In 2015, a total of 114 outbreaks were reported to NEARS. This summary provides information on characteristics of those outbreaks and the establishments where the outbreaks occurred.

The data included in this summary were collected by NEARS participants in California; Connecticut; Davis County, Utah; Fairfax County, Virginia; Harris County, Texas; Minnesota; New York City; New York State; Rhode Island; Tennessee; and Wisconsin.

### Outbreak Characteristics

#### Foodborne Illness Outbreaks*

<table>
<thead>
<tr>
<th># of confirmed outbreaks</th>
<th>% of outbreaks</th>
</tr>
</thead>
<tbody>
<tr>
<td>82</td>
<td>73%</td>
</tr>
<tr>
<td>31</td>
<td>88%</td>
</tr>
</tbody>
</table>

* N varies because of missing data in NEARS.

#### Outbreak Response

The average number of days between the date the outbreak establishment was identified for an environmental assessment and the date of the following activities with the outbreak establishment:

- 1st contact = 1 day (min = 0, max = 15)
- Establishment observation = 2 days (min = 0, max = 29)
- Manager interview = 14 days (min = 0, max = 121)

The average number of visits to the outbreak establishment needed to complete an environmental assessment = 2 visits (min = 1, max = 6).

#### Outbreak Investigation Characteristics

<table>
<thead>
<tr>
<th>% of outbreaks</th>
<th>Investigation identified an environmental assessment</th>
<th>Investigation identified a primary agent</th>
<th>Outbreak reported to NORS</th>
<th>Investigation identified a suspected or confirmed food vehicle</th>
<th>Investigation identified a contributing factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>96%</td>
<td></td>
<td>73%</td>
<td>88%</td>
<td>49%</td>
<td>50%</td>
</tr>
</tbody>
</table>

* N varies because of missing data in NEARS.

#### Outbreak Primary Agents

- Campylobacter
- Clostridium perfringens
- E. coli 0157:H7
- E. coli STEC
- Hepatitis A
- Norovirus
- Salmonella
- Staphylococcus aureus
- Toxic agent
- Other agent

#### Confirmed/Suspected Food Vehicle+

<table>
<thead>
<tr>
<th>% of outbreaks</th>
<th>Beef</th>
<th>Beverage/ice</th>
<th>Dairy</th>
<th>Fish</th>
<th>Grains/beans</th>
<th>Leafy greens</th>
<th>Molasses</th>
<th>Pork</th>
<th>Poultry</th>
<th>Vine/All vegetables</th>
<th>Multi-ingredient</th>
</tr>
</thead>
<tbody>
<tr>
<td>2%</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
<td>4%</td>
<td>2%</td>
<td>2%</td>
<td>4%</td>
<td>8%</td>
<td>2%</td>
<td>9%</td>
<td>45%</td>
</tr>
</tbody>
</table>

* Each outbreak may identify more than 1 food vehicle, so percentages may equal more than 100%.

#### Outbreak Contributing Factors+

<table>
<thead>
<tr>
<th>% of outbreaks</th>
<th>Contamination</th>
<th>Proliferation</th>
<th>Survival</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td>81%</td>
<td>28%</td>
<td>17%</td>
</tr>
</tbody>
</table>

* Each outbreak may identify more than 1 contributing factor, so percentages may equal more than 100%.

#### Most Common Outbreak Contributing Factors+

- C6: Contaminated raw product—food was intended to be consumed after a kill step
- C10: Bare-hand contact by a food worker who is suspected to be infectious
- C11: Glove-hand contact by a food worker who is suspected to be infectious
- C12: Other mode of contamination by a food worker who is suspected to be infectious
- P1: Food preparation practices that support proliferation of pathogens
- P8: Improper/slow cooling
- S1: Insufficient time and/or temperature during cooking

* Each outbreak may identify more than 1 contributing factor, so percentages may equal more than 100%.

+ Denotes data that can be used toward meeting Standard 5 in FDA’s Voluntary National Retail Food Regulatory Program Standards.
## Outbreak Establishment Characteristics

### Establishment Description
60% (70) of the menu types were best described as American, followed by Other (14%, 16), Italian (9%, 11), Mexican (7%, 8), Chinese (5%, 6), Japanese (4%, 5), and Thai (1%, 1).

59% (70) of the establishments had at least one critical violation noted during their last routine inspection.

### Establishment Ownership
<table>
<thead>
<tr>
<th>Chain</th>
<th>Independent</th>
</tr>
</thead>
<tbody>
<tr>
<td>74%</td>
<td>26%</td>
</tr>
</tbody>
</table>

### Establishment Type
<table>
<thead>
<tr>
<th>Restaurant</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>80%</td>
<td>20%</td>
</tr>
</tbody>
</table>

### Food Preparation Processes
The establishment types were best described as Complex (84%, 99), Cook Serve (10%, 12), and Prep Serve (6%, 7).

Of the outbreaks that identified a suspected or confirmed food vehicle (N = 53), the food preparation processes used for the food vehicles were best described as Prep Serve (39%, 21), Cook Serve (37%, 20), and Complex (27%, 14). *

### Establishment Types
<table>
<thead>
<tr>
<th>Complex</th>
<th>Cook Serve</th>
<th>Prep Serve</th>
</tr>
</thead>
<tbody>
<tr>
<td>84%</td>
<td>10%</td>
<td>6%</td>
</tr>
</tbody>
</table>

### Food Preparation Processes**
<table>
<thead>
<tr>
<th>Confirmed outbreaks</th>
<th>Suspected outbreaks</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>25%</td>
</tr>
<tr>
<td>50%</td>
<td>50%</td>
</tr>
</tbody>
</table>

* Each outbreak may identify more than 1 food vehicle and food preparation process per outbreak, so percentages may equal more than 100%.

### Hand Hygiene Policy Characteristics
86% (90) of the establishments had a policy concerning the use of disposable gloves. Of those that had a glove-use policy,

- 50% (45) had a policy requiring glove use at all times when in the kitchen.
- 47% (42) had a policy requiring glove use specifically when handling ready-to-eat foods.

96% (103) of the establishments had hand sinks in the employee restrooms.

- In 91% (94) of the establishments with employee restroom hand sinks, all employee restrooms hand sinks were appropriately equipped (warm water, hand soap, and drying paper towel or cloth towels).

100% (107) of the establishments had hand sinks in the employee work areas.

- In 77% (82) of the establishments with employee work area hand sinks, all employee work area hand sinks were appropriately equipped (warm water, hand soap, and drying paper towel or cloth towels).

### Ill Worker Policy Characteristics
82% (86) of the establishments had a policy to restrict or exclude ill workers.

90% (95) of the establishments had a policy requiring food workers to tell their manager when they are ill.

- In 79% (75) of the establishments with this policy, the policy also required ill food workers to tell their manager what their symptoms are.

### Kitchen Manager Characteristics
77% (81) of the establishments require kitchen managers to have food safety certification.

86% (90) of the establishments had kitchen managers that were food safety certified.

---

* Denotes data that can be used toward meeting Standard 5 in FDA’s Voluntary National Retail Food Regulatory Program Standards.

For more information on CDC’s National Environmental Assessment Reporting System (NEARS), visit [www.cdc.gov/nceh/ehs/nears/](http://www.cdc.gov/nceh/ehs/nears/)