MODULE 1
Understanding Infectious Diseases

• Impact
• Vulnerability
• Symptoms
• Spread
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• Spread

Types of Germs

• Virus
  – Frequently get better on their own
  – Limited treatment, other than rest and control of symptoms
  – Few medications to treat viruses
• Bacteria
  – Often need to be treated with antibiotics
• Fungus
  – Often on surfaces of body and can be treated with creams or oral medication
• Parasite
  – Typically cause diarrhea
  – Often need to be treated with antiparasitic medications

Definitions

• Infection
  – When a germ causes a disease
• Contamination
  – When a germ is placed in or on the body, a surface, or in food or water
More Definitions

- **Contagious**
  - When germs can be spread to others
- **Infectious**
  - Capable of causing an infection
- **Communicable**
  - Can be transmitted to others

*Essentially all mean the same thing*

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**Child Care at 2:00 pm**

A 20-month-old child wakes up from a nap and is flushed. She does not want to play with other children and is irritable. Her temperature was taken and is 101°F.

- **How does this affect:**
  - Parents?
  - Caregivers/teachers at the center?
  - Health care professionals?

- **How will the impact influence their decision making?**

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**Impact of Infectious Diseases**

- **Economic**
  - Loss of revenue for the family
  - Loss of productivity for the employer
- **Contagion**
  - Other children in child care
  - Families
  - Caregivers/teachers and their families
- **Disruption**
  - Alternative caregivers
  - Other colleagues filling in for missing parent at work
- **Health care**
  - Many office visits to get "sick notes"
  - Inappropriate use of antibiotics
  - Added responsibility of administering medication in child care
Impact of Infectious Diseases
• All members of society are affected

Bad News: Illness Frequency
Children in early education and child care
• Sick more often
• Illnesses last longer
• More ear infections and are more likely to have tympanostomy tubes placed
• More antibiotic-resistant bacterial infections

Good News: Annual Illness Incidence by Age
More Good News
• Germs in early education programs are the same as those in community outbreaks
• 90% of infections are mild, self-limited, and require no treatment

Good News for Child Care
• Illness incidence decreases after the first full year of attendance
• Kindergarteners with prior early education program attendance have fewer infections
• Children who attended early education programs were less likely to develop asthma at 6 years of age

Why Are Children More Vulnerable to Infectious Diseases?

Who is Most Vulnerable to Infection?

- Young infants
- Children with special health care needs
  - Equipment in their bodies (catheters, g-tubes)
- Children with impaired immune systems
- Pregnant women

Symptoms of Infectious Diseases

- What symptoms might this child have or develop in the next few days?

  - Cough
  - Runny nose and/or congestion
  - Difficult or noisy breathing
  - Vomiting, nausea, or stomachache
  - Diarrhea
  - Rash
  - Itching
  - Drainage or irritation of eye or other infected body part
  - Fever
  - Aches or pains: Sore throat, earache, headache, body ache
  - Mouth sores
  - Swollen glands
  - Behavior changes
Curriculum for Managing Infectious Diseases – Module 1

Common Symptoms Reported in Early Education Settings

- Respiratory 66%
- Fever 14%
- Gastroenteritis 9%
- Rash 5%
- Earache 3%

Symptoms That Cause The Most Absence

- Gastroenteritis 23%
- Pus in eyes 15%
- Rash 15%
- Earache 9%
- Respiratory 5%

How Infectious Diseases Spread

- Respiratory droplets
- Fecal-oral
- Direct contact with people or objects (especially by germs on hands)
- Body fluids: blood, urine, and saliva
- Insects
Bingo Matching Exercise

- Pull out your blank bingo card
- In random order on your card, fill in the squares with these methods of how infectious diseases are spread
  - Direct Contact 1
  - Fecal-Oral 1
  - Body Fluids 1
  - Insects
  - Respiratory
  - Direct Contact 2
  - Fecal-Oral 2
  - Body Fluids 2
  - Free Space

We will be projecting photos of ways to spread disease.
- Match the photo with the way it spreads disease
- Call out if you get BINGO!
Summary

- All members of society are affected by the spread of infectious diseases in groups of children.
- Children are more vulnerable because of immature immune systems.
- Infectious diseases spread by different methods.
- Each method of spread can be prevented by specific strategies, which will be discussed in the next module.

Questions?

References

Module 1: Understanding Infectious Diseases

Objectives

A. Knowledge
Each participant will be able to:
1. Identify 3 ways infectious diseases impact our society.
2. State reasons why some children with special health care needs are at higher risk for acquiring infectious diseases.
3. Name the 3 most common symptoms of infectious diseases in children in early education settings.
4. Identify 5 ways infectious diseases are spread.

B. Attitude
Each participant will be able to:
1. Have an understanding of the different impacts of infectious disease on parents, caregivers/teachers, and health care professionals.
2. Be willing to educate parents and other child care staff members on methods to decrease the spread of infectious diseases.

C. Behavior
Each participant will:
1. Answer the pre-assessment questions under Getting Started in the Participant’s Manual.
2. Correctly identify methods by which infectious diseases spread through the bingo matching exercise.
### Module 1: Understanding Infectious Diseases

<table>
<thead>
<tr>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ball TM, Holberg CJ, Aldous MB, Martinez FD, Wright AL. Influence of attendance at day care on the common cold from birth through 13 years of age. <em>Arch Pediatric Adolescent Medicine</em>. 2002;156:121–126 (Slide 11)</td>
</tr>
</tbody>
</table>
Module 1: Understanding Infectious Diseases

Resources

1. “Fact Sheet: Paid Sick Days Are Good for Children’s Health,”
   www.nationalpartnership.org/site/DocServer/Fact_Sheet__Paid_sick_days_are_good_for_childrens_health.pdf?docID=4182
**B I N G O !**

In a random order, fill in the squares below with these methods of how infectious diseases are spread:

<table>
<thead>
<tr>
<th>Direct Contact 1</th>
<th>Direct Contact 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fecal-Oral 1</td>
<td>Fecal-Oral 2</td>
</tr>
<tr>
<td>Body Fluids 1</td>
<td>Body Fluids 2</td>
</tr>
<tr>
<td>Insects</td>
<td>Free Space</td>
</tr>
<tr>
<td>Respiratory</td>
<td></td>
</tr>
</tbody>
</table>

View slides depicting how infectious diseases are spread.
Mark the right response on your card.
Get 3 in a row and be the first 1 to have BINGO!
# Enrollment/Attendance/Symptom Record

For each child, each day: code top box "+" = present, or "O" = absent, or N = not scheduled.

- Code bottom box "O" = well, or with one of the numbers from bottom of the page.

<p>| Age (in Months) | Daily In Care | Month 1 | Month 2 | Month 3 | Month 4 | Month 5 | Month 6 | Month 7 | Month 8 | Month 9 | Month 10 | Month 11 | Month 12 | Month 13 | Month 14 | Month 15 | Month 16 | Month 17 | Month 18 | Month 19 | Month 20 | Month 21 | Month 22 | Month 23 | Month 24 | Month 25 | Month 26 | Month 27 | Month 28 | Month 29 | Month 30 | Month 31 |
|----------------|--------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|</p>
<table>
<thead>
<tr>
<th>Name</th>
<th>Total Placed on Register</th>
<th>Number of days facility was open</th>
<th>Symptom Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 = Asthma, wheezing</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2 = Behavior change with no other symptom</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3 = Diarrhea</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4 = Fever</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5 = Headache</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>6 = Rash</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>7 = Respiratory (cold, cough, runny nose, earache, sore throat, pink eye)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>8 = Stomachache</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>9 = Urine problem</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>10 = Vomiting</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>11 = Other (specify on back)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>12 = Other (specify on back)</td>
</tr>
</tbody>
</table>