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No. 1


Public health laboratories (PHLs) came about over a century ago to assist in the prevention and control of diseases of public health importance. Recently, implementation of managed care, increased use of non-culture technologies, emphasis on empirical antibiotic therapy, and other related factors have tended to adversely affect the services provided by these laboratories. At the same time national leaders have called for strengthening and integration of the U.S. medical laboratory infrastructure to counter the threats of naturally occurring emerging infections and bioterrorism. Military medical leaders who are attempting to assess the status of PHL services in the Department of Defense asked for presentations from civilian medical leaders on how the civilian community is managing the provision of traditional PHL services while dealing with the new challenges. In this session, speakers addressed the current state of civilian PHLs, electronic transmission of laboratory data, surveillance for infectious diseases including emerging infections, and the threat of antibiotic resistance.

No. 2

Surveillance for Unexplained Deaths and Critical Illnesses Due to Possible Infectious Causes. CAPT Jordan W. Tappero, MD, MPH, USPHS. Meningitis and Special Pathogens Branch, Division of Bacterial and Mycotic Diseases, and The Unexplained Illness Working Group, National Center for Infectious Diseases, Centers for Disease Control and Prevention, Atlanta, GA.

To identify unexplained deaths and critical illnesses due to possible infectious causes, population-based surveillance was established in San Francisco, CA, and New Haven County, CT, and in two states: Oregon and Minnesota (population 7.7 million). A case was defined as a previously healthy person, 1 to 49 years old, hospitalized with a critical illness or death of potentially infectious cause. Laboratory specimens and clinical and epidemiologic data were collected. During May 1995 to July 1998, 264 cases were screened and 151 (57%) were enrolled: the median age was 22 years, 84 (56%) were female, 118 (78%) were white, and 49 (35%) died. For 1997, the overall incidence was 0.6 per 100,000 persons. The most common clinical syndromes were neurologic 47(32%), respiratory 43 (29%), and cardiac 21 (14%). Through March 1998, testing of 45 cases revealed definite etiologies for 9 (20%): Mycoplasma pneumoniae (3), Chlamydia pneumoniae (2), Lyme disease (1), toxic shock syndrome (1), group C meningococcal disease (1), and influenza A virus (1).

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While debate continues on the risk to public health from bioterrorism, there can be no doubt that the potential for a bioterrorist attack exists. The addition of bioterrorism to the continual risk of old and new disease outbreaks is a cause for increased concern in the medical community. The potential for mass casualties should a bioterrorist be successfully released demands that medical care providers, public health professionals, and laboratory personnel be aware and able to detect an attack as soon as possible. Systems that provide for the rapid sharing of data and information and the speedy referral of specimens are needed for the early detection of bioterrorist events and a timely, effective response. The importance of epidemiology and prompt laboratory recognition in the control of a bioterrorism scenario cannot be underestimated.

No. 4

The Laboratory in Bioterrorism: A Case Study. Michael R. Skeels, PhD, MPH. Oregon State Public Health Laboratory, Portland, OR.

A large outbreak of salmonellosis occurred in The Dalles, OR, in 1984 as a result of intentional contamination of restaurant salad bars by members of a cult. This was the first and is, so far, the only documented community-level bioterrorism event in the U.S. The laboratory role involved rapid response to huge increases in test volume as the epidemiologic investigation and control measures proceeded. Although intentional contamination was considered a possible cause, it seemed unlikely owing to lack of any apparent motive or group claiming "credit." In 1985, the criminal investigation and search of the cult’s medical clinic yielded a culture of Salmonella typhimurium that was unusual and identical to the outbreak strain in many ways. Other evidence of planned bioterrorist activities was obtained, and cult members were convicted of various crimes. The public health agencies involved learned valuable lessons.