

Direct from CDC's Environmental Health Services Branch

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Recreational Water- Illness-Prevention = Healthy Swimming

Editor's note: NEHA strives to provide up-to-date and relevant information on environmental health and to build partnerships in the profession. In pursuit of these goals, we will feature a column from the Environmental Health Services Branch (EHSB) of the Centers for Disease Control and Prevention (CDC) in every issue of the Journal.

EHSB's objective is to strengthen the role of state, local, and national environmental health programs and professionals to anticipate, identify, and respond to adverse environmental exposures and the consequences of these exposures for human health. The services being developed through EHSB include access to topical, relevant, and scientific information; consultation; and assistance to environmental health specialists, sanitarians, and environmental health professionals and practitioners.

EHSB appreciates NEHA's invitation to provide monthly columns for the Journal. In the coming months, EHSB staff will be highlighting a variety of concerns, opportunities, challenges, and successes that we all share in environmental public health. This month's column provides information on recreational-water-illness prevention.

An estimated 7.4 million swimming pools are in public or residential use in the United States. Every year, more than 360 million visits are recorded for recreational-water venues (e.g., swimming pools, spas, lakes, and oceans), making swimming the second most popular recreational activity in the United States—and the most popular activity for children. This use of recreational water, however, is associated with public health consequences such as drowning, injuries, and spread of infectious diseases. Most public environmental health jurisdictions have programs that are designed to maintain safe and healthy public swimming facilities in their jurisdictions by reviewing construction and remodeling plans and conducting operational inspections.

From 1984 through 2002, outbreaks of diarrheal recreational-water illness (RWI), the most commonly reported RWI, resulted in almost 19,000 people becoming ill. Figure 1 breaks down the causes of gastrointestinal illnesses from pools, spas, and other disinfected venues. The spread of diarrheal RWIs is facilitated by poor pool maintenance and low public awareness of RWIs, and by the emergence of chlorine-resistant pathogens such as *Cryptosporidium*. In 2005, contact with an interactive fountain resulted in approximately 4,000 cases of infection. A multifaceted prevention and response plan is needed in public health jurisdictions to prevent *Cryptosporidium* in recreational venues.

National reporting of RWIs to the Centers for Disease Control and Prevention (CDC) is poor.

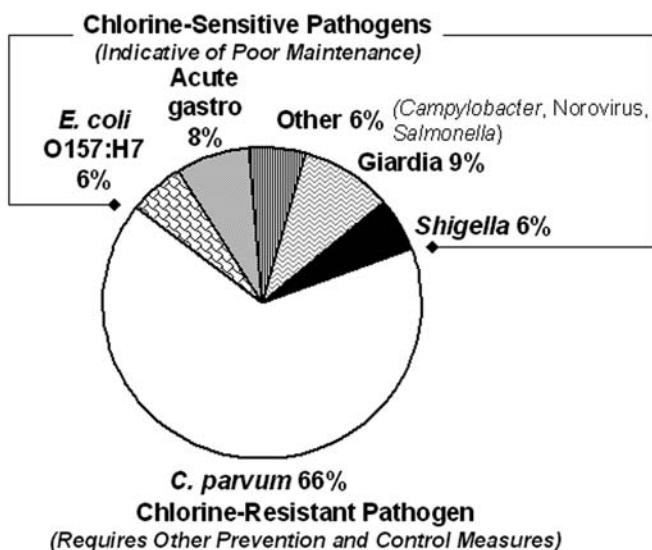
Environmental health programs have the responsibility to ensure that these RWI outbreak reports are submitted through state epidemiologists to the CDC RWI Surveillance System. A complete toolkit for outbreak reporting, response, and investigation is available online at the Healthy Swimming Web site (www.cdc.gov/healthyswimming/outbreak.htm). The toolkit includes an Environmental Health Systems Approach Outbreak Investigation Report, sample letters, questionnaires, and forms to use for reports.

In 2003, the CDC Environmental Health Services Branch (EHSB), in collaboration with the CDC Division of Parasitic Diseases (DPD) and six state and local environmental health programs, examined critical violations that were listed in the 2002 inspection reports of more than 5,000 spas and 22,000 swimming pools. Study results were reported in two *Morbidity and Mortality Weekly Report* (MMWR) issues that are available, along with additional information, at www.cdc.gov/nceh/ehs/Topics/recreationalwater.htm.

Results from these studies showed that collecting, organizing, and analyzing pertinent data will provide the information needed for environmental public health program decision making. For example, one county pool inspection program withstood a challenge to its mandatory pool-operator training program because the program had followed the recommendations in these MMWR articles and was able to show in its own pool inspection data that operator training reduces the occurrence of critical violations. The recommendations in

FIGURE 1

Recreational-Water-Illness Outbreaks, United States, 1991–2000: Causes of Gastroenteritis in Treated* Venues



MMWR 51(SS08):1-28 (2002)

N = 53 (number of outbreaks).

*Chlorinated water.

the two MMWR articles are not only important for RWI prevention programs but also applicable to all environmental health programs.

In 2005, CDC's EHSB and DPD cosponsored an RWI Prevention Workshop at the request of the Council of State and Territorial Epidemiologists. Multidisciplinary working groups comprising almost 100 experts from state, local, and federal public and environmental health agencies and representatives from aquatics industries and nongovernmental organizations made recommendations for improving prevention efforts in four areas:

- surveillance;
- public awareness and action;
- environmental health prevention programs' impact; and
- research on treatment, monitoring, and management practices.

An immediate result from the workshop was the first Recreational Water Illness Prevention Week, May 23–30, 2005. An RWI Prevention Week Toolkit, which included a sample press release and a list of 16 ways to increase public, industry, and media awareness of the program's ongoing efforts to promote healthy

swimming, was distributed to local, state, federal, territorial, and tribal partners. In 2006, RWI Prevention Week will be May 22–29.

EHSB collaborated with the Volusia County Health Department in Florida to provide the CDC *Swimming Pools and Spas Inspection Interactive Training* CD-ROM in April 2004 to more than 4,000 of our partners in local and state environmental health programs. The 37 lessons include videos, computer animations, detailed 3-D graphics, photos, interactive problem-solving exercises and quizzes, and live links to the CDC Healthy Swimming Web site (www.cdc.gov/healthyswimming). Information about the interactive training program can be found at www.cdc.gov/nceh/ehs/Home/Swimming.htm. In addition, EHSB provided technical consultation to the National Swimming Pool Foundation on the development of the Certified Pool-Spa Inspector™ Training CD-ROM (www.nspf.org/documents/CPI_Announcement.pdf) that is being offered jointly with NEHA.

RWIs are an increasing public health problem, but local and state health departments can use existing tools and innovative procedures to control the problem in the recreational water venues in their areas. Effective RWI prevention requires sound environmental health interventions, education for the public and industry, effective team approaches to outbreaks, and additional research into issues such as disinfection effectiveness and air quality in indoor pool areas. 🐸

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