schools of public health, and the CDC convey the spirit of international partnership

needed to address global health.

Victor Cardenas, MD, PhD, MPH

Carmen Sanchez, MD, MOH

Fernando De la Hoz, MD, MSc

Jorge H. Jara, MD

Martha Velandia, MD

Mancel Martinez, MD, MPH, MSc

Jorge Raad, MD

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