Introduction to Communicable Disease Surveillance and Investigation in North Carolina
Shigellosis Outbreak Guidance

Nicole Lee, MPH
Foodborne Disease Epidemiologist
Learning Objectives

• Recognize the start of a Shigellosis outbreak
• Locate resources to manage a Shigellosis outbreaks
• Identify three control measures to prevent secondary cases of Shigellosis in a child care facility
Overview

- Background
  - Clinical picture
  - Case definition
- Outbreaks
  - Recognition
  - Response
- Resources
What is Shigellosis
Clinical Picture

- Variable severity of diarrhea, fever, nausea, cramps, and tenesmus. Asymptomatic infections may occur.
- Typically 1-4 day incubation
- Most infections with *S. sonnei* are self-limiting (48-72 hours)
Highly Contagious

400 organisms can fit on the head of this pin

As little as 10 can produce symptoms
Case Classification

• Confirmed
  Isolation of Shigella (culture)

• Probable
  Clinically compatible + epi-link

• Suspect
  Identification of Shigella from non-culture method
One Confirmed Case

Exclude from

- Child care
- Health care
- Food handling

until asymptomatic AND negative stool culture
Return to Childcare/High Risk Occupations

Return when asymptomatic AND...

• 1 negative stool culture or PCR (child care attendee)

• 2 negative stool cultures (child care worker, health care worker, food employee)
Recognizing and Responding to an Outbreak
# One (1) Conf Case in Child Care

<table>
<thead>
<tr>
<th>Recognition</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>One case is not an outbreak, but could be an early warning</td>
<td>Swift and thorough before things get out of hand.</td>
</tr>
<tr>
<td></td>
<td>Exclusion of Ill</td>
</tr>
<tr>
<td></td>
<td>Increased hand washing</td>
</tr>
<tr>
<td></td>
<td>Environmental cleaning</td>
</tr>
<tr>
<td></td>
<td>No new admissions</td>
</tr>
</tbody>
</table>
## Two (2) Conf Case in Child Care

<table>
<thead>
<tr>
<th>Recognition</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>This is an outbreak!</td>
<td>Swift, thorough, and hold people accountable.</td>
</tr>
<tr>
<td></td>
<td>Exclusion of Ill</td>
</tr>
<tr>
<td></td>
<td>Increased hand washing</td>
</tr>
<tr>
<td></td>
<td>Environmental cleaning</td>
</tr>
<tr>
<td></td>
<td>No new admissions</td>
</tr>
<tr>
<td></td>
<td>Letter home to parents</td>
</tr>
<tr>
<td></td>
<td>Testing of case’s direct contacts</td>
</tr>
</tbody>
</table>
## Community Outbreak

<table>
<thead>
<tr>
<th>Recognition</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cases in multiple facilities in the county (i.e. child care, schools)</td>
<td>Swift, thorough, and hold people accountable.</td>
</tr>
<tr>
<td></td>
<td>Same as previous, even for a single case of diarrhea with no alternative diagnosis</td>
</tr>
</tbody>
</table>
Resources

2013 Shigella Toolkit

• Location: Online NC CD Manual

• Content: Investigation steps; Control measures; Guidance for child care and schools; Template letters; Parent/child/staff questionnaires;
Take Home Message

Hand washing, hand washing, hand washing!!

- Fecal-oral
- Human reservoir
- Low infectious dose
Let’s review...
Learning Objectives

• Recognize the start of a Shigellosis outbreak
• Locate resources to manage a Shigellosis outbreak in a child care facility
• Identify three control measures to prevent secondary cases of Shigellosis in a child care facility
Thank you and good luck!