

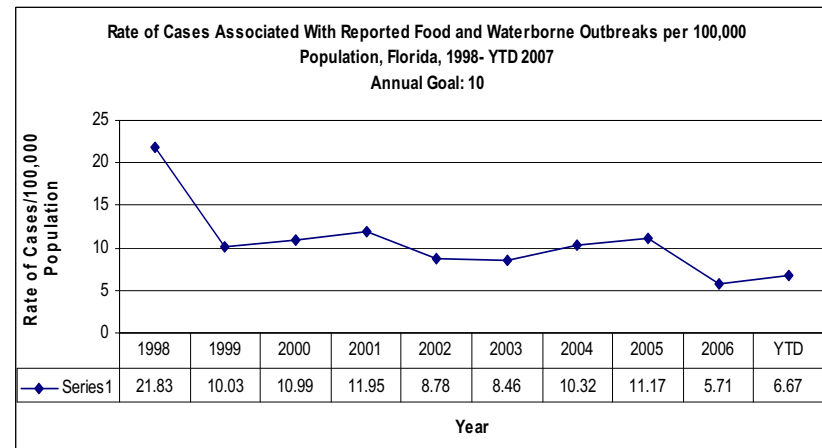
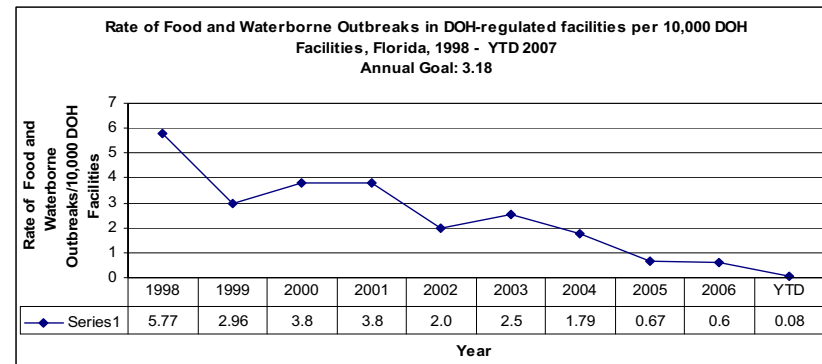


Environmental Public Health – Food and Waterborne Outbreaks

Florida has an estimated 18 M population and 85.8 M annual visitors, as well as an aging and high risk population. DOH has ongoing responsibility and authority for epidemiological investigation in public food establishments and institutions such as hospitals, prisons, and schools. Responsibility for routine, regulatory inspections of other public food establishments was transferred from DOH to the Department of Business and Professional Regulation and to the Department of Agriculture and Consumer Services through 1992 legislation.

Why is This Important?

Changing patterns of individual and global economic behavior have complicated the public health control of food and waterborne diseases in recent years and have accentuated the Major food and waterborne diseases include: campylobacteriosis, salmonellosis, shigellosis, staphylococcus, norovirus, giardiasis, hepatitis A and *Clostridium perfringens*. Emerging pathogens such as cryptosporidium, cyclospora, and *E. coli* O157:H7 have also caused recent outbreaks of illness. *Vibrio vulnificus* has caused severe illness and death in high-risk categories of people who choose to consume raw oysters. Recent emerging pathogens and vehicles include saxitoxin in Florida pufferfish, *Salmonella Typhi* in frozen imported mamey, cyclospora in fresh imported basil (the largest reported cyclospora outbreak in Florida history) and hepatitis A in raw oysters (the first such outbreak in 20 years). The risk of consumption of raw milk has also become a frontline public health issue.

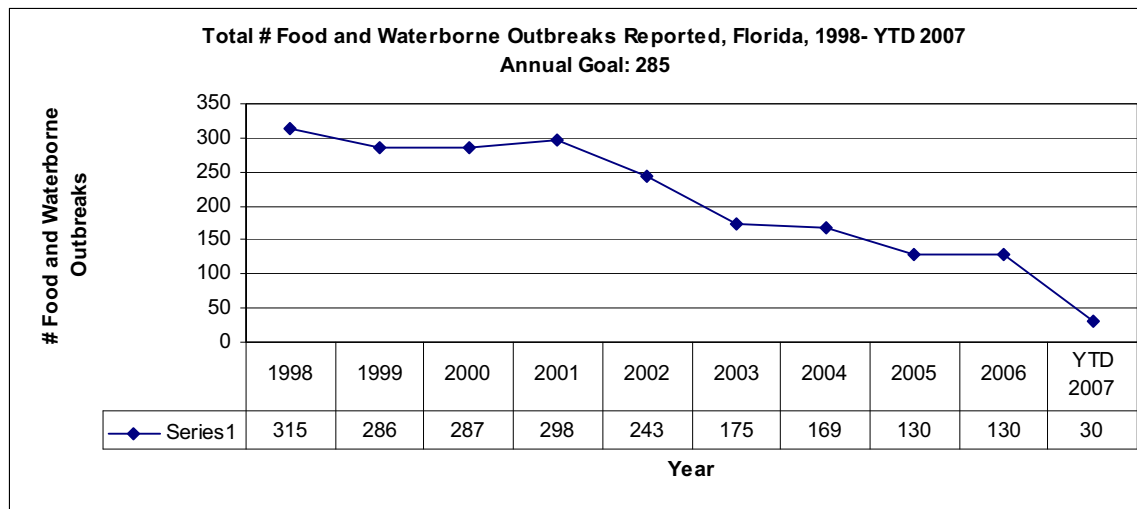




Environmental Public Health, Food and Waterborne Outbreaks cont'd

How is Florida Doing?

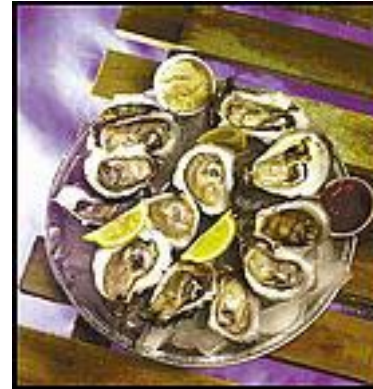
- From 1994-2005, the Food and Waterborne Disease Program has investigated 3,227 outbreaks with 25,686 cases. In addition to outbreak investigations, the program also follows up on 2,000 – 4,000 individual food and waterborne illness complaints every year. Among selected specific activities, since norovirus accounts for as much as 35% of foodborne outbreak-related cases (national estimates are 67%), training has been developed on norovirus, as well as *E. coli* O157:H7 and Salmonella and is being presented around the state. Florida has had several experiences with recreational waterborne disease outbreak investigations in swimming pools, water parks and interactive water fountains that have been combined into a presentation that was given at DOH Grand Rounds in 2001 and the 2002 National Environmental Health Association Annual Education Conference (NEHA AEC) in order to share this information with other health departments nationwide. This presentation has become a standard component of the Certified Pool Operators training that is conducted around the state. A subsequent presentation on foodborne marine pathogens was given at the 2003 NEHA AEC. At NEHA in 2004, a presentation on Foodborne Norovirus and another on 10 years of Foodborne Outbreak Disease data were given. At NEHA in 2005, two presentations on Foodborne Salmonella and *Vibrio vulnificus* were given along with the display of two posters on saxitoxin and on hepatitis A. In 2006, the NEHA presentation was on the 2005 statewide *Cyclospora* outbreak. Ongoing efforts by staff include working with CHDs to provide hepatitis A prevention education to food workers and to the public. Although there have been several high profile foodborne hepatitis A outbreaks, the fact remains that foodborne hepatitis A outbreaks account for less than 1% of outbreaks and outbreak-related cases from 1994-2005. The Regional Environmental Epidemiologists are also assisting CHDs on request with the exclusion of ill food workers.
- In 2001 and 2002, the Food and Waterborne Disease Program also worked collaboratively with the Florida Wildlife Conservation Commission and the Florida Department of Agriculture and Consumer Services on an investigation into the cause of an unusual outbreak of saxitoxin poisoning from Florida puffer fish consumption. Prevention outreach education and marine research on this issue are ongoing. The number of reported food and waterborne disease outbreaks has decreased somewhat from 175 in 2004 to 131 in 2005 and 147 in 2006). The number of cases per 100,000 population increased from 2004 (12.99) to 2005 (11.17). The number of reported food and waterborne disease outbreaks in DOH facilities decreased from 2004 (1.79) to 2005 (0.64). The percentage of final summary outbreak reports received within 30 days of the end of the investigation increased from 75% in 2004 to 85.9 in 2005.
- While the numbers of food and waterborne disease outbreaks and rates of cases declined in 2006 compared to 2005, additional data years are needed to determine if this is a continuing positive trend. Since 1994, the food and waterborne illness prevention messages were targeted to the general population, high risk groups and the professional health care population. These include the statewide *Vibrio vulnificus* Education Program (in collaboration with the Florida Department of Agriculture and Consumer Services), educational materials for distribution to the public (food safety magnets, information cards and cutting boards), presentations to community groups and guest lectures at partner universities (including University of Florida, University of North Florida, Florida Agricultural and Mechanical University and Tallahassee Community College). Florida's *Vibrio vulnificus* Education Program is a model for all Gulf Coast states. A presentation on *Vibrio vulnificus* for Health Care Practitioners has been conducted numerous times around the state to audiences of physicians, dieticians and nurses, among others. An invited seminar was presented at the University of Texas El Paso campus on *Vibrio vulnificus* in 2006.



Environmental Public Health, Food and Waterborne Outbreaks cont'd

What Influences Food and Waterborne Outbreaks?

- Cross contamination and improper holding temperatures
- High turnover in food preparation workers
- Insufficient barriers to infected persons contaminating food



What is the State's Role?

States can

- Florida has a unique structure in place for food and waterborne disease surveillance and investigation with nine regional food and waterborne disease epidemiologists to assist the county health departments in the investigation of these outbreaks. Food and waterborne outbreaks have always been underreported nationwide as well as statewide. This program was designed to address tasks at the county, regional, and state levels to achieve better reporting at an earlier date in the outbreak process. The counties themselves maintain food and waterborne illness complaint logs and perform outbreak investigations with an epidemiological team composed of an environmental health professional, a nurse and an epidemiologist. The regional environmental epidemiologists provide technical assistance in outbreak investigations and report writing along with assistance in questionnaire development and statistical analyses. Regional environmental epidemiologists also play a role in helping to train county health department staff in a variety of aspects of outbreak investigations. See our website for more program details: <http://www.doh.state.fl.us/environment/community/foodsurveillance/index.html>.
- Provide agencies and food establishments with expert and cost effective consultation and assure that expert environmental epidemiologic consultation is available 24/7
- Promote disease prevention training



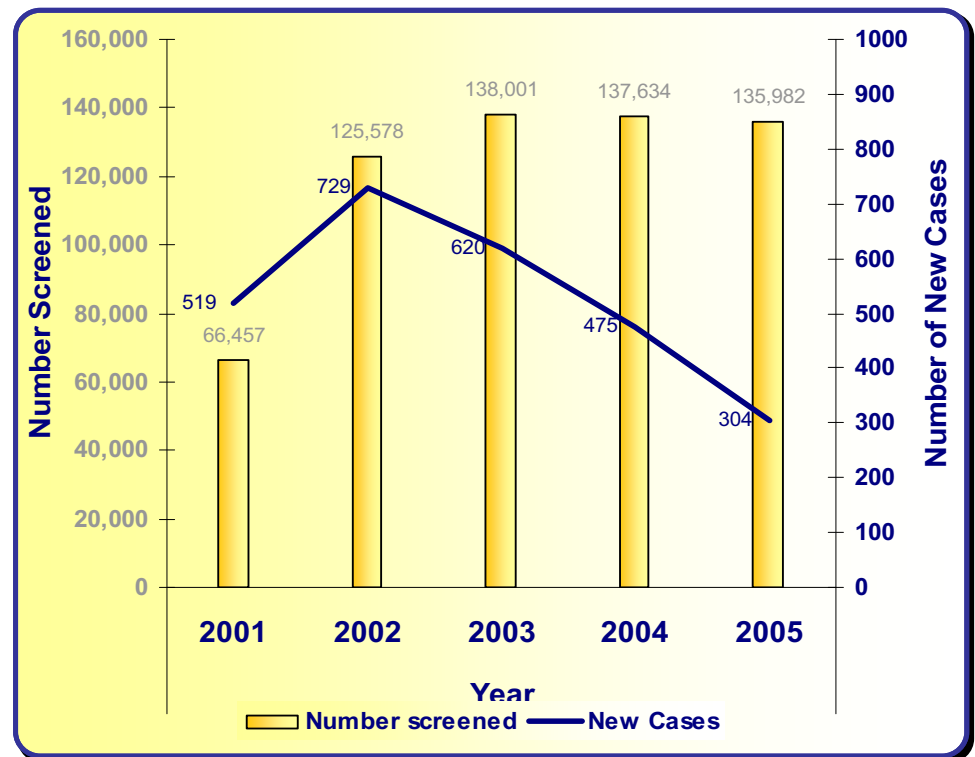
Environmental Public Health - Childhood Lead Poisoning

Approximately 310,000 U.S. children aged 1-5 years have blood lead levels greater than 10 micrograms of lead per deciliter of blood (Centers for Disease Control and Prevention's level of concern).

Why is This Important?


- There is NO safe level of lead in the blood.
- Lead poisoning can affect nearly every system in the body. It can cause learning disabilities, behavioral problems, and, at very high levels, seizures, coma, and even death.
- Lead poisoning often occurs with no obvious symptoms, it frequently goes unrecognized.
- Lead poisoning has been associated with poor school performance, increased aggression and juvenile delinquency, all of which place an undue burden on social service and education programs.

Number of reported newly confirmed cases of lead poisoning and number of children screened less than 72 months of age, Florida 2001 to 2005



TOTAL Reported New Cases 2001 - 2005: 2,647

Note: Chart only represents cases reported to the FL DOH



Environmental Public Health - Childhood Lead Poisoning

How is Florida Doing?

- The number of new lead poisoning cases in children aged 1-5 reported in Florida has decreased annually since 2002. This parallels the decline in reported blood lead levels in the US as a whole.

What Influences Lead Poisoning?

- Lead-based paint and lead-contaminated dust found in older homes and deteriorating buildings is the major source of lead exposure among U.S. children. In Florida there are approximately 433,500 homes built before 1950 that potentially contain lead-based paint. Lead-based paints were eventually banned for use in housing in 1978.
- Other sources of lead poisoning are related to:
 - hobbies (casting bullets or fishing sinkers, making stained-glass windows)
 - work (recycling or making automobile batteries)
 - drinking water (lead pipes, solder, brass fixtures, valves can all leach lead)
 - Consumer products (toys or jewelry made with lead or painted with lead paint)
 - home health remedies (azarcon and greta, which are used for upset stomach or indigestion; pay-loo-ah, which is used for rash or fever).
- High risk populations include:
 - Children under the age of 6 years because they are growing so rapidly and because they tend to put their hands or other objects into their mouths.
 - Children from all social and economic levels can be affected by lead poisoning, although children living at or below the poverty line who live in older housing are at greatest risk.
 - Children of some racial and ethnic groups and those living in older housing are disproportionately affected by lead. For example, 3% of black children compared to 1.3% of white children have elevated blood lead levels nation wide.



Environmental Public Health - *Childhood Lead Poisoning , cont'd*

What is the State's Role?

Lead poisoning is 100% preventable!

- **Promote lead screening:** Provide guidelines for physicians and County Health Departments.
- **Conduct surveillance:** Conduct surveillance of all blood lead tests.
- **Monitor case management:** Provide guidelines for physicians and County Health Departments.
- **Build partnerships:** Lead poisoning prevention requires coordination between health, housing, and social service programs.
- **Promote Prevention:** Educate target communities about ways to prevent lead poisoning, create healthy homes and build healthy communities.
- **Propose Protective Policies:** Establish an EPA accredited Lead Based Paint Training and Certification Program to increase the number of service providers available to address lead hazards and to enable the Department to leverage additional federal funds for remediation and prevention efforts.

Florida's Childhood Lead Poisoning Prevention Initiatives

- **Florida's Committee for the Elimination of Childhood Lead Poisoning:** This statewide advisory committee works to define and implement strategies to eliminate lead poisoning in Florida by 2010. The committee includes participants from three state government agencies, multiple universities, county and city governments, and community based organizations.
- **Florida's Healthy Homes Project:** This new project seeks to educate and empower families to identify and address indoor environmental hazards that affect children's health. Healthy Homes topics include lead poisoning, asthma, injury prevention and poisonings.
- **The Lead Alert Network:** Through a network of citizens and government programs, the Department of Health provides e-mail alerts about the latest consumer product recalls due to lead hazards.
- **Florida's Childhood Lead Poisoning Prevention Program:** <http://www.doh.state.fl.us/environment/community/lead/index.html>