

Update on Research and Activities at the Centers for Disease Control and Prevention, and the Agency for Toxic Substances and Disease Registry

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HEALTH STUDIES BRANCH (NCEH, CDC)

The Health Studies Branch is responsible for responding to domestic and international requests for epidemiological assistance with suspected and known environmental-associated public health threats. These deployments are commonly referred to as EPI-AIDs. Over the last several years, scientists from the branch have responded to a variety of different chemical-associated public health threats. Examples include outbreaks of aflatoxin-associated illness in Africa [1], suspected ricin contamination of a United States postal facility in South Carolina [2], severe renal and neurological illnesses that were ultimately determined to be the result of diethylene glycol-contaminated cough syrup in the Republic of Panama [3], and others. The branch employs personnel with a wide variety of educational backgrounds and professional training, including epidemiology and different specialties and subspecialties of medicine, statistics, and other environmental health-related disciplines.

Outbreak of Unknown Illness in Tigray Region of Ethiopia (2007)

During 2005, public health investigations by the regional Ethiopian health bureau and the national Ethiopian Ministry of Health (EMOH) identified 19 cases of an unusual illness. The illness was characterized by a diagnosis of chronic liver disease,

which was preceded by mild symptoms of fever, weakness, and jaundice for about a year. This sickness was affecting members of a small, remote village in northern Ethiopia. Although no actual etiology was identified, it was ultimately determined that the outbreak was most likely associated with a toxin from a weed growing in the village's primary water source, a communal well. On the basis of this determination, the government relocated the entire village (350 households and 1500 people) and dismantled the well in January 2006. There were no additional reported cases of illness until the spring and summer of 2007, when numerous deaths and a number of new cases were identified in the resettled community. Upon the reappearance of persons with a similar pattern of illness, EMOH officials contacted CDC with a formal request for technical assistance. A multidisciplinary team was assembled and deployed to Ethiopia.

The team was comprised of 2 epidemiologists, an internal medicine physician, a health scientist, and a medical toxicology fellow. The overall investigation consisted of medical chart reviews to establish a case definition; a door-to-door census to enumerate the population and find additional cases; a case-control study to collect data through a questionnaire, a physical examination, and biological (blood and urine) samples; and environmental sampling of local plants, food, and traditional medicines. The medical toxicology fellow served as an on-site subject matter expert in chemical-associated illness as well as an integral member of the

Notes: The following is an update on research and activities in which medical toxicologists are actively involved at the National Center for Environmental Health and the Agency for Toxic Substances and Disease Registry (CDC/ATSDR). The *Journal of Medical Toxicology* will highlight periodically some of these activities to illustrate the growing relationship between medical toxicology and public health.

Editor's Note: The findings and conclusions in this article are those of the authors and do not necessarily represent the views of the Centers for Disease Control and Prevention or the Agency for Toxic Substances and Disease Registry.