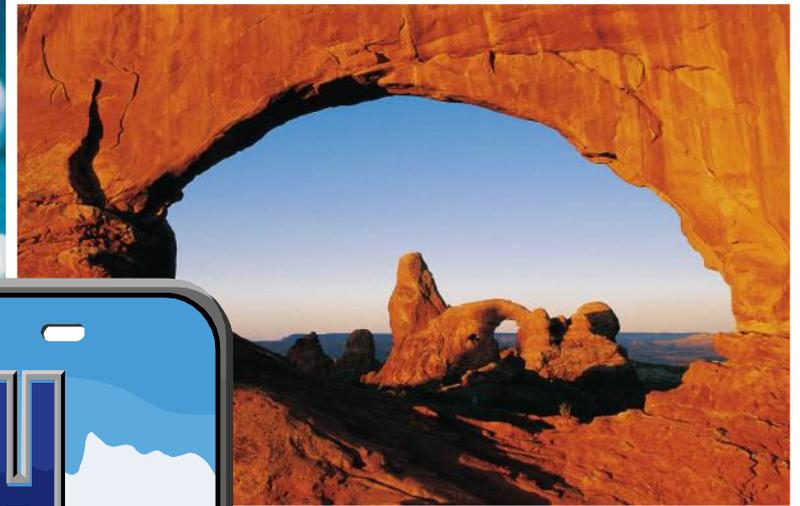


# CRYPTOSPORIDIOSIS OUTBREAK IN UTAH



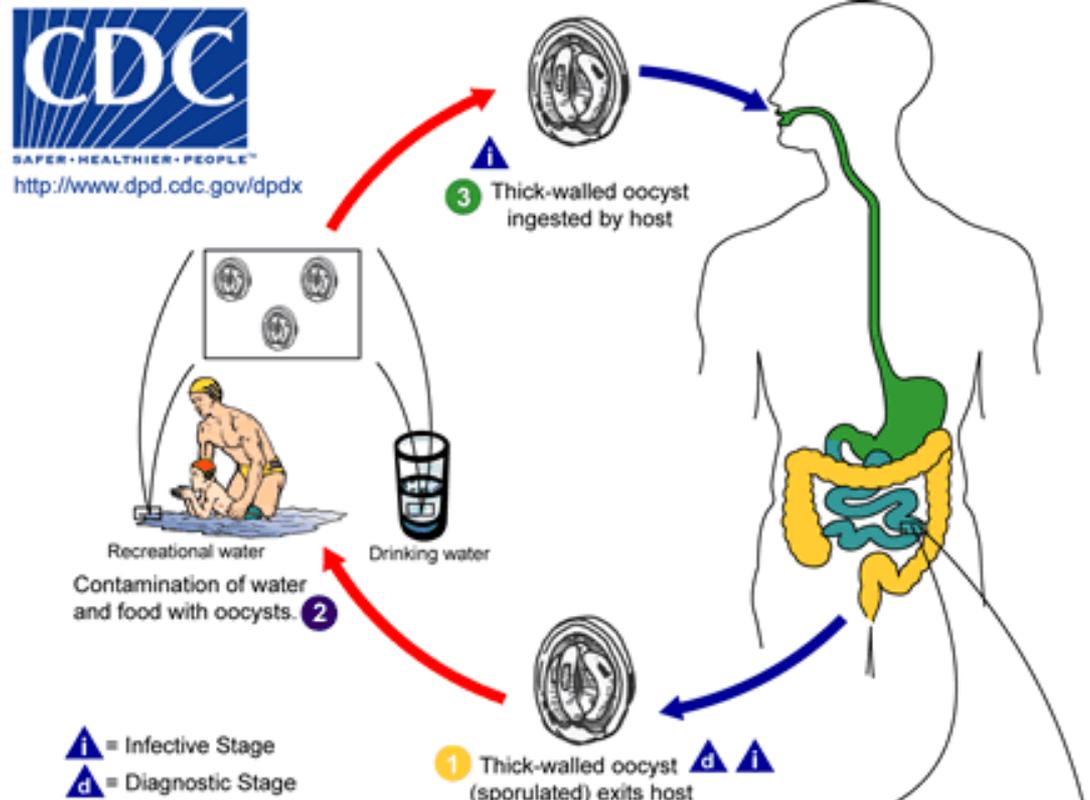
# ***CRYPTOSPORIDIOSIS***

*Cryptosporidiosis* is a nationally notifiable gastrointestinal illness caused by chlorine-resistant protozoa of the genus *Cryptosporidium*.



# TRANSMISSION

Fecal-oral transmission of *Cryptosporidium* occurs via ingestion of contaminated recreational water, drinking water, or food, or via contact with infected persons or animals (e.g., cattle).



# SYMPTOMS

Cryptosporidiosis usually affects the small intestines and is typically an acute short-term infection.

Symptoms include:

- **watery diarrhea**
- stomach cramps and pain
- dehydration
- nausea
- vomiting
- fever
- weight loss

In some cases, people with crypto may have no symptoms. However, symptoms are particularly severe and often fatal in immunocompromised individuals.



# ONSET AND DURATION



- Generally, symptoms appear 2 to 10 days (average 7 days) after infection.
- Symptoms usually last about 1 to 2 weeks (person with a health immune system)
- Symptoms may go in cycles

# THE UTAH DEPARTMENT OF HEALTH (UDOH)

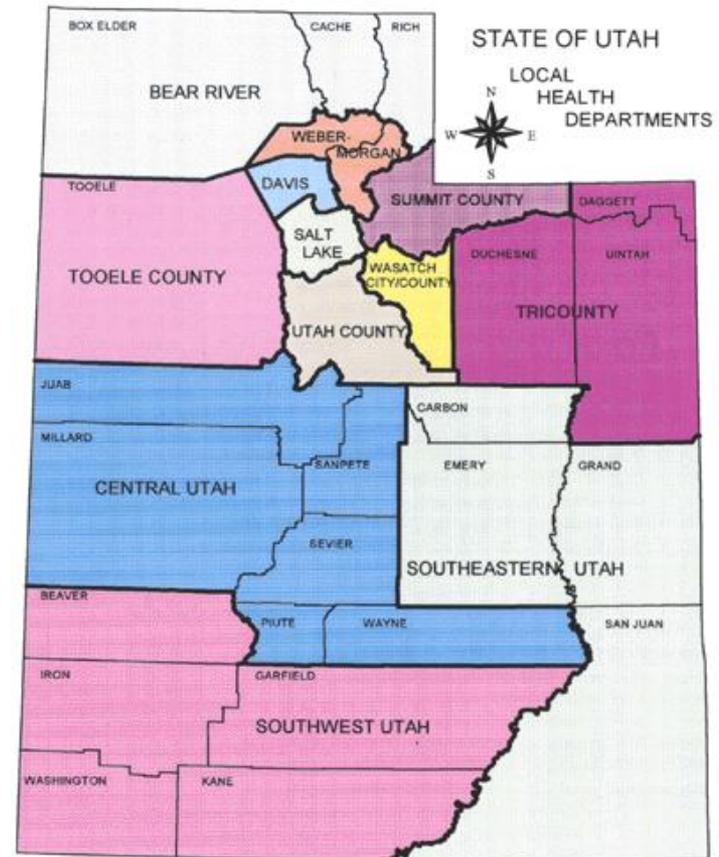
- June – December 2007
  - 1,902 cases of laboratory-confirmed cryptosporidiosis
- Case Definition
  - Lab confirmed infection in residents with illness onset or report date during May 23 – December 19, 2007



# THE PATIENTS

Patients were residents of all 12 local health districts in Utah.

- The median age of patients was 9 years
- 32% (617) were aged 5 years or less
- 51% (953 of 1,878) of patients were female.



# ILLNESS DATA

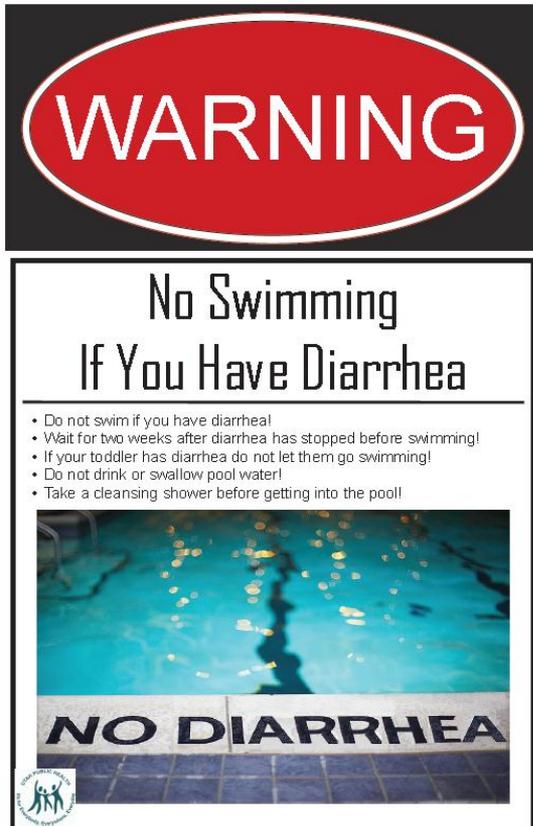
Follow-up interviews provided additional data on 1,650 cases.



- 8% (97 of 1,144) of patients were hospitalized
- 80% (1,209 of 1,506) of patients reported exposure to a total of approximately 450 recreation water venues within 14 days before illness onset
  - 90% (1,093 of 1,209) reported exposure to treated recreational water venues.
- 20% (136 of 686) of patients reported that they swam while ill with diarrhea

# INITIAL CONTROL MEASURES

Initial control measures began in late July, after UDOH received the first eight case reports. These measures included:

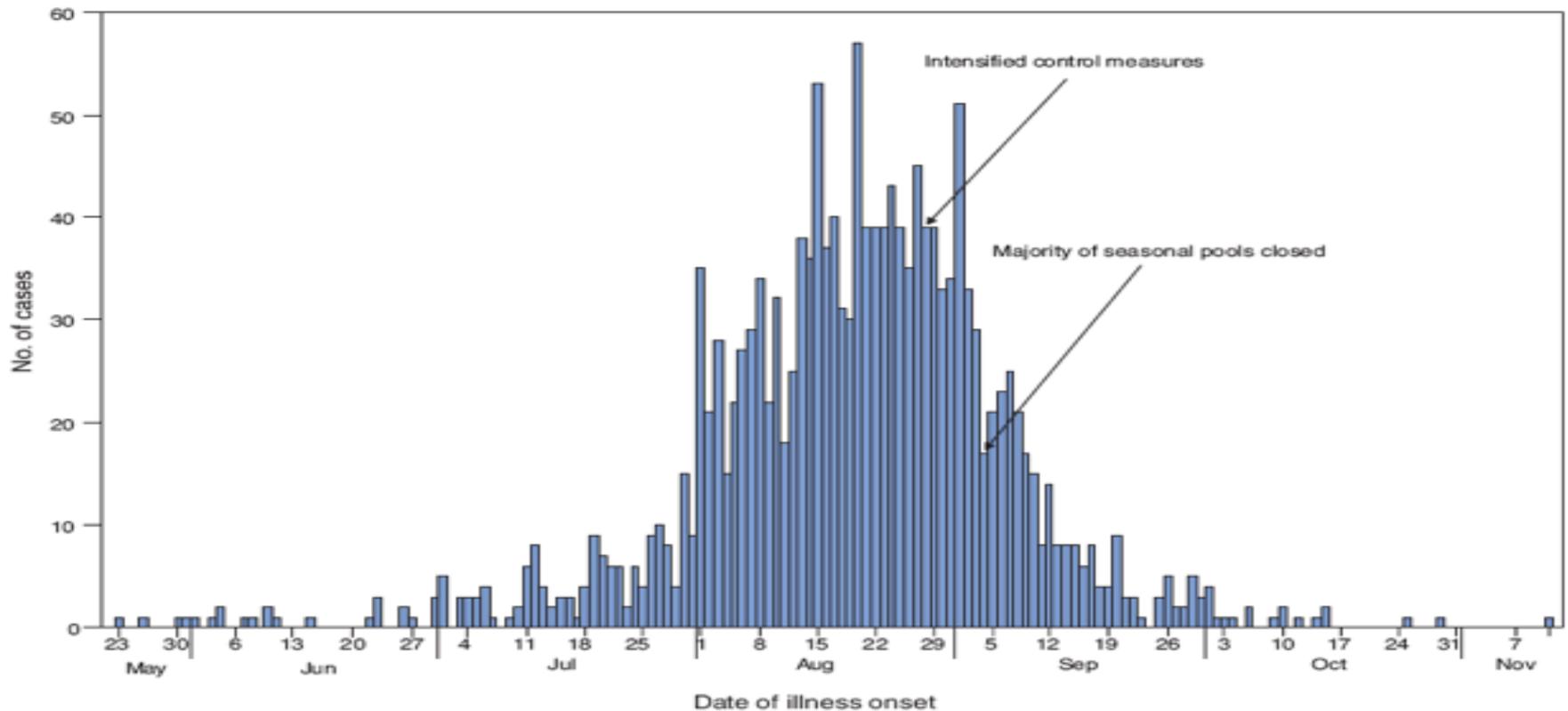


- 1) Local press release instructing the public not to swim while ill with diarrhea
  - Released on August 10 & August 17
- 2) Communication with health-care providers to request increased *Cryptosporidium* testing
- 3) Hyperchlorination of treated recreational water venues in which patients had swum while ill

# RESULTS OF INITIAL CONTROL MEASURES

Incident rates continued to increase through late August.

FIGURE 1. Number of laboratory-confirmed cases of cryptosporidiosis among patients with known date of illness onset,\* by date of illness onset — Utah, May 23–November 11, 2007



\* n = 1,601.

# INTENSIFIED CONTROL MEASURES

Intensified Control Measures were implemented in 10 of the 12 health districts on August 28. These measures included:

- 1) Banning children aged less than 5 years and anyone needing diapers from swimming in public treated recreational water venues
  - First known ban in the United States
- 2) Requiring all public treated recreational water venues to hyperchlorinate weekly and to post educational signs about healthy swimming behaviors and cryptosporidiosis
- 3) Asking child care programs to suspend all water-play activities and enforce diarrhea-exclusion policies.



# IMPLEMENTATION CHALLENGES

Challenges to implementation and enforcement of the ban included:

- 1) Difficulty in notifying all operators in a timely manner because of a lack of contact information for pool operators in some health districts
- 2) Lack of cooperation from some patrons
- 3) Initial resistance from some operators who feared a lack of cooperation from patrons, decreased attendance, and lost revenue.



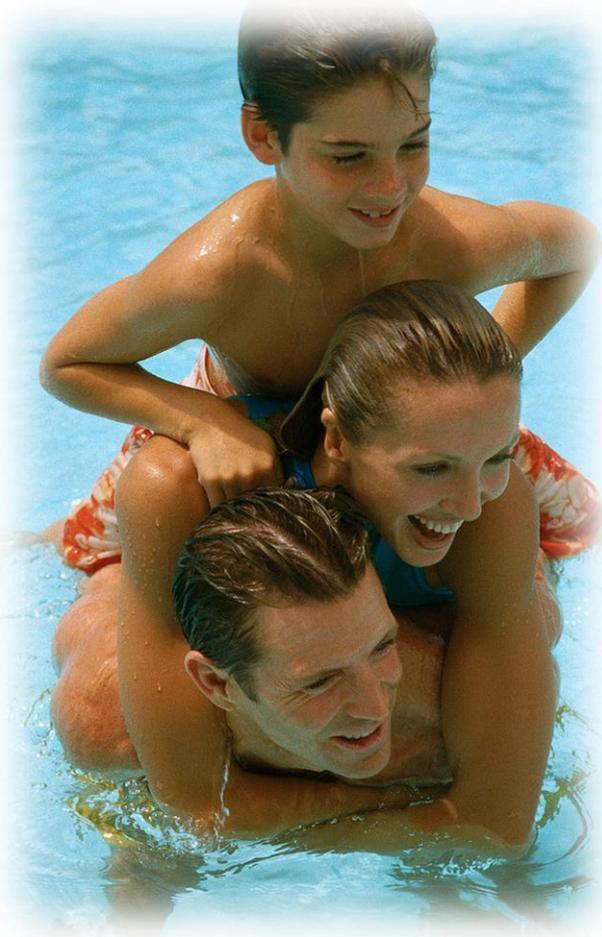
# EFFECT OF CONTROL MEASURES

Rate of incidence decreased after implementation of intensified control measures

- Rates continued to decrease after outdoor pools closed on September 4, the day after Labor Day.
- Neither sustainability nor the effectiveness can be determined due to additional factors.



# CONCLUSION



Preventing transmission of this chlorine-resistant parasite requires control measures that will:

- limit contamination of the water
- decrease swimmers' ingestion of contaminated water.

**Education on healthy swimming behaviors are a cornerstone to cryptosporidiosis prevention and control.**

# REFERENCES

Beach, M.J, Calanan, R.M, Hlavsa, M.C., & Rolfs, R.T. (September 12, 2008). Communitywide Cryptosporidiosis Outbreak ---Utah, 2007. *MMWR Weekly*, 57(36). Retrieved from <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5736a2.htm>

## **Additional Resources**

- Cryptosporidium

<http://www.cdc.gov/parasites/crypto/index.html>

- Recreational Water Illnesses

<http://www.cdc.gov/healthywater/swimming/rwi/>

- Swimmer Protection

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

**ANY QUESTIONS**

