Prevention of and Response to
Communicable Disease Outbreaks
In Maryland Youth Camps

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Goal:

Develop intervention to reduce the impact of communicable disease outbreaks on campers at youth camps in Maryland.

Outcomes:

Needs Assessment

Hand washing
Role of Camp Nurse
Contacting local health department

Interventions

Training sessions
Web site development
Phone list
List serve emails
Local Health Department feedback
Identification of vulnerable groups
Background

2 outbreaks of GI disease in Maryland in Summer 2006

• Frederick County - July
  • 28 people developed diarrhea (total of 65 campers and 63 staff)
  • potential cause: fecal-oral transmission of infectious agent accompanying sanitary needs staff provided to campers
  • Recommendations: hand washing protocols, appropriate glove use, washing of contaminated linens and surfaces, efficient active surveillance system for new onset diarrhea and vomiting among campers

• Harford County - August
  • 300 camp attendees (children, adults, staff) (total of 900)
  • Potential cause: ? Norovirus, overcrowding, latrines close to capacity, lack of hand washing stations at latrines, plumbing deficiencies in well system, insufficient protection of drinking water system, deficiencies in food service facilities
  • Recommendations: hand washing protocols, available soap and water, surveillance of GI symptoms, repair of latrines, septic system, plumbing system, water supply system
**Background**: Communicable Disease Outbreaks in Maryland

- Total of 1,330 foodborne outbreaks in US in 2002, 5% in Maryland

- **Maryland Outbreaks (1997-2001)**
  - 39% outbreaks were foodborne
  - 23% person-to-person (GI)
  - 0.3% waterborne

- **Maryland GI outbreaks**
  - 62% foodborne
  - 48% person to person

- **Agents:**
  - Foodborne: 36% Salmonella, 15% Norwalk-like virus, 12% Hep A
  - Person-to-person: 31% Norwalk-like virus, 21% shigella, 18% C. difficile
Background: Outbreaks in Summer Camps

- 12% of illnesses were communicable diseases
- 66 outbreaks in camps 1998-2002
**Background: Current Regulations**

DHMH Laws and Regulations Concerning Youth Camps, Code of Maryland Regulations Title 10 (COMAR-10.16.06) and Annotated Code of Maryland Title 4

- Food and water sanitation
- Camp Health programs
  - Prevention of spread of disease - hand washing, hygiene
  - Health Supervisor
    - Available for consultation at all times, on site if 50% or more of campers have "identified medical problems"
  - Recording
    - Staff members record all injuries, illnesses, reportable disease in health log
  - Reporting outbreaks
    - Outbreak reported to health supervisor, parents, department
  - Monitoring for acute illness and disease

**DHMH - Definitions of an Outbreak**

- Foodborn disease outbreak
  - 2 or more epi related cases

- Nonfoodborn outbreak
  - 3 or more epi related cases
Methods

Informal Needs Assessment

Key Informant Interviews:

- Camp Directors of camps with previous outbreaks (2)
- Local Health Dept. officials involved with outbreak investigations (4)
- State/Federal Health Dept. Officials involved with outbreak investigations (2)
- Camp Directors of camps without recent outbreaks (2)
- MD State Nursing Association Rep. (1)

Questions:

- Prevention
- Surveillance
- Notification
- Response
- Suggestions
Results of Interviews

Prevention

- Hand washing, hand washing, hand washing
- Food and water sanitation
- Environmental safety

Surveillance

- Role of camp nurse
- Medical log
- Public Health education of camp director, camp nurses

Notification

- Notification of local health dept.
- Phone list as camp director resource
- Relations with/impressions of local health dept.

Reactions

- Notification of parents
- Separation sick from well patients
Interventions to Implement

• Training Sessions

A Scenario . . .

You are the camp director of Camp Summer fun, a residential camp of 60 campers

An interactive session . . .

Concentrating on PREVENTION and NOTIFICATION
Preventing and Dealing With an Outbreak at Summer Camp
What should I know?

What is an OUTBREAK?
An illness that occurs among many people within a group (such as a camp)
How many people? 2 – 3 people with related causes of an illness caused by food, water, or another common source
What kinds of illnesses? Nausea, vomiting, diarrhea, fever, tiredness, muscle aches, chills

Why might it happen at camp?
Illnesses can be spread from a common source, such as food or water, touching contaminated objects and then touching your eyes or mouth, sharing utensils, not washing hands after using the bathroom, overcrowded situations . . .
All of which have the potential to occur at camp!

Being WATCHFUL for an outbreak
You’re more likely to know if you have an outbreak at camp if you’re looking out for it. This is key, since catching an outbreak EARLY is essential!

CAMP NURSE
Your eyes and ears
Involved in camp community with campers and staff
Good record keeping – the MEDICAL LOG
Communication with staff and Camp Director
Interventions to Implement

• Training Sessions

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An interactive session . . .

Concentrating on PREVENTION and NOTIFICATION

• Web page
Prevention, Recognition, and Response of Outbreaks at Summer Camps

What is an outbreak?

An outbreak is often described as an illness that occurs among many people within a certain population. One such population could be campers or staff at a summer camp. The exact definition of an outbreak can be confusing and can change depending on specific circumstances, such as the number of people involved and the type of illness which occurs.

The Maryland Department of Health and Mental Hygiene defines outbreaks in the following way:

An outbreak can be caused by an infectious source in FOOD.

A foodborne outbreak is defined as 2 or more epidemiologically related cases of an illness following consumption of a common food item.

An outbreak can also be caused by materials not found in food.

A non-foodborne outbreak is defined as 3 or more cases of an illness in individuals who are epidemiologically linked after exposure to a common source, such as water. Outbreaks can also be passed from person to person.


What types of outbreaks are there?

There are many types of outbreaks. Here, we focus on diseases affecting the gastrointestinal system, which often cause symptoms such as vomiting and diarrhea.

These can be caused by different types of germs:

Bacteria such as Campylobacter, E. Coli, Clostridium, Staphylococcus
Viruses such as Norovirus
Parasites

More information on reportable diseases and outbreaks can be found at: Maryland Department of Health and Mental Hygiene Confidential Morbidity Reports http://edcp.org/pdf/ReportableDisease_HCP_20040223.pdf
Interventions to Implement

• Training Sessions

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Concentrating on PREVENTION and NOTIFICATION

• Web page
• Phone List
• Email List Serve
• Count level Health Dept. involvement
• Target vulnerable groups
**Lessons Learned**

- Variety of summer camps
- Impressions of local health dept
- Camp Culture
- Public Health Educations
- Role of regulations
- Role of camp nurse, log book
Public Health Practice

- Diagnose and Investigate
- Educated and Inform
- Linking

Limitations

- Number of interviews
- Qualitative in nature
- limited resources - DHMH and camps
- voluntary nature of interventions
Thank you to

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