

2019 OutbreakNet/WASH Webinar Series

September 17, 2019 3-4PM ET

Reminders:

- Please do not listen using both the phone line and computer speakers, as this affects audio quality for all participants.
 - Please mute your phone during the presentation.
 - If you are using your computer speakers and have problems with the audio quality, please turn off your speakers and try calling into the phone line.
- Use the Group Chat box on your screen to send questions/comments. You can also dial *6 to unmute yourself during the question period.
- The meeting will be recorded.

Agenda

1. Welcome and participant polls

2. General updates

- Food Safety Education Month – Elizabeth Green, CDC
- PulseNet WGS Update – Lavin Joseph, CDC
- Fungal Disease Awareness Week – Brendan Jackson, CDC
- New CDC Handwashing Campaign: *Life is Better with Clean Hands* – Rebekah Frankson, CDC

3. Featured presentation:

- Impact of Public Health Interventions on Drinking

Water-Associated Outbreaks of Hepatitis A – United States, 1971-2017 – Katie Barrett, CDC

- Cryptosporidiosis Outbreaks – United States, 2009 – 2017 – Allison Miller

4. Discussion and Q&A

5. Closing



Food Safety Education Month

Free communication materials from CDC

[Joint OutbreakNet/WASH webinar](#)

Sept. 17, 2019

September is Food Safety Education Month!

- Watch CDC's food safety superheroes take steps to help prevent food poisoning, and show others how to keep food safe.
- Join CDC in sharing information about handling and cooking food safely.
- Download free [videos](#) (also in Spanish), [tips to prevent food poisoning](#), and [social media graphics](#) on CDC's food safety website. Use #FoodSafetyHero and #FSEM to join the conversation on social media.



Food safety 101

- Every year in the United States, an estimated 48 million people get sick and 3,000 die from eating contaminated food.
- But some groups of people are more likely to get sick and to have a more serious illness. These groups are:
 - Children younger than 5
 - Adults aged 65 and older
 - People with a weakened immune system
 - Pregnant women

Children **under age 5** are 3 times more likely to be hospitalized with *Salmonella* infection than other people.



Learn how to prevent food poisoning at
www.cdc.gov/foodsafety



Protect yourself and your family

- As you prepare and handle food, [follow these four steps](#):
- Clean: Wash your hands, utensils, and surfaces often when you cook.



Separate



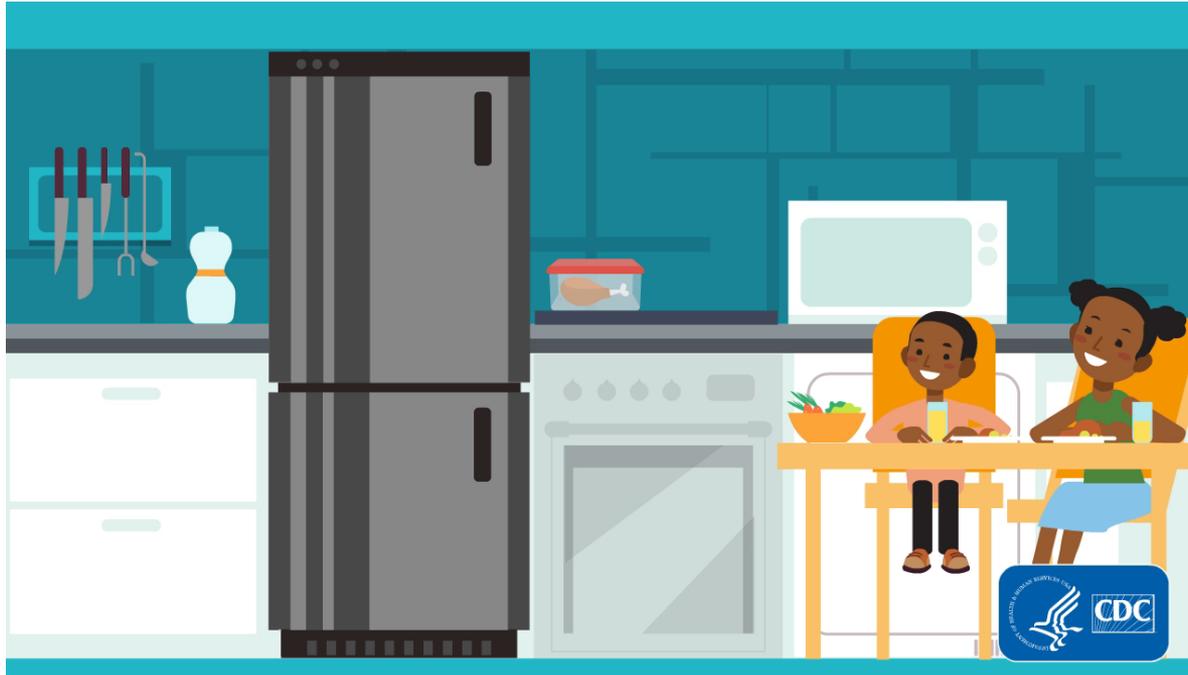
- Raw meat, poultry, seafood, and eggs can spread germs.
- Separate them from cooked food and fresh produce.

Cook

Use a [food thermometer](#) to make sure foods are cooked to an internal temperature that kills germs.



Chill



Refrigerate
perishable
foods and leftovers
within two hours.
Chill within one
hour if it's above
90°F.

Syndicate CDC webpages

- Include [Food Safety Education Month](#) content on your organization's website. You can use web syndication to copy content [from CDC's food safety website](#) to your website.
- When CDC updates content, those updates appear immediately on your site. More information: <http://tools.cdc.gov/syndication>
- It's easy:
 - Identify the content you want,
 - then ask your web developer to paste a small section of code from our site to yours.

CDC Food Safety Education Month website

- Please go to our [website](#) to see what materials you can download and use for free, for Food Safety Education Month and year round.
- The link is <https://www.cdc.gov/foodsafety/education-month.html>

Thank you

Elizabeth Greene

Associate Director for Communication,
Division of Foodborne, Waterborne,
and Environmental Diseases,

CDC

For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.



PulseNet WGS Update

Lavin Joseph



Transforming food safety with a clearer picture of bacterial DNA

Fungal Disease Awareness Week

September 23-27, 2019

FUNGAL DISEASE AWARENESS WEEK



Fungal Disease Awareness Week

- This is CDC's third Fungal Disease Awareness Week. CDC started this national observance to call attention to the risks of fungal diseases.
- Fungal disease awareness is one of the most important ways to reduce delays in diagnosis and treatment, which can lead to better health results and save lives.



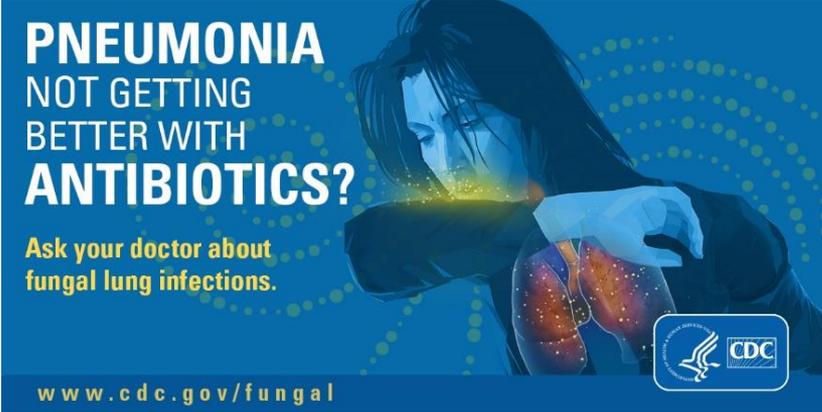
Endemic Fungal Diseases

- This year's Fungal Disease Awareness Week focuses on fungal diseases that can feel like the flu or pneumonia (lung infections). These usually occur in specific geographic areas of the United States and the world.
 - Valley fever (coccidioidomycosis)
 - Histoplasmosis
 - Blastomycosis



Endemic Fungal Diseases

- These diseases are widely under-recognized and misdiagnosed cause devastating illness, even in previously healthy people
- People who know about these diseases typically receive earlier diagnosis and proper treatment



PNEUMONIA
NOT GETTING
BETTER WITH
ANTIBIOTICS?

Ask your doctor about
fungal lung infections.

www.cdc.gov/fungal



The advertisement features a woman with long dark hair, her hand near her face, with a glowing, colorful anatomical illustration of human lungs overlaid on her chest. The background is dark blue with a pattern of small, glowing yellow and green dots.

Fungal Disease Personal Stories

- [Fungal Disease Personal Stories](#)
- Real-life stories of people who have experienced endemic fungal diseases!
 - [Kevin's Story \(blastomycosis\)](#)
 - [Ken's Story \(histoplasmosis\)](#)
 - [Heidi's Story \(blastomycosis\)](#)
- More to come... (Valley fever, histoplasmosis)



New Features and Web Content

- Stories from the Field:
 - [Histoplasmosis outbreak at Louisiana campsite: CDC partners with state health department to respond](#)
 - [U.S. Volunteers Get Sick from Soil Fungus After Building Houses](#)
- Features:
 - [Histoplasmosis: Be Safe Around Bird or Bat Poop!](#)

Upcoming Publications

- Surveillance for Coccidioidomycosis — United States, 2011–2017
 - September 20
- Population-Based Active Surveillance for Laboratory-Confirmed Candidemia — Four Sites, United States, 2012–2016
 - September 23

New CDC Handwashing Campaign: *Life is Better with Clean Hands*

WASH Webinar
September 17, 2019

Rebekah Frankson, MS, MPH
CDC Foundation Field Employee
Waterborne Disease Prevention Branch

Life is Better with Clean Hands Overview

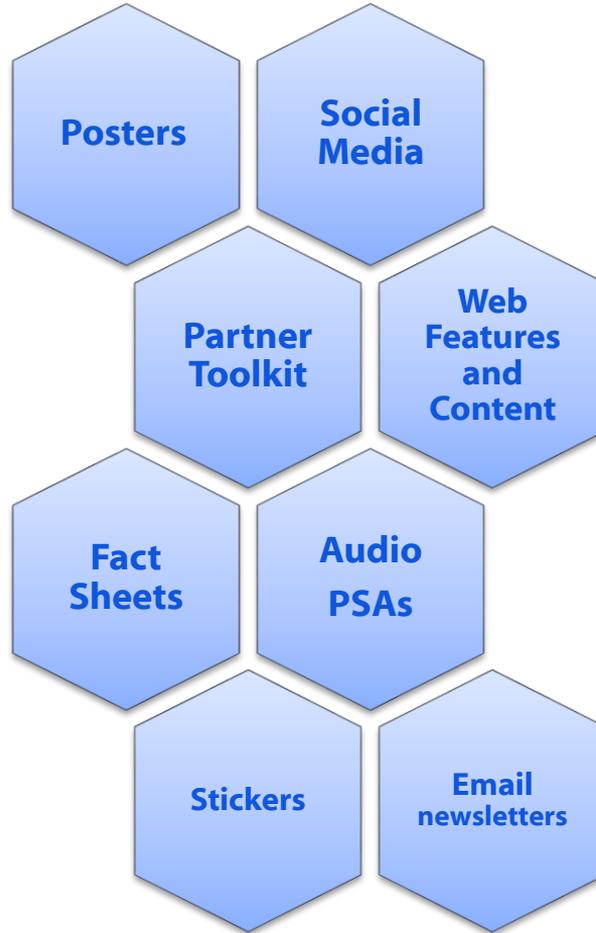
- Developed using best practices of health communication message development
- Launching on October 15, 2019 (Global Handwashing Day)
- Target Audiences
 - Parents of children 11 years and younger
 - U.S. adults, focus on:
 - People on the go
 - Home cooks



Life is Better with Clean Hands Objectives

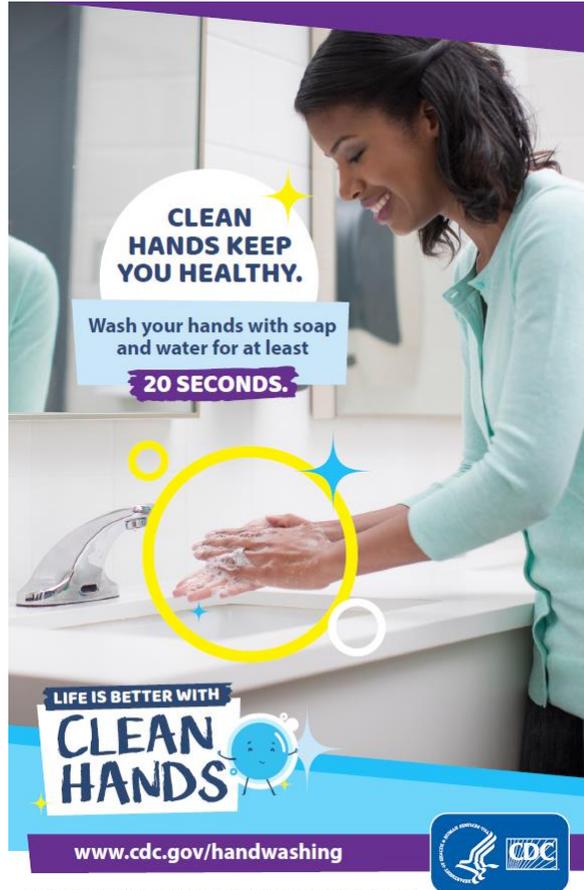
- Motivate adults to wash hands during key times to prevent the spread of germs and help protect them, their children, and other loved ones.
- Help adults feel confident that they can overcome obstacles to handwashing.
- Remind adults of the importance of washing hands after using the bathroom and while preparing food.
- Encourage parents to be handwashing role models for their children.
- Encourage parents to teach their children how and when to wash their hands.

Campaign Tactics



Posters

- Free posters on CDC INFO On Demand
 - 11" x 17"
- Downloads available on www.cdc.gov/handwashing
 - 11" x 17"
 - 8 ½" x 11"



CLEAN HANDS KEEP YOU HEALTHY.

Wash your hands with soap and water for at least **20 SECONDS.**

LIFE IS BETTER WITH **CLEAN HANDS**

www.cdc.gov/handwashing

This material was developed by CDC. The Life Is Better with Clean Hands Campaign is made possible by a partnership between the CDC Foundation, GOU, and Staples. HHS/CDC does not endorse commercial products, services, or companies.

LEAD BY EXAMPLE

Wash your hands and teach kids to scrub hands for at least **20 SECONDS.**

LIFE IS BETTER WITH **CLEAN HANDS**

www.cdc.gov/handwashing

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Social Media Graphics



Facebook, Twitter, LinkedIn –
1200 x 675



Instagram 1080 x 1080

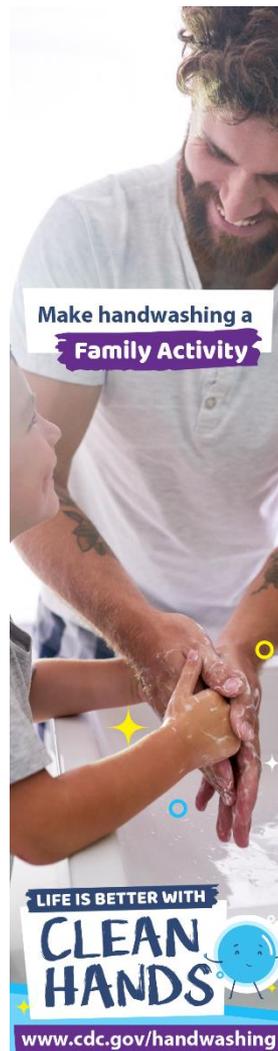
Social Media Campaign Promotion

- Be on the lookout for campaign messaging from CDC's main platforms: CDC Facebook, @CDCgov, CDC LinkedIn, CDC Instagram, @CDC_NCEZID
- Campaign hashtag: #HandwashingForLife
- Target launch: Tuesday, October 15



Web Banners

- Vertical: 160x600
- Square: 350x250



Stickers



Spanish Materials

LA VIDA ES MEJOR CON LAS

MANOS LIMPIAS



www.cdc.gov/lavadodemanos



Adquiera el **hábito saludable** de lavarse las manos.

LA VIDA ES MEJOR CON LAS

MANOS LIMPIAS



www.cdc.gov/handwashing



LAS MANOS LIMPIAS LO MANTIENEN SANO.

Lávese las manos con agua y jabón por al menos **20 SEGUNDOS.**

LA VIDA ES MEJOR CON LAS

MANOS LIMPIAS



www.cdc.gov/lavadodemanos



Este material fue elaborado por los CDC. La campaña "La Vida es Mejor con las Manos Limpias" es posible gracias a una asociación entre la Fundación de los CDC, GOJO y Staples. Los CDC y el HHS no respaldan productos, servicios ni empresas comerciales.

Partner Toolkit

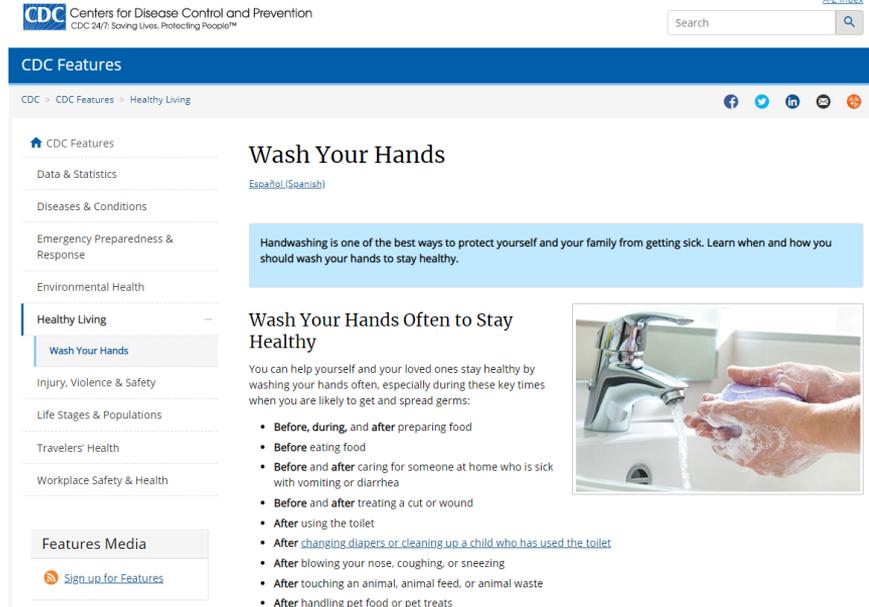
- **Contents:** Campaign overview, promotion and outreach suggestions, sample newsletters, graphics, sample social media messages, editorial calendar, online resources
- **Target Partner Distribution:** Week of September 23
- Email HealthyWater@cdc.gov to receive a copy



Web Content

- Web updates to main site
www.cdc.gov/handwashing
- Campaign section with new health promotion materials
- New handwashing content related to food safety and family
- Update web feature
- CDC Public Health Media Library - Content syndication

- Target launch: Friday, October 11



The screenshot shows the CDC website's 'Wash Your Hands' page. At the top, the CDC logo and tagline 'Centers for Disease Control and Prevention' are visible, along with a search bar and an 'A-Z Index' link. The page title is 'Wash Your Hands' with a link to the Spanish version. A blue banner contains the text: 'Handwashing is one of the best ways to protect yourself and your family from getting sick. Learn when and how you should wash your hands to stay healthy.' Below this, a sub-header reads 'Wash Your Hands Often to Stay Healthy'. The main text explains that handwashing helps protect oneself and loved ones, especially during key times. A list of key times includes: before, during, and after preparing food; before eating food; before and after caring for someone who is sick with vomiting or diarrhea; before and after treating a cut or wound; after using the toilet; after changing diapers or cleaning up a child who has used the toilet; after blowing your nose, coughing, or sneezing; after touching an animal, animal feed, or animal waste; and after handling pet food or pet treats. An image of hands being washed with soap under a running faucet is shown on the right side of the page.

Fact Sheets

Handwashing: Keeping Your Family Healthy

Handwashing is an easy, cheap, and effective way to prevent the spread of germs and keep kids and adults healthy. Studies have shown that handwashing can prevent 1 in 3 diarrhea-related sicknesses and 1 in 5 respiratory infections, such as a cold or the flu. When your family is healthy, you don't have to worry about missing school, work, or other activities.

Help your child develop handwashing skills

Parents and caretakers play an important role in teaching children to wash their hands. Handwashing can become a lifelong healthy habit if you start teaching it at an early age. Teach kids the [five easy steps for handwashing](#)—wet, lather, scrub, rinse and dry—and the key times to wash hands, such as after using the bathroom or before eating. You can find ways to make it fun, like making up your own handwashing song or turning it into a game.

Give frequent reminders

Building handwashing skills takes time. At first, your child will need regular reminders of how and when to wash hands. It is especially important to remind children to wash their hands after using the bathroom, before eating, after touching pets, after playing outside, and after coughing, sneezing, or blowing their nose. But once handwashing becomes a habit and a regular part of your child's day, they will practice it throughout their lives.

Lead by example by washing your hands

Young children learn by imitating the behaviors of adults in their lives. When you make handwashing part of your routine, you're setting an example for your children to follow.

What if soap and water aren't available?

Washing hands with soap and water is the best way to get rid of germs. If soap and water are not available, use an alcohol-based hand sanitizer that has at least 60% alcohol.



Studies have shown that handwashing can prevent 1 in 3 diarrhea-related sicknesses and 1 in 5 respiratory infections, such as a cold or the flu.

LIFE IS BETTER WITH

CLEAN HANDS



www.cdc.gov/handwashing



This material was developed by CDC. The Life Is Better with Clean Hands Campaign is made possible by a partnership between the CDC Foundation, GOJO, and Staples. HHS/CDC does not endorse commercial products, services, or companies.

CS310075-A

Stop Germs! Wash Your Hands

WHEN?

- After using the bathroom
- Before, during, and after preparing food
- Before eating food
- Before and after caring for someone at home who is sick with vomiting or diarrhea
- After changing diapers or cleaning up a child who has used the toilet
- After blowing your nose, coughing, or sneezing
- After touching an animal, animal feed, or animal waste
- After handling pet food or pet treats
- After touching garbage



HOW?



Wet your hands with clean, running water (warm or cold), turn off the tap, and apply soap.



Lather your hands by rubbing them together with the soap. Be sure to lather the backs of your hands, between your fingers, and under your nails.



Scrub your hands for at least 20 seconds. Need a timer? Hum the "Happy Birthday" song from beginning to end twice.



Rinse hands well under clean, running water.



Dry hands using a clean towel or air dry them.

Keeping hands clean is one of the most important things we can do to stop the spread of germs and stay healthy.

LIFE IS BETTER WITH

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www.cdc.gov/handwashing



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Audio Public Service Announcements

- Four audio PSAs
 - Two for General Public (15-second and 30-second)
 - Two for Parents (15-second and 30-second)
- Key messages
 - Make handwashing a healthy habit
 - Scrub for 20 seconds
 - Key times to wash
 - Parents: Wash your hands and teach kids to do the same
- Available on www.cdc.gov/handwashing

Adobe Campaign Newsletters

- CDC's Handwashing Listserv
 - Sign up: www.cdc.gov/handwashing
- **Distribution Timeline:**
 - Global Handwashing Day - October 15th
 - Cold and Flu Season – Week of November 4th
 - National Handwashing Awareness Week – Week of December 1st

Get Email Updates

To receive email updates about this topic, enter your email address:

[What's this?](#)

Impact of Public Health Interventions on Drinking Water–Associated Outbreaks of Hepatitis A — United States, 1971–2017

Catherine (Katie) Barrett, PhD

Eagle Medical Services, LLC

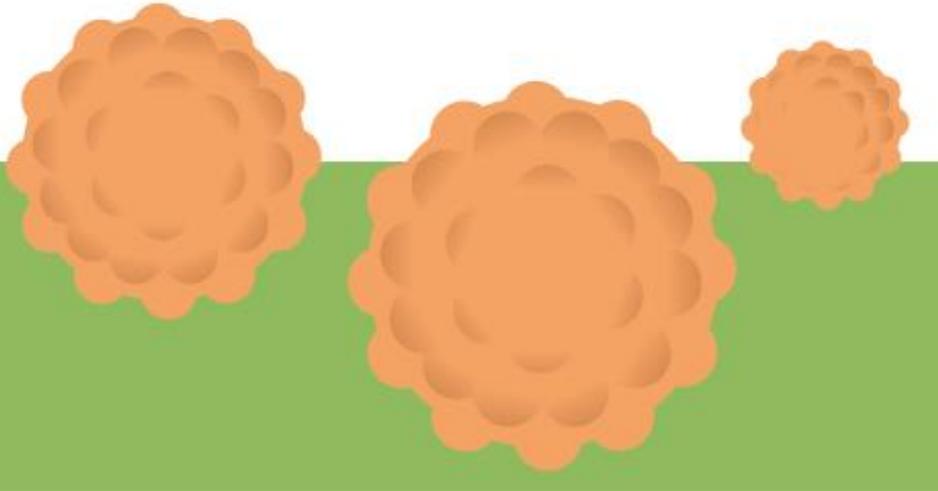
Division of Food, Waterborne, and Enteric Diseases - Domestic WASH Team

Centers for Disease Control and Prevention

OutbreakNET and WASH Webinar

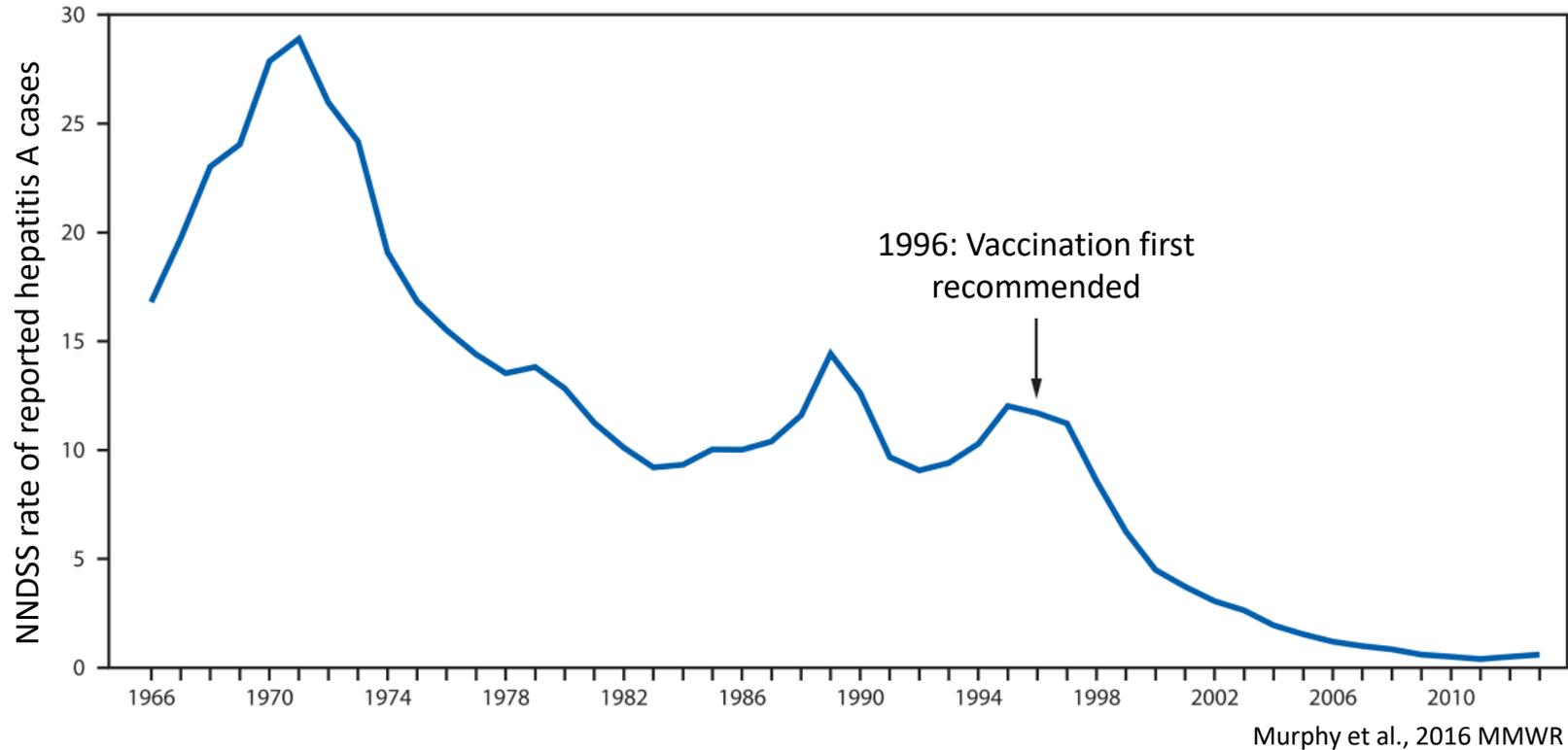
Sep 17, 2019

Hepatitis A virus



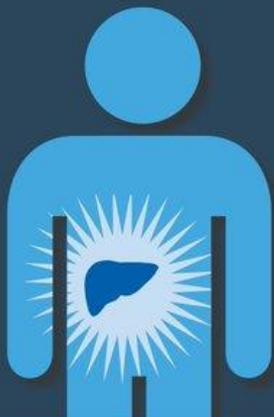
- ✓ **Yellow skin or eyes**
- ✓ **Not wanting to eat**
- ✓ **Upset stomach**
- ✓ **Throwing up**
- ✓ **Stomach pain**
- ✓ **Fever**
- ✓ **Dark urine or light-colored stools**
- ✓ **Diarrhea**
- ✓ **Joint pain**
- ✓ **Feeling tired**

Hepatitis A vaccine lead to reduction in cases



HEPATITIS A VIRUS INFECTION

- CAUSES LIVER DISEASE
- EASILY SPREADS
- PREVENTABLE WITH A VACCINE

SPREADING
PERSON-TO-PERSON

AMONG PERSONS REPORTING
DRUG USE OR HOMELESSNESS



71%
HOSPITALIZED
3%
DIED

1,521
CASES
4
STATES
2017

>7,000
CASES
12
STATES
2016 - 2018

INCREASE VACCINATION

- PEOPLE WHO USE DRUGS
- PEOPLE EXPERIENCING HOMELESSNESS
- OTHER AT-RISK GROUPS*



*CDC hepatitis A vaccine recommendations: bit.ly/CDChepA

Data from 2017 outbreaks as reported to CDC from California, Michigan, Kentucky, and Utah and published in Foster et al, *MMWR* 2018: bit.ly/MMWRhepA

CS 25278-1

WWW.CDC.GOV

STOP ONGOING OUTBREAKS OF HEPATITIS A

HEPATITIS A VIRUS INFECTION

- CAUSES LIVER DISEASE
- EASILY SPREADS
- PREVENTABLE WITH A VACCINE

SPREADING
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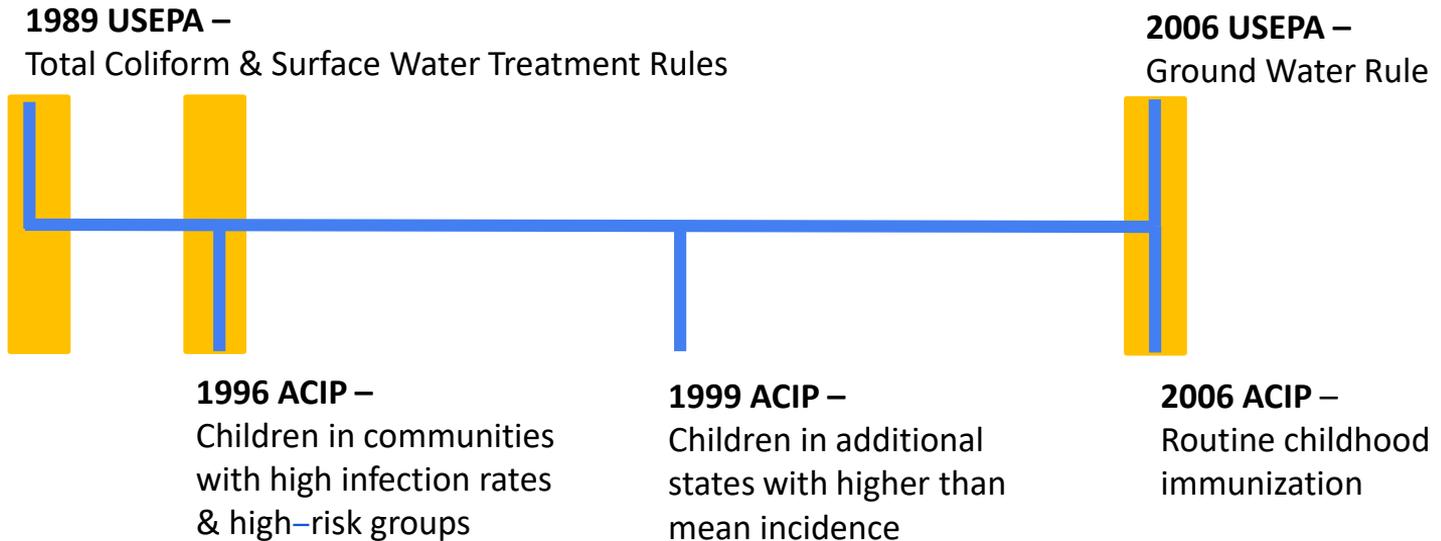
WWW.CDC.GOV

Waterborne hepatitis A outbreaks

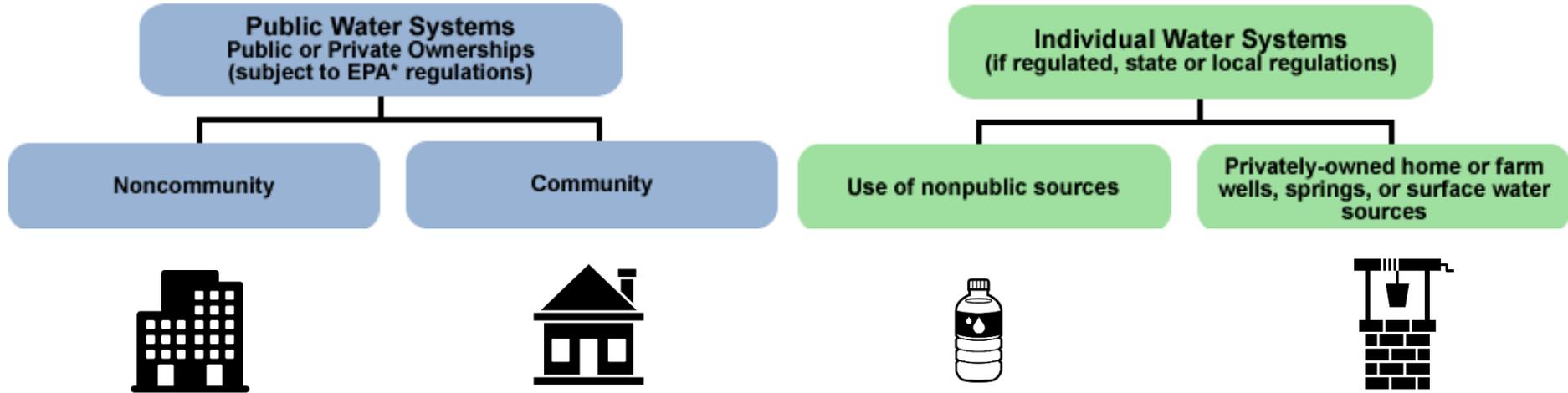
Most common pathogen linked to
untreated ground water

**~43 million people in
US
use private wells**

Hepatitis A: Timeline of public health interventions



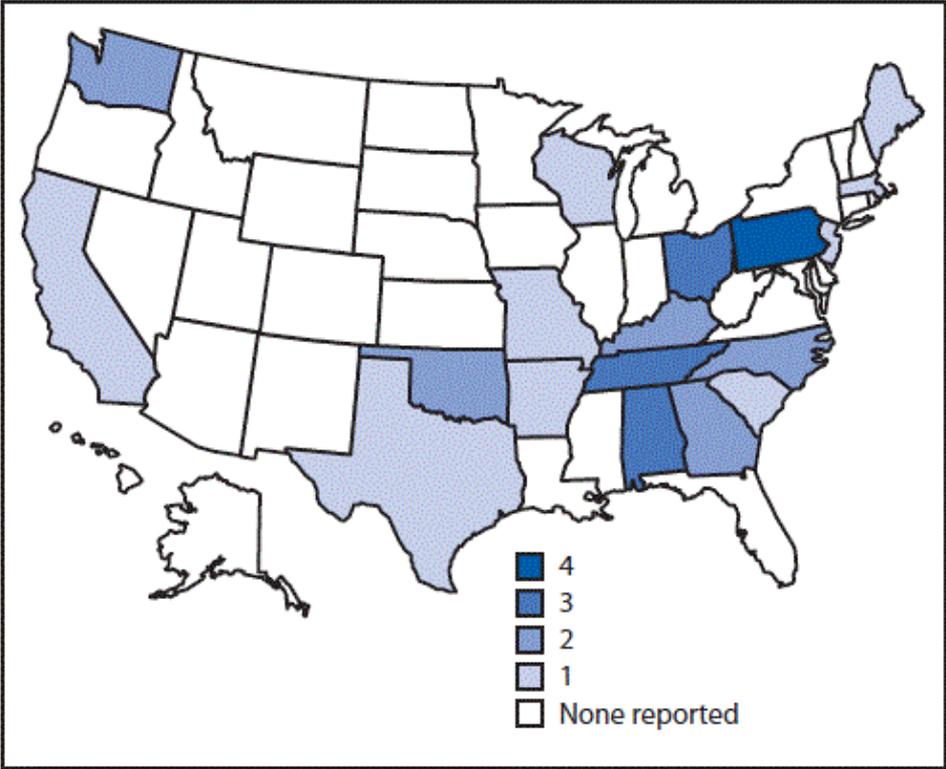
Water systems



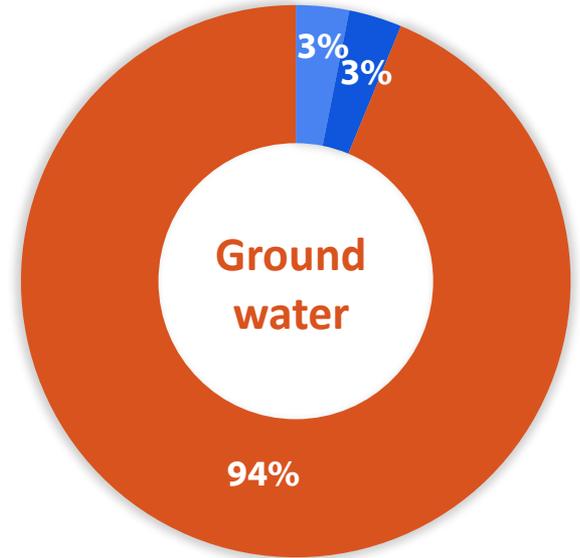
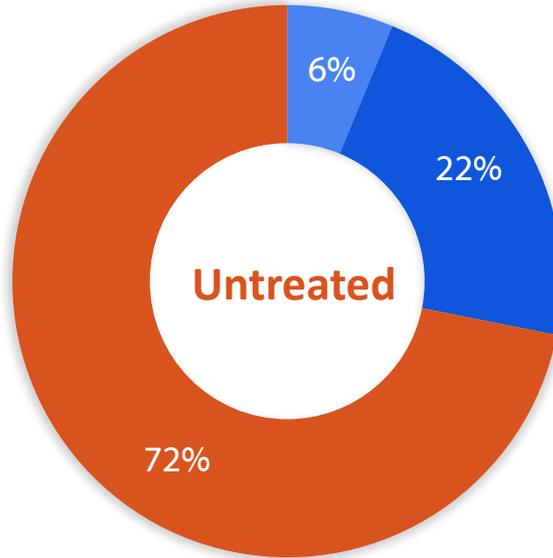
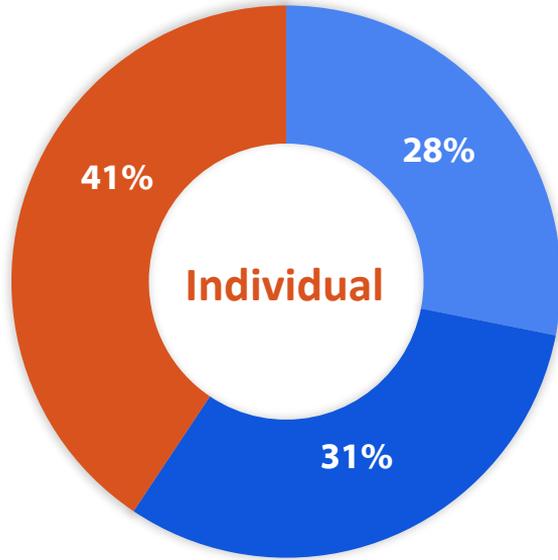
Waterborne Disease and Outbreak Surveillance System (WBDOSS) 1971–2017



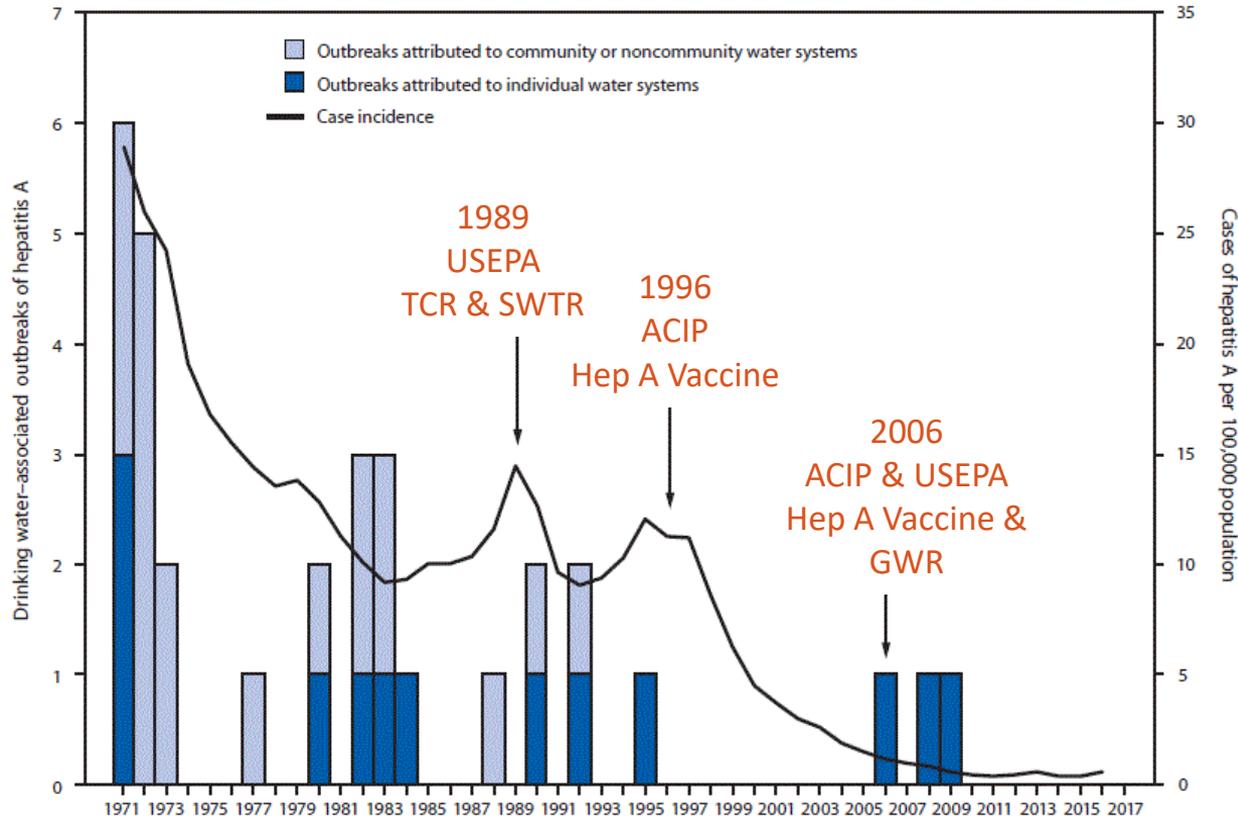
32 reported drinking water-associated hepatitis A outbreaks



Outbreaks most commonly associated with:



Success of public health interventions



Conclusions



- Reported outbreaks have **declined**

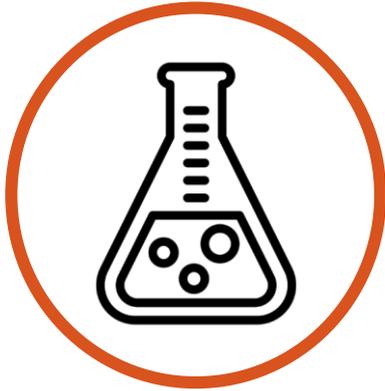


- Public health interventions **successful**



- People using **unregulated, private wells** are most at-risk

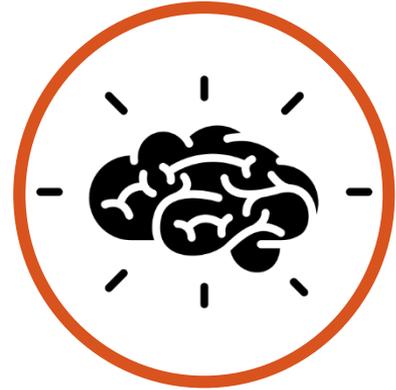
Recommendations



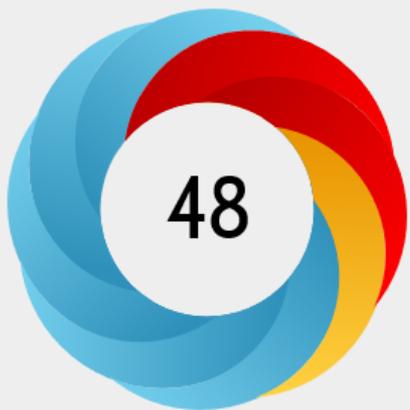
- Water testing and treatment



- Consideration during community-wide outbreaks



- Public health education



? About this Attention Score

In the top 5% of all research outputs scored by Altmetric

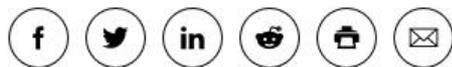
MORE...

Mentioned by

-  5 news outlets
-  1 blog
-  11 tweeters

September 10, 2019

1971 to 2017 Saw 32 Drinking Water Hepatitis A Outbreaks



HealthDay News — Thirty-two outbreaks of hepatitis A associated with drinking water were identified during 1971 to 2017, and all occurred before 2010, according to research published in the Sept. 6 issue of the US Centers for Disease Control and Prevention *Morbidity and Mortality Weekly Report*.

Catherine E. Barrett, PhD, from the CDC in Atlanta, and colleagues analyzed drinking water-associated [hepatitis A](#) outbreaks reported to the Waterborne Disease and Outbreak Surveillance System during 1971 to 2017.



The last 4 reported hepatitis A outbreaks during 1995 to 2009 were due to individual water systems.

Catherine (Katie) Barrett
ohi6@cdc.gov

Kathy Benedict
wte7@cdc.gov

For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

Acknowledgements

WDPB/Domestic WASH

Kathy Benedict
Jonathan Yoder
Virginia Roberts
Sarah Collier
Allison Miller
Elyse Phillips
Bryn Pape

WDPB/WASH Lab

Mia Mattioli

NCHHSTP/DVH

Monique Foster

USEPA/Office of Ground Water and Drinking Water

Kenneth Rotert

Cryptosporidiosis Outbreaks — United States, 2009–2017

Allison D. Miller, MPH
Surveillance Epidemiologist
Waterborne Disease Prevention Branch
CDC/NCEZID/DFWED

OutbreakNet/WASH Webinar
September 17, 2019



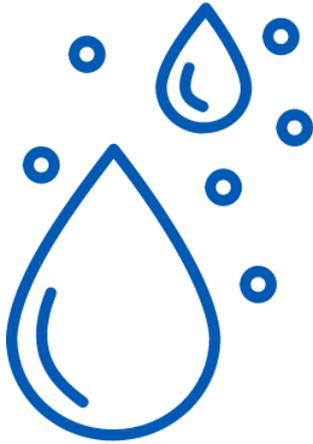


Cryptosporidiosis is a diarrheal illness caused by *Cryptosporidium* (Crypto).

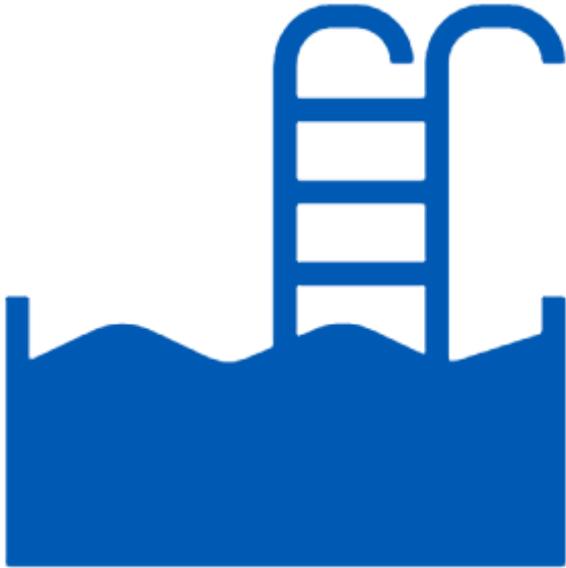


Diarrhea can
last up to
3 weeks.

Crypto is spread through fecal-oral contact.



Crypto is extremely chlorine tolerant.



***Cryptosporidium* is shed orders of magnitude above the infectious dose.**



Crypto is the leading cause of waterborne outbreaks in the United States.



Approximately 1 in 6 crypto illnesses are associated with animal contact.



**We examined
cryptosporidiosis
outbreaks reported
to CDC.**

Outbreaks are reported to CDC through NORS (National Outbreak Reporting System).

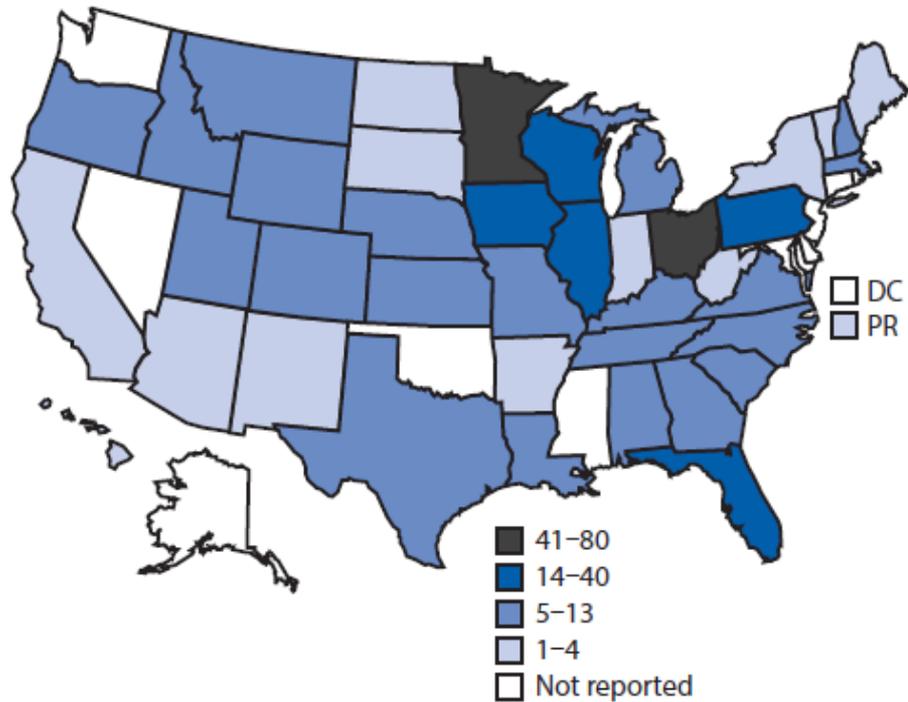


2009—2017

**First year of
NORS
reporting**

**Most recent
finalized
data**

444
outbreaks

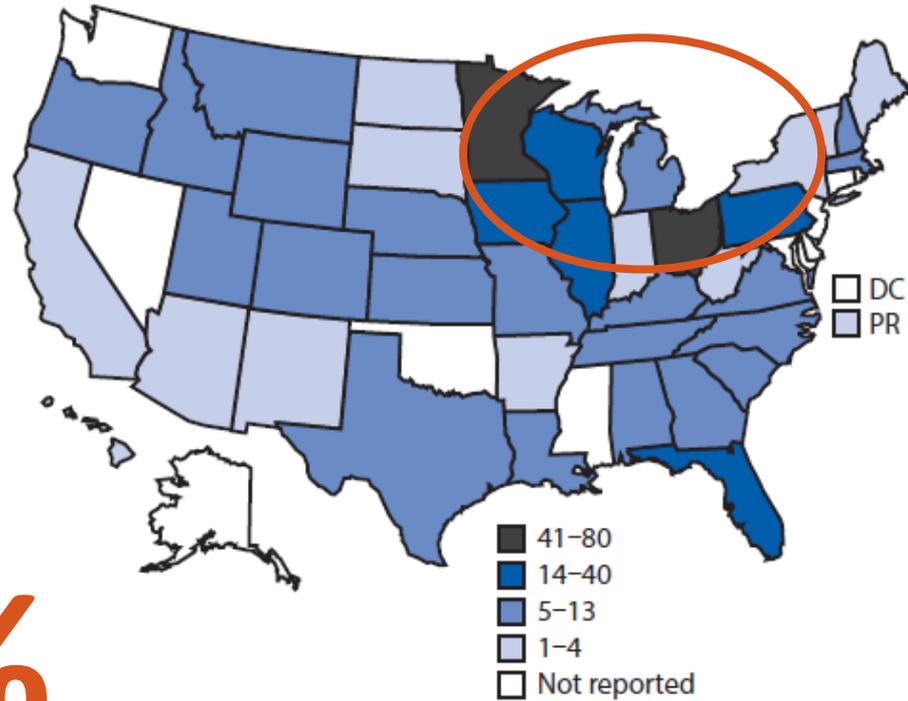


7,465 cases

287 hospitalizations

1 death

57%
Great Lakes



An underwater photograph of several people swimming in a pool. The water is clear blue, and the pool floor with a grid pattern is visible at the bottom. Bubbles and splashes are visible around the swimmers.

35.1%

Treated recreational water

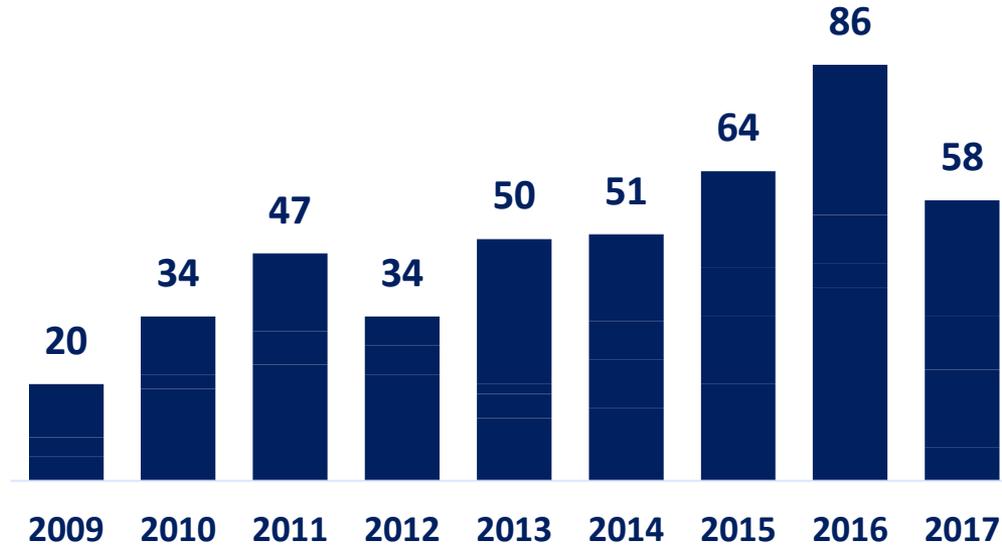


14.6%
Cattle

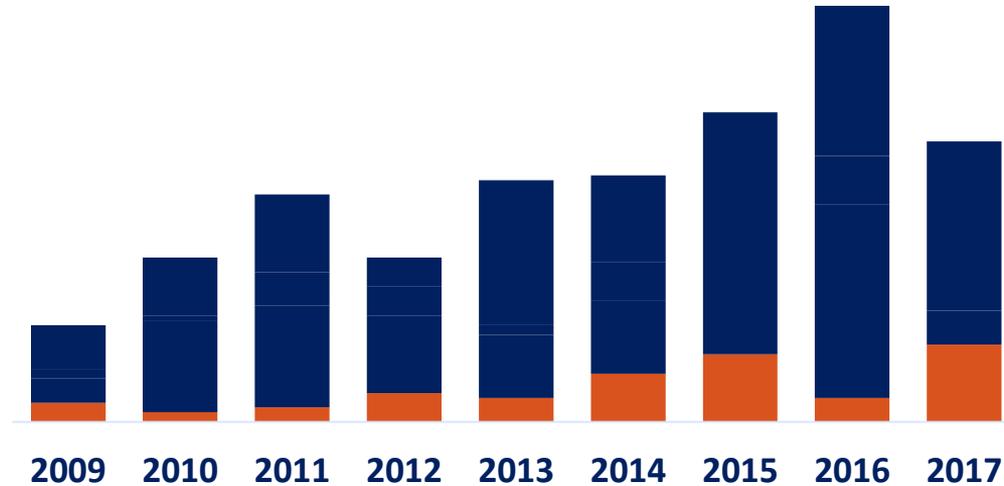
A close-up photograph of a child's hands stacking colorful plastic blocks. The child is wearing a plaid shirt. The blocks are stacked in a tower with colors including green, blue, yellow, red, and light green. In the background, there are various toys and a paint palette, suggesting a play area.

12.8%
Child care

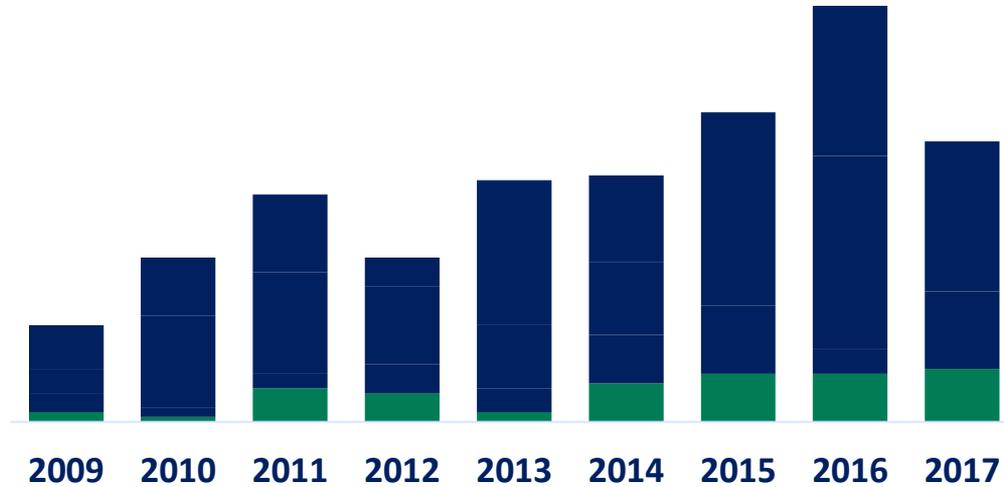
During 2009–2017, cryptosporidiosis outbreaks increased an average of 12.8% per year.



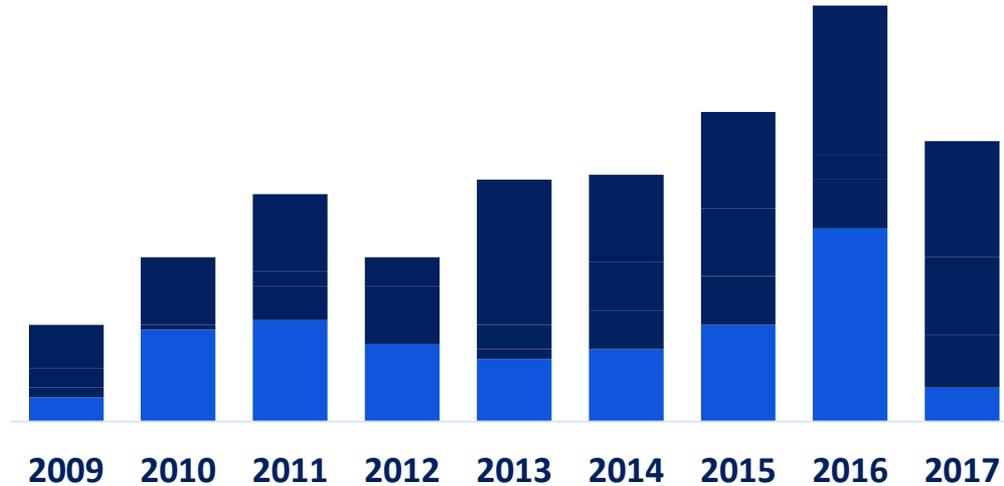
Outbreaks associated with **contact with cattle** increased an average of 20.3%.



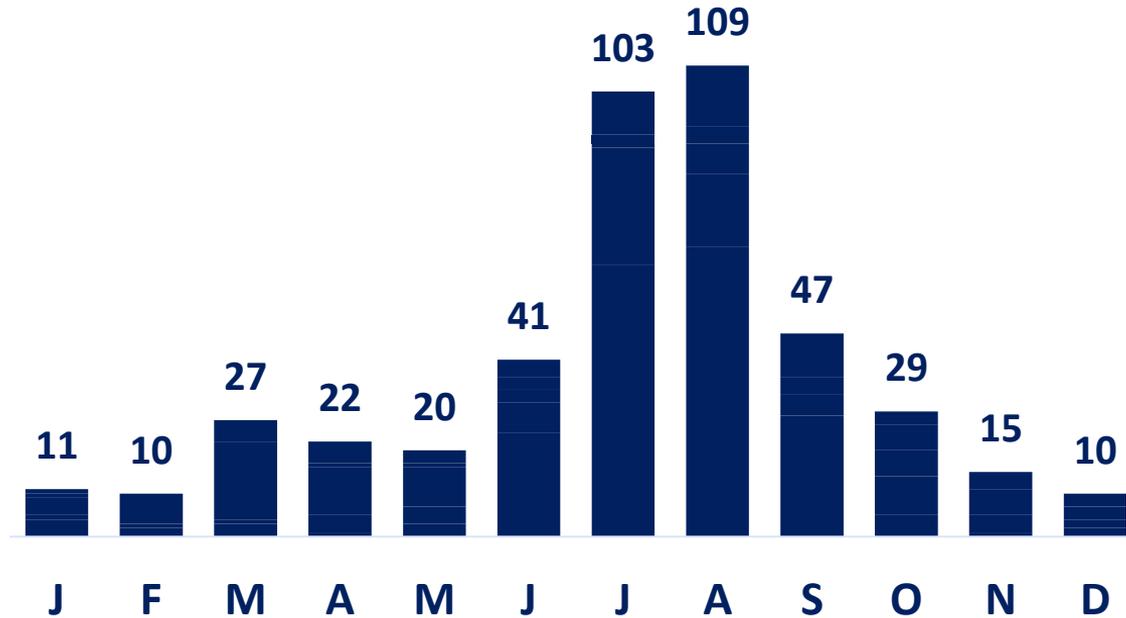
Outbreaks associated with **child care settings** increased an average of 19.7%.



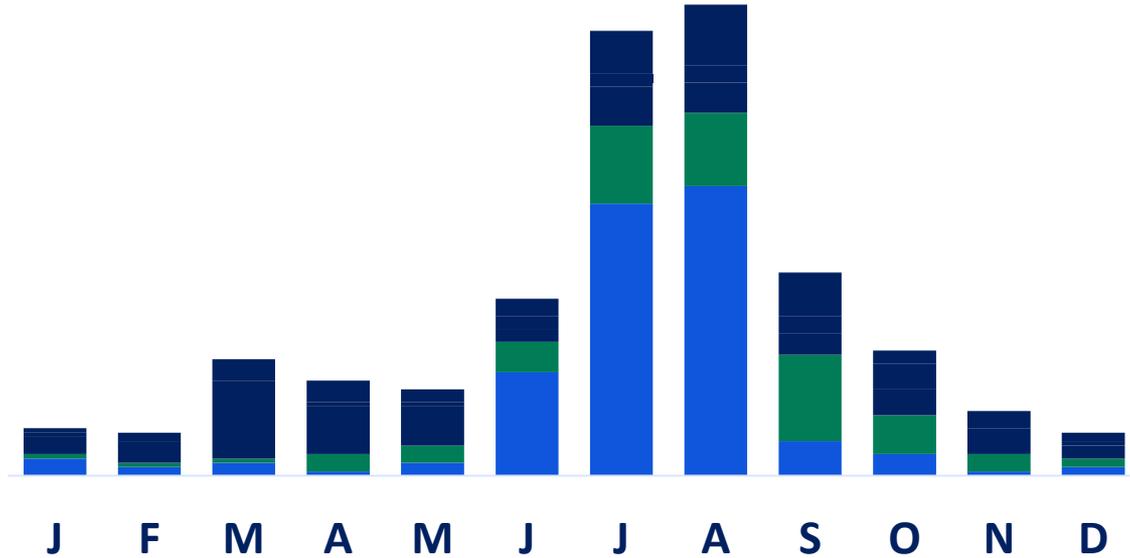
Outbreaks associated with treated rec water increased an average of 14.3% (2009—2016).



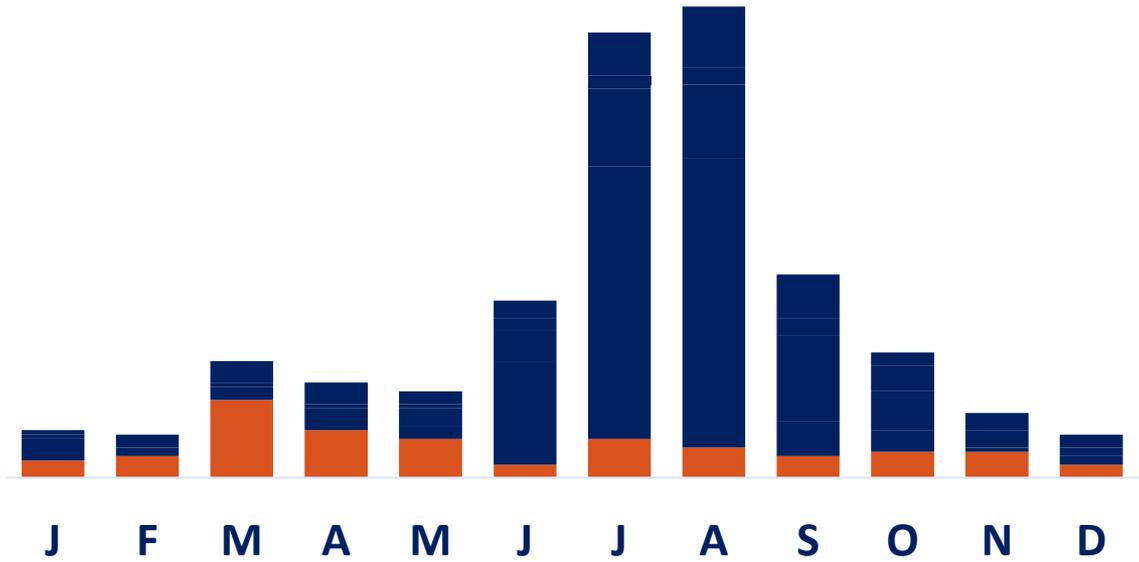
Overall, outbreaks peaked in the summer.



Waterborne and person-to-person transmission outbreaks peaked in summer.



Outbreaks associated with **animal contact** peaked in the spring.



Our analysis is subject to at least 4 limitations.

1 Underestimation

Our analysis is subject to at least 4 limitations.

- 1 Underestimation
- 2 **Diagnostic capacity**

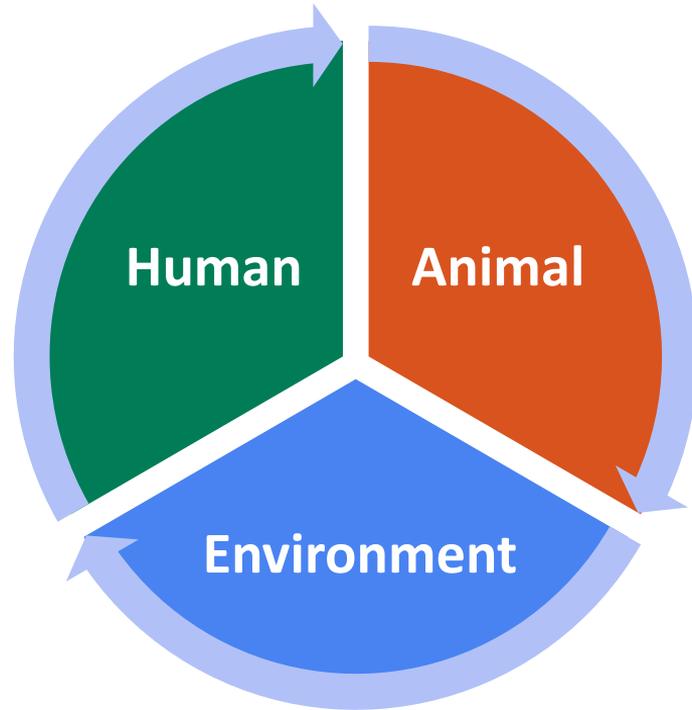
Our analysis is subject to at least 4 limitations.

- 1 Underestimation
- 2 Diagnostic capacity
- 3 Reporting capacity**

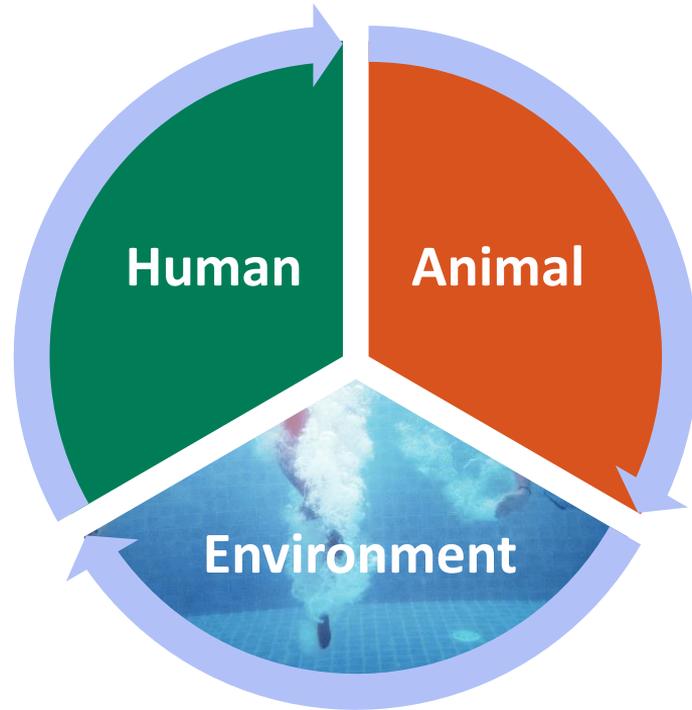
Our analysis is subject to at least 4 limitations.

- 1 Underestimation
- 2 Diagnostic capacity
- 3 Reporting capacity
- 4 Molecular characterization**

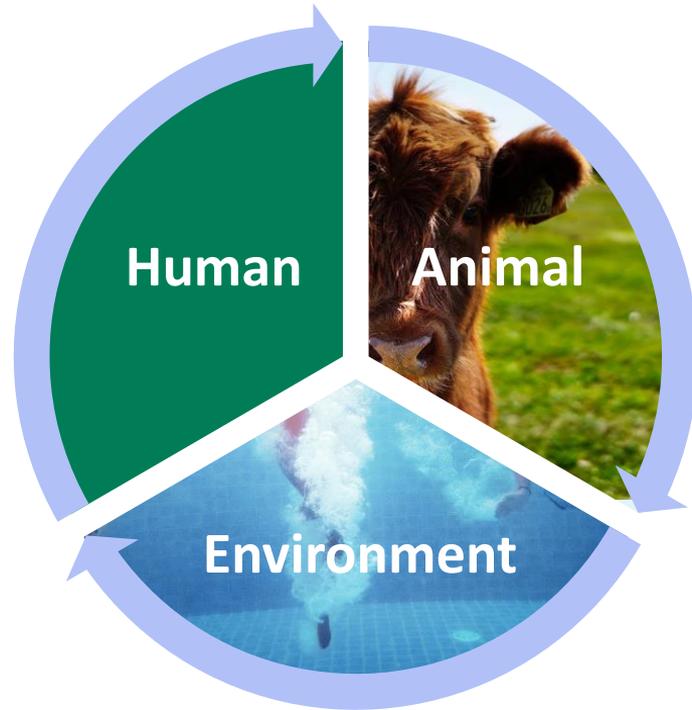
Prevention of cryptosporidiosis outbreaks necessitates a One Health approach.



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Prevention of cryptosporidiosis outbreaks necessitates a One Health approach.



Don't swim if you have diarrhea!



Don't swallow the water.



**Wash your hands
after touching
animals or their
environment.**

A close-up photograph of a child's hands stacking colorful plastic blocks. The child is wearing a purple and white plaid shirt. The blocks are stacked in a tower with colors including green, blue, yellow, red, and light green. In the background, there is a blurred play area with a red bowl, a white plate, and a pair of yellow and blue gloves.

**Keep kids
with diarrhea
home from
child care.**

CryptoNet uses molecularly-based tracking to better understand transmission.



U.S. Cryptosporidiosis Outbreaks: 2009–2017

Outbreaks of diarrhea most commonly linked to

Pools* (35%)



**Don't swim
with diarrhea**

Cattle (15%)



**Wash hands after
touching animals**

Childcare (13%)



**Keep kids sick with
diarrhea home**

*Pools and water playgrounds
As reported in Gharpure et al. *MMWR* 2019 (bit.ly/MMWR627)



MMWR

Acknowledgements

State and local health department partners

Division of Foodborne, Waterborne, and Environmental Diseases (CDC)

- Radhika Gharpure
- Michele Hlavsa
- Ariana Perez
- Mary Wikswo
- Rachel Silver
- Virginia Roberts
- Sarah Collier
- Megin Nichols
- Sam Crowe
- Dawn Roellig



Thank you!

2019 OutbreakNet/WASH Webinar Series

- Stay tuned for 2020 OutbreakNet/WASH Webinars dates.
- Topic or presentation ideas: healthywater@cdc.gov and outbreaknet@cdc.gov

For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

