

NATIONAL RECREATIONAL WATER ILLNESS PREVENTION WEEK

May 24-30, 2010

California Department of Public Health

Drinking Water and Environmental Management Division

RWIs: Recreational Water Illnesses

- ▶ **WHAT** are they?
- ▶ **WHERE** are they found?
- ▶ **HOW** are they spread?
- ▶ **WHY** doesn't chlorine kill them?
- ▶ **WHO** is most likely to get ill?
- ▶ **HOW** can we prevent them?



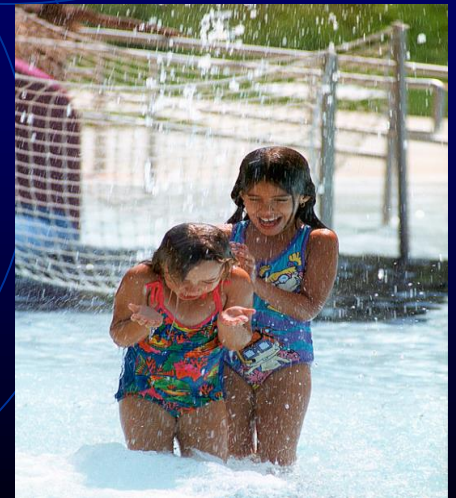
Public Swimming Pools



Healthy Swimming All Year Long

In the United States

- 8.8 million residential and public swimming pools (1)
- 339 million pool visits each year by persons over six years old in 2006 (2)



THE PROBLEM:

During 2005 and 2006 combined there were:

- 78 recreational water associated OUTBREAKS
- Affected 4,412 people
- Largest number of outbreaks ever reported to the Centers for Disease Control and Prevention (CDC) in a 2-year period (6)

THE BIGGEST PROBLEM:

During 2005 and 2006

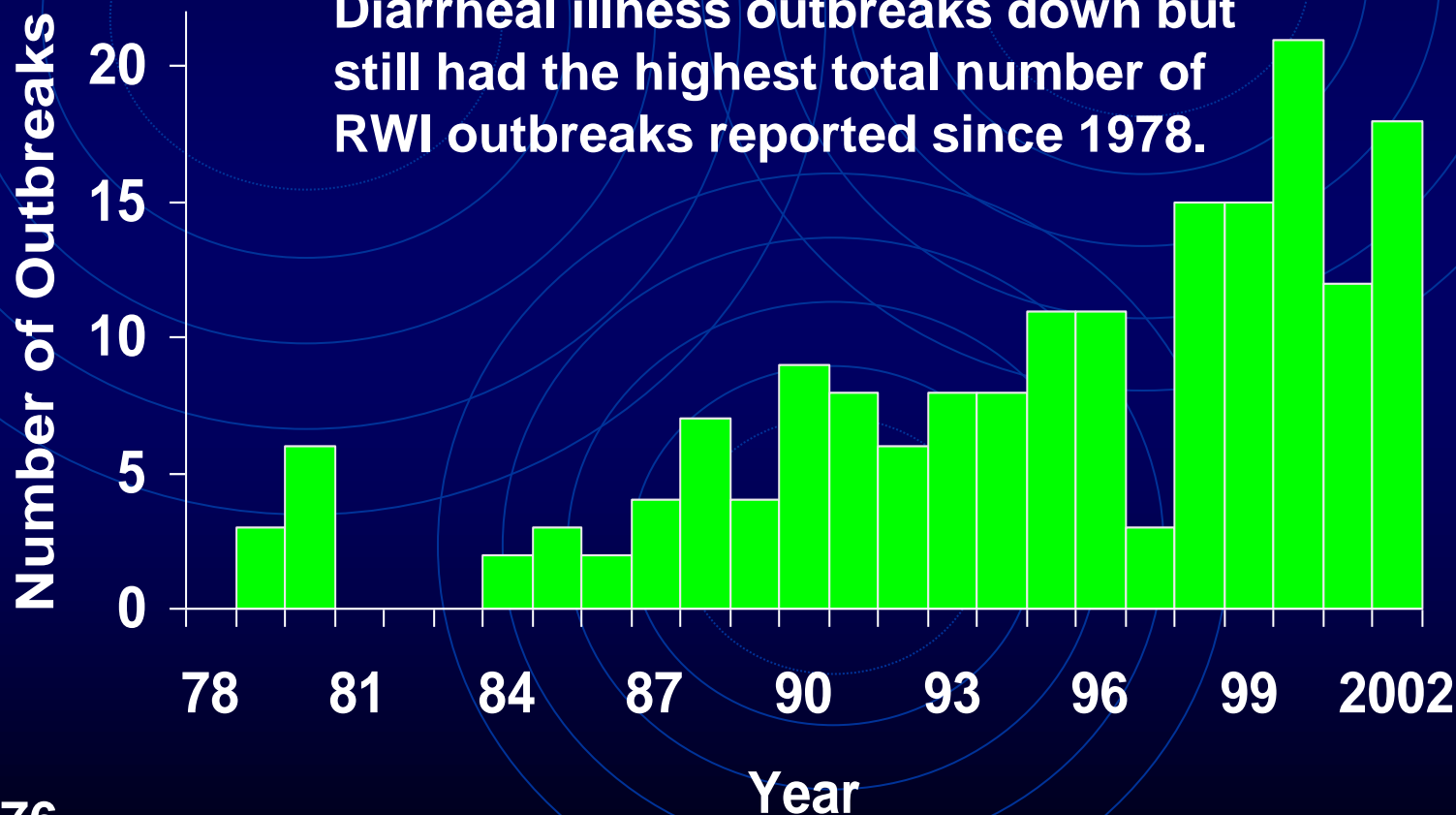
- 48 were gastroenteritis outbreaks
- Of those, 64.6% were caused by *Cryptosporidium* (6)

In treated recreational water venues (for example, chlorinated)

- 35 were gastroenteritis outbreaks
- Of those, 82.8% were caused by *Cryptosporidium* (6)

RWI Outbreaks, United States, 1978-2002; Gastroenteritis

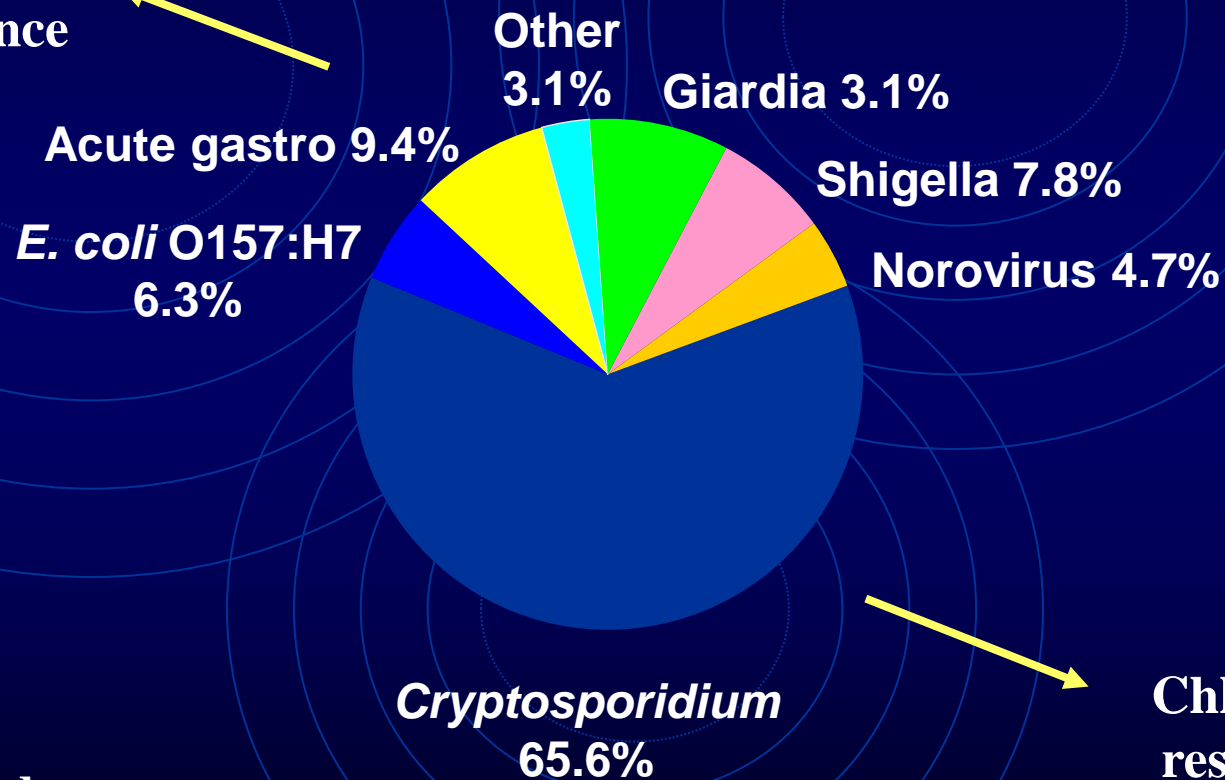
2001-2002 Summary:
Diarrheal illness outbreaks down but
still had the highest total number of
RWI outbreaks reported since 1978.



N=176

RWI Outbreaks, United States, 1993-2002; Diarrhea in Treated Venues (N=64)

Chlorine-sensitive:
Poor pool
maintenance



Other includes
Campylobacter, *Salmonella*
MMWR (2004) 53(SS08):1-22

Crypto Reported Cases:

- Increased 143% from 2004 to 2007
- 2004: 3,411; 2007: 8,300 (7)

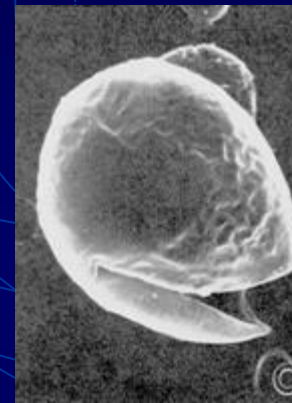
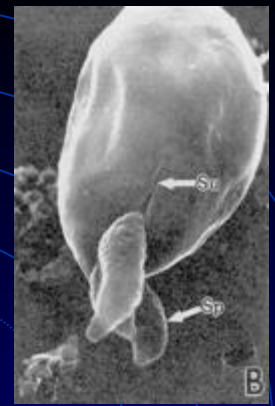
What Do We Know About *Cryptosporidiosis*?

- *Cryptosporidium* Causes *Cryptosporidiosis*. Both are called Crypto.
- *Cryptosporidium* is resistant to chlorine.
- Now leading cause of gastroenteritis outbreaks associated with swimming pool venues. (8)

Cryptosporidium

Life Cycle

- Oocysts: chlorine resistant
- Contain 4 sporozoites
- When ingested or possibly inhaled, excystation occurs
- Sporozoites are released and parasitize gastrointestinal or respiratory epithelial cells
- Causes ^V_S Cryptosporidiosis



Pool Inspections

- In 2002 CDC collected surveillance data.
- Found 21,561 violations in 22,131 inspections.

Violations noted:

- 50.7%: Water chemistry violations
- 32.2%: Filtration and recirculation systems
- 17.1%: Policy and management

Conclusions

Cryptosporidium

- Cause of a high incidence of recreational water illnesses
- Resistant to chlorine

GOAL:

PREVENTION through EDUCATION

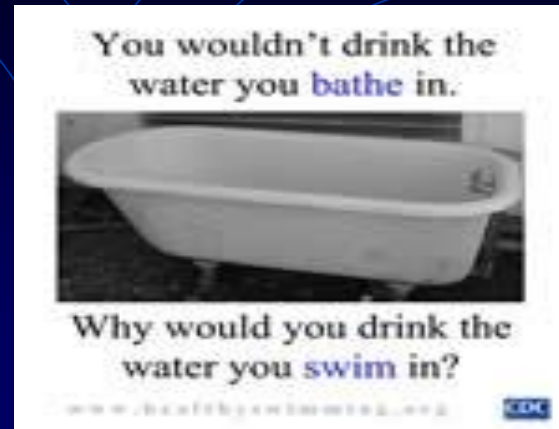
- Posters
- Brochures
- Training

➤ FUTURE NEED? Think about it:

??? Mandatory Pool Operator Certification???

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CDC Websites:

➤ Promotion Materials: <http://www.cdc.gov/healthyswimming/>

- Brochures: English and Spanish
- Posters
- News Releases

➤ General Healthy Water Information:

<http://www.cdc.gov/healthywater/swimming/pools.html>

National Consumer League Poll: 2004



- 14% believe pool water is sterile
- 40% of respondents believe they are “somewhat” or “very” likely to get ill from swimming in a pool
- 82% believe you should never swim when ill with diarrhea

 The other 18%??? No quick fix

Questions?

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