Camps & Infectious Disease

Laura Blaisdell MD/MPH
November 19, 2019
Overview

- Maine CDC Infectious Disease Program
- Camp Notifiable Diseases Reporting
- Vaccine Refusal and Hesitancy
Why Summer Camps Should Pay Attention

- Outbreaks make kids/staff sick.
- Outbreaks create stress & confusion.
- Outbreaks disrupt camp programs.
- Outbreaks can be difficult to control.
- Outbreaks are tricky to explain to parents.
- Camps are responsible for keeping up-to-date vaccine records (preferably electronic).
- Outbreaks, especially now, create news.
Why Summer Camps are at Increased Risk

- **Density**: a lot of people living, socializing, and interacting

- **Diversity**: a wide variety of individuals from different backgrounds with different social habits
  - Lack of familiarity with our regional diseases and risks
  - Carrying diseases uncommon here

- Traveling population

- Experimental behaviors, age-related attitudes

- Difficult tracking because home address for patient is often out-of-state, which means...
  - *Maine CDC often doesn’t receive timely disease reports from diagnostic labs or health care providers*
Diseases of Concern to Camps

- Gastrointestinal (GI) illness
- Vaccine-preventable diseases (VPDs)
  - Influenza
- Rabies
- Vector-borne diseases (VBDs)
- Others
  - Common childhood illnesses (HFM, strep, staph); sexually transmitted infections; tuberculosis
Real Life Examples

♦ Pertussis outbreaks in cabins
♦ Norovirus outbreaks
♦ Salmonella typhi in cook staff
♦ Cryptosporidiosis and Ecoli at a farm camp
♦ Bats, bats, bats!
♦ Measles: we got lucky
Disease Reporting & Investigation
Notifiable Diseases

♦ Reportable to ME CDC
  ♦ Recognition or strong suspicion

♦ Category 1
  ♦ Immediately by phone
  ♦ Includes cluster/unusual/critical/unexplained death of any suspected infectious disease

♦ Category 2
  ♦ No later than 48 hours by phone, fax, or mail
NOTIFIABLE DISEASES AND CONDITIONS LIST

Maine Center for Disease Control and Prevention

24 Hours A Day, 7 Days A Week Disease Reporting:
Telephone: 1-800-821-5821 Fax: 1-800-293-7534

1 Conditions are reportable immediately by telephone on recognition or strong suspicion of disease
All others are reportable by telephone, fax, electronic lab report, or mail within 48 hours of recognition or strong suspicion of disease.

Directions from laboratories are to submit isolates or clinical specimens, as well as any isolates or clinical specimens as requested by Maine CDC, to the Maine Health and Environmental Testing Laboratory for confirmation, typing, and/or antibiotic sensitivity.

Acid-FAST Bacillus
Acquired Immunodeficiency Syndrome (AIDS)
Anaplasmosis
Anthrax (Bacillus anthracis)
Babesiosis
Botulism (Clostridium botulinum)
Brucellosis (Brucella species)
California Serogroup Viruses
Campylobacteriosis
Carbapenem-resistant Enterobacteriaceae (CRE)
Carbon Monoxide Poisoning
Coxackievirus
Oriamondia
Chickenpox (Varicella)
Omphalitis
Norovirus (Norwalk-like virus)
Outbreak
Diphtheria (Corynebacterium diphtheriae)
E. coli, Shiga toxin-producing (ETEC)
Eastern Equine Encephalitis
Ehrlichiosis
Gardiais
Gonorrhea
Hemophilus influenza, invasive
Hantavirus, pulmonary and non-pulmonary syndromes
Hemolytic-uremic syndrome (post-diarrheal)
Hepatitis A, B, C, D, E (acute)
Hepatitis B, C, D (chronic)
Human Immunodeficiency Virus (HIV)
Influenza-associated pediatric death
Influenza A, Novel
Influenza-associated hospitalizations, laboratory-confirmed
Legionellosis
Leptospirosis
Lyme Disease
Malaria
Measles (Rubeola virus)
Meningococcal Disease, invasive
Neisseria meningitidis
Mumps
Parvovirus
Perkins
Plague (Yersinia pestis)
Polymyelitis (Polio virus)
Pseudomonas Virus
Psittacosis
Q Fever
Rabies (human and animal)
Rabies Post-Exposure Prophylaxis
Rinco Poisoning
Rubella (including congenital)
Rubella virus
Salmonellosis
Salmonella species
Shigellosis
Shigella species
Smallpox
Staphylococcus aureus
Methicillin-Resistant (MRSA), invasive
Staphylococcus aureus with resistance to Vancomycin (VRSA)
Streptococcus Group A, invasive
Streptococcus pneumoniae, invasive
Syphilis
Tetanus (Clostridium tetani)
Trichinosis
Tuberculosis (active and presumptive)
Mycobacterium tuberculosis
Typhus (Rickettsia typhi)
Vibrio species, including Cholera
Vibrio species
Viral Hemorrhagic Fever
West Nile Virus
Western Equine Encephalitis
Yellow Fever
Any Case of Unusual illness of Infectious Cause
Any Cluster/Outbreak of illness with Potential Public Health Significance

Footnotes:
1. Carbapenem-resistant Enterobacteriaceae (CRE): See current definition as accepted by the United States Centers for Disease Control and Prevention.
2. Carbon Monoxide, including clinical symptoms, testing or known exposure consistent with diagnosis of carbon monoxide poisoning and/or: carboxyhemoglobin (COHb) level >10%
3. Human Immunodeficiency Virus (HIV), including:
   - Confirmed, positive antibody tests
   - Viral load tests, all results
   - CD4 lymphocyte counts: all results

Complete Rules for the Control of Notifiable Diseases and Conditions:
Required Reporters

- Health Care Providers
- Medical Laboratories
- Health Care Facilities
- Day Care Facilities
- Correctional Facilities
- Educational Institutions
- Local Health Officers
- Veterinarians
- Veterinary Medical Laboratories
Why Report

- Required by law
- Evaluate risks of transmission
- Intervene when appropriate to prevent the spread of disease
  - E.g. avian influenza, chickenpox
- Determine disease incidence/prevalence
- Increase understanding of the distribution and determinants of the condition in Maine
- Maine required to report to U.S. CDC
How to Report

- [http://maine.gov/idepi](http://maine.gov/idepi) ("disease reporting" tab)
  - Notifiable Conditions List
  - Rules for the Control of Notifiable Conditions
  - Notifiable Conditions Reporting Form
    - Fax: 1-800-293-7534

- Phone: 1-800-821-5821
  - Available 24/7 for disease reporting and consultation
    - After-hours calls are redirected to NE Poison Control

- E-mail [disease.reporting@maine.gov](mailto:disease.reporting@maine.gov)
  - For non-confidential reports or requests for consultation
What Happens Next?

- Reports & consultation requests are assigned to Field Epidemiologists (usually by region)

- Field Epidemiologist will call you to:
  - establish communication (identify one point of contact)
  - assess current situation
  - collect data (if suspected outbreak – start a line list)
  - plan for continued monitoring of ill children
  - arrange for specimen collection/testing, if needed
  - provide guidance on prevention and control, including template letters, disease fact sheets, and exclusions
A Special Word on Rabies

♦ Domestic animal (cat/dog/ferret/etc.):
  ♦ Contact Animal Control Officer and Maine CDC for notification and guidance prior to recommending Post-Exposure Prophylaxis (PEP)
  ♦ Usually, animals undergo 10-day observation regardless of vaccination status
  ♦ Severe attacks may require expedient response and treatment
General Approach to Rabies Exposures

- Wild animal, including bats:
  - If available: Trap and submit animal for testing to state lab
    - Contact Game Warden service (if needed) and Maine CDC
    - PEP only recommended for rabies-positive animals
  - If not available: Consult Maine CDC

- Multiple bat exposures
  - List potentially exposed (name, home address and contact info, etc.)
  - Bat-proof buildings to avoid future exposures
Review

♦ Know WHAT to report, WHEN to report, HOW to report, and TO WHOM to report

♦ Know your local and state health website

♦ Know who to call

♦ Establish a working relationship with local health care providers and clinics for medical referrals and follow-up

♦ Make it simple
  ♦ Make sure simple preventive measures are easily available
  ♦ Hold vaccination clinics

♦ Ensure that your Health Department has a single point of contact for your clinic
Vaccine Preventable Diseases & Camps
Vaccine Preventable Disease (VPD)

- Tetanus
- Diptheria
- Pertussis
- Meningococcal A&B
- Pneumocococcus
- Measles
- Mumps
- Varicella
- Influenza
- Hepatitis A & B
- Hib
- Polio
- Rubella
- HPV
NOTES: Data for the map are displayed by a modified Jenks classification for the 50 U.S. states and D.C., which creates categories that minimize within-group variation and maximize between-group variation.

SOURCE: NCHS, *Health, United States, 2017*, Figure 12. Data from the National Center for Immunization and Respiratory Diseases (NCIRD) and National Immunization Survey-Child (NIS-Child).

Vaccination coverage for combined 7-vaccine series
ME Vaccine Exemptions

- Parents can opt out of vaccines for personal belief reasons or, with their doctor for medical reasons.

- Maine was one of 18 states with 3 exemptions from school-required immunizations based on medical, religious, and philosophical beliefs.

- Maine is susceptible to outbreaks of infectious disease because it has one of the nation's worst vaccination rates. 6.1% of Maine kindergartners are not immunized.

- Only 0.3% of Maine kindergarten parents requested medical exemptions in the 2017-18 school-year.
Maine’s Rates

<table>
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<th>County</th>
<th>Diphtheria, Tetanus and Pertussis</th>
<th>Polio</th>
<th>Measles, Mumps and Rubella</th>
<th>Tetanus Diphtheria Pertussis (%)</th>
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</table>

Immunization rates by county

The following shows the rate by county in 2012 that children aged 19-35 months received all the vaccinations that were due by the time they were 18 months old. The rates at which parents are not immunizing their children with all recommended vaccines vary by county, with more than 80 percent receiving all vaccinations in several counties, compared to just over 50 percent in Waldo, Lincoln and Sagadahoc counties.

SOURCE: Maine Center for Disease Control

STAFF GRAPHIC | MICHAEL FISHER
Outbreaks

January – November 2018 the following diseases outbreaks occurred:

- Pertussis: 13 schools in Cumberland, Hancock, Waldo, Penobscot, and York counties. This included Sanford and Cumberland schools, among others, and 3 daycare centers in York county.
- Chicken pox: 1 daycare in Westbrook and a case in a Waterboro middle school.
- Mumps: Outbreaks occurred among college students in 2016 at University of Southern Maine, Bates, and Bowdoin. Other than one reported case in 2013, Maine has not had a mumps outbreak since 2007.
LD 798

An Act To Protect Maine Children and Students from Preventable Diseases by Repealing Certain Exemptions from the Laws Governing Immunization Requirements
The Law: Who & What Vaccines?

♦ To whom does LD 798 apply?
  ♦ All private and public elementary and secondary school as well as special education programs.
  ♦ Also daycares, universities, and colleges will become protected.
  ♦ Certain health care facilities will also be included.
  ♦ Not summer camps.

♦ What limited number of vaccines are included in LD 798?
  ♦ Students:
    ♦ DTaP
    ♦ Measles, mumps, rubella
    ♦ Polio
    ♦ Chicken pox
    ♦ Meningococcal meningitis.
  ♦ Healthcare workers and daycares may require additional immunizations.

♦ NOT mandatory vaccination.

♦ With no major religion against immunization religious beliefs=personal beliefs.
New York Camps

- June 2019 NY Passed a bill to end religious exemptions in the setting of a measles outbreak.
- Health Commissioners required all summer camps to send proof of immunity for campers and staff.
- Horrible timing.
- It takes 30 days to get up-to-date on measles alone, it can take 14 months to get up-to-date on all vaccines.
Maine

♦ Requires record keeping of vaccinations.

♦ LD798 does not require mandatory vaccines for summer camps yet.
  ♦ But arguably camps could/should follow schools.
  ♦ In an outbreak, health leaders could mandate vaccination for camp attendance.

♦ Maine camps should consider policy changes now to minimize disruption during the summer season.
ACA/AAP Policy Statement

- Before starting camp, all campers should be in **compliance with the recommended childhood** immunization schedule published annually by the American Academy of Pediatrics (AAP), the Advisory Committee on Immunization Practices of the Centers for Disease Control and Prevention, and the American Academy of Family Physicians.

- Camp administrators should be aware that **individual states might require other immunizations** in addition to those recommended by the AAP.

- Nonmedical exemptions to required immunizations are inappropriate and should be eliminated by camps.

- **Policies** must also be in place regarding participation in the camp program by **campers who are incompletely immunized or unimmunized**.

- People who **travel internationally** as part of a camp program should consult the Centers for Disease Control and Prevention traveler’s health Web site or visit a traveler’s clinic for information regarding particular immunization requirements or health concerns that may be associated with their destination.
Preparations: What Should Camps Do?

- Consider investment into electronic health record.
- Create a vaccination policy and make parents aware during recruitment season.
- Create a under/unimmunized policy.
- Consider screenings and camp policies on attending while sick.
VPD & Immunization Policy

♦ Consider following schools & mandate immunization for attendance.

♦ Outline to parents and staff what will happen if a unprotected camper/staff has fever, cough or rash.

♦ Outline to parents and staff what will happen to other unvaccinated children/staff in camp.
Mandates & Attrition

- Camps may worry that enrollment will decrease with a strong vaccination policy.

- NY state reported that in only 1 or 2 instances, did a family withdraw their camper.

- Similar data out of CA schools, where vaccination as a condition of school entry demonstrated increased vaccination rates.
Surveillance & Prevention

- Educate parents and caregivers on role in illness prevention *before* camp begins

- Establish “opening day” screening process, including right to refuse admission if needed

- Establish, implement, and promote policies that prevent spread of disease
  - Educate staff on when to reach out to Maine CDC
  - Have a plan for responding to outbreaks, especially if campers may need to be isolated to prevent exposure

- Establish policies to keep staff healthy

- Regularly evaluate and update your health care practices and procedures
  - Seek out up-to-date information and recommendations from health department
Outbreak Themes

- Detect a sudden increase in similar symptoms?
- Can the majority of illness be attributed to one or two symptoms?
  - Gastrointestinal
  - Rash
  - Respiratory
  - Fever
- Is there a potential source?
  - Linked by person, place, time
Surveillance & Prevention

SSSHHHHIP

Surveillance
Sneezing Etiquette
Sunblock
Hand washing
Hydrate
Hygiene
Insects & Animals
Poop
Surveillance & Prevention

- Frontline staff are central!
- Checking in with their campers and being curious about signs of illness or injury.
- Compliance on the boring aspects of prevention.
  - Handwashing
  - Hygiene
  - Cough/Sneeze Etiquette
  - Etc.
Other Recommendations

• Promote hand washing before eating and after contact with animals, possible contaminated surfaces, or food

• Do not let campers drink unpasteurized (raw) milk or cider, or any other high-risk foods

• Promote healthy swimming (avoid ingestion of untreated water)

• Switch from self-serve buffets (especially if GI outbreak is suspected)
Other Recommendations Continued

- Don’t let campers handle wild animals
- Don’t share towels or personal items
- Clean high-touch surfaces and bathrooms often
- Promote good respiratory etiquette
- Enhance surveillance if something is "off"
All camps should have written health policies and protocols reviewed by a physician with specialized children’s health training.

- Policies and protocols on both major and minor illnesses and injuries should include information on the camp’s relationship and coordination with local emergency services.

Camps should create disaster and emergency plans, as children are particularly vulnerable and limited in their ability to escape or protect themselves from harm in the event of a natural or manmade disaster.

- All campers, staff and volunteers should be up to date on vaccinations as recommended by the AAP, Centers for Disease Control and Prevention (CDC) and American Academy of Family Physicians.
  - Nonmedical exemptions to required immunizations are inappropriate and should be eliminated by camps.

Camp activities should be designed to limit the risk of head injuries.

- Camp personnel need a clear understanding of concussion symptoms and treatment, and should follow CDC and state-specific return-to-play guidelines.

As camps see an increase in campers with food allergies, they should create and provide their food allergy policies to families before the start of camp.
Camps should review local regulations and requirements for stocking unassigned epinephrine and other emergency medications for seizures, diabetes mellitus or opioid overdose.

Camp staff should be trained to respond effectively to mental, emotional and social health needs of campers.
- Camps also should teach staff to support campers who need extra help and help facilitate communication with parents.

Pediatricians should discuss homesickness with families and campers as part of the anticipatory guidance associated with the health evaluation before camp.
- Parents should avoid making “pick-up” arrangements in the event of homesickness because these arrangements may undermine the child’s confidence in his or her own independence.
Thank you!
Resources

- Maine CDC Reporting and Consultation
  - [https://maine.gov/idepi](https://maine.gov/idepi)
  - Phone: 1-800-821-5821
    - Available 24/7 for disease reporting and consultation
  - E-mail [disease.reporting@maine.gov](mailto:disease.reporting@maine.gov)
    - For non-confidential reports or requests for consultation

- Maine School Health Manual
  - Aimed at educating school nurses, but helpful recommendations for school-aged population
Resources

- Maine Rabies Management Guidelines
  - https://mainepublichealth.gov/rabies

- Maine CDC ID Epi Orderable Materials
  - https://www.maine.gov/dhhs/order

- CDC Travel Health
  - https://www.cdc.gov/travel/
  - Travel notices, recommended vaccinations

- AAP Camping Statement
  - https://pediatrics.aappublications.org/content/pediatrics/127/4/794.full.pdf