

NEARS: Improving the Future of Foodborne Illness Outbreak Data Reporting

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Presentation Overview

- **Food safety goals and priorities**
- **Foodborne illness outbreak data**
- **Environmental assessment data**
- **Overview of NEARS**
- **Outcomes and benefits**

Food Safety Goal and Priorities

- **Centers for Disease Control and Prevention**

- National Center for Environmental Health (NCEH)

- **Goal**

- Improve environmental health practice to prevent foodborne outbreaks

- **Priorities**

- Improve reporting of environmental factors that contribute to foodborne illness outbreaks
- Strengthen federal, state, local and industry policies and practices

Foodborne Illness Outbreak Investigation Data

- **Epidemiologic**



- **Laboratory**



- **Environmental Health**



Foodborne Illness Outbreak Investigation Data



have better food
safety practices



are less likely
to have **foodborne
illness outbreaks**



ENVIRONMENTAL HEALTH DATA

Foodborne Illness Outbreak Investigations



Environmental Assessment Data as Part of Foodborne Illness Outbreak Investigations

Environmental Assessment

- Data describes how the environment contributes to the introduction and/or transmission of agents that cause illness
 - Identify contributing factors
 - Identify environmental antecedents (i.e. root causes)
 - Generate recommendations for informed interventions

Environmental Assessment Data as Part of Foodborne Illness Outbreak Investigations

Contributing Factors

Factors that caused the outbreak

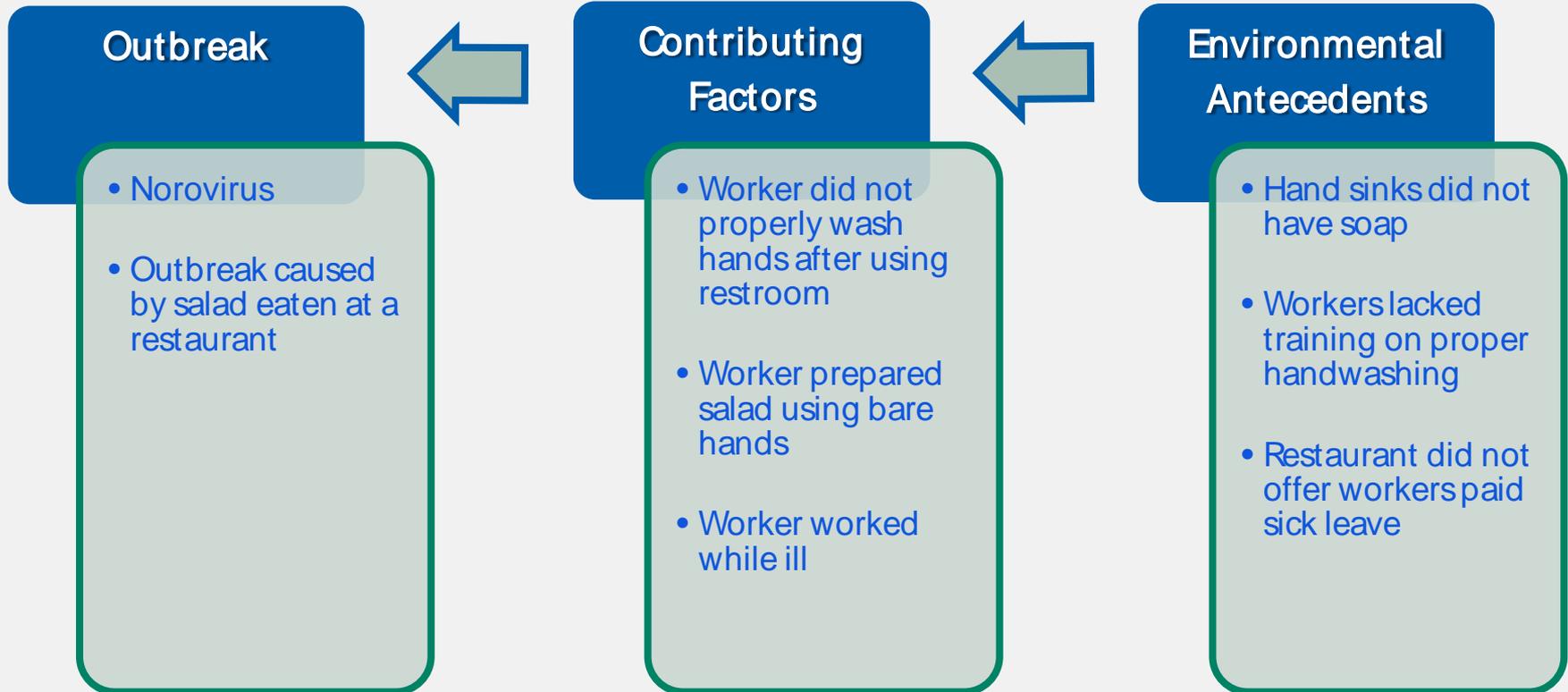
How the outbreak occurred

Environmental Antecedents

Factors that led to the contributing factors

Why the outbreak occurred

Environmental Assessment Data as Part of Foodborne Illness Outbreak Investigations





NATIONAL ENVIRONMENTAL ASSESSMENT REPORTING SYSTEM (NEARS)

Foodborne Illness Outbreak Investigations

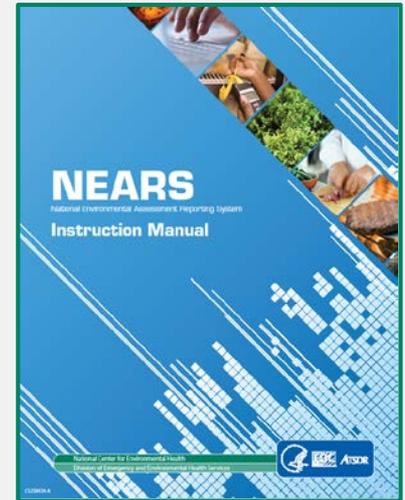


The Need to Improve Reporting of Environmental Assessment Data

- **Environmental assessment data are key to:**
 - Understand how and why outbreaks occur
 - Develop appropriate guidelines, policies and practices
 - Prevent future outbreaks
- **Engage food safety officials conducting environmental assessments**
- **Increase environmental assessment data reported to CDC**
- **Link to National Outbreak Reporting System (NORS)**
 - Strengthen foodborne illness outbreak data (link Epi, Lab, & EH data)

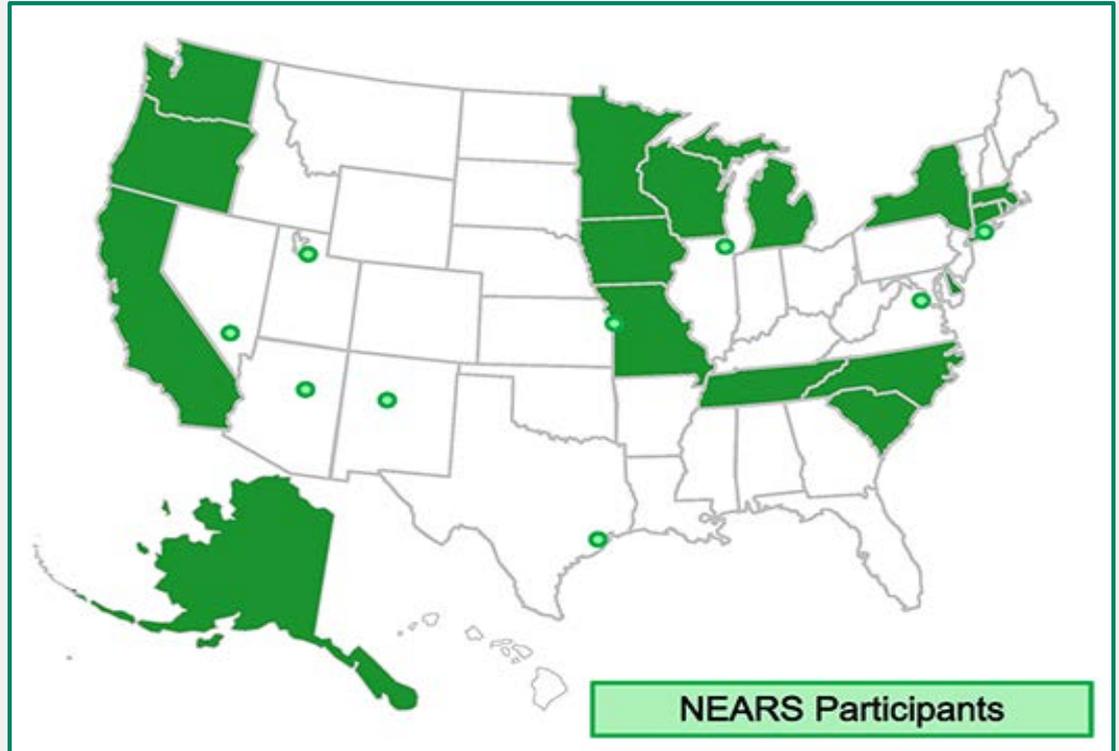
National Environmental Assessment Reporting System (NEARS)

- Launched 2014
- Companion surveillance system to NORS
- State and local retail food safety programs report data to NEARS from foodborne outbreak environmental assessments
- Data includes outbreak contributing factors and environmental antecedents



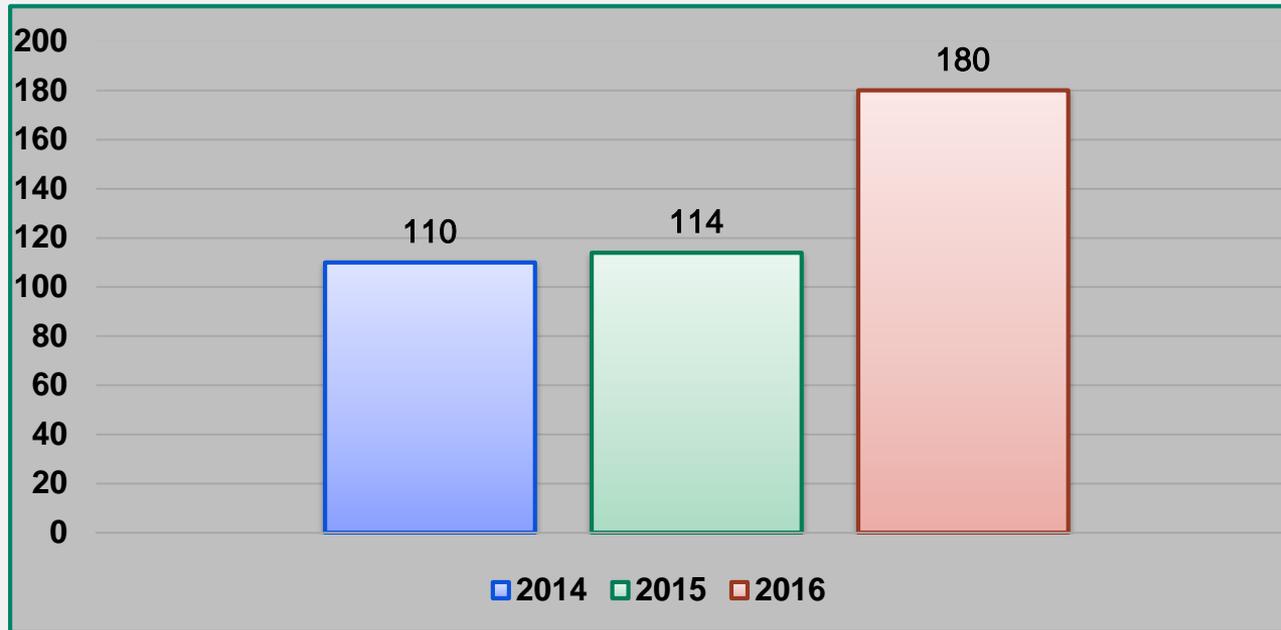
National Environmental Assessment Reporting System (NEARS) Participants

- 16 state agencies
- 9 local agencies



National Environmental Assessment Reporting System (NEARS)

Number of Outbreaks Reported



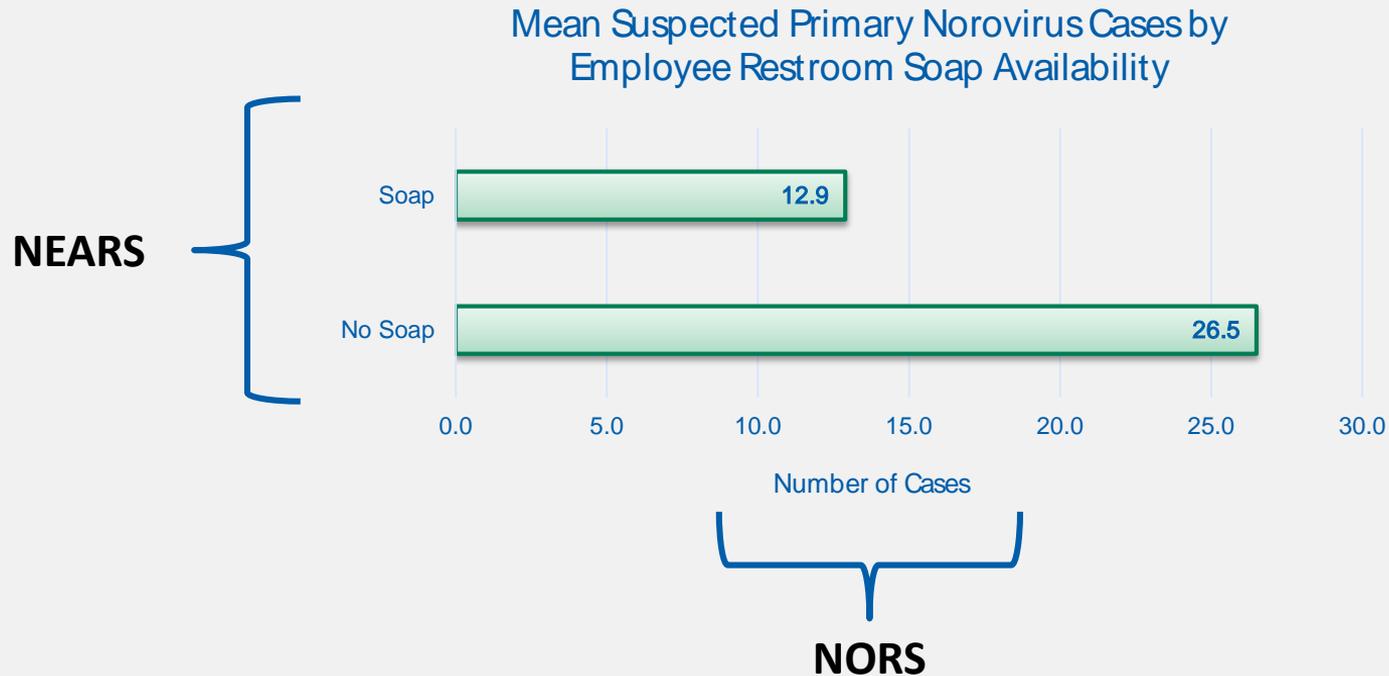
Linking NORS and NEARS Outbreak Data

- **Outbreak Response**



Linking NORS and NEARS Outbreak Data

- **Policies and Practices to Outbreak Size**



OUTCOMES AND BENEFITS

National Environmental Assessment Reporting System
(NEARS)



Immediate Outcomes for Reporting Environmental Assessment Data to NEARS

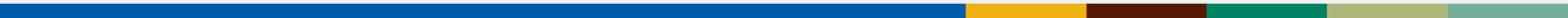
- **Food Safety Programs**

- Increase reporting of environmental assessment data
- Access to practical information about conducting environmental assessments
 - NEARS Data Reporting Instrument
 - CDC's Environmental Assessment Training Series (EATS)
- Access to a free data entry and storage system



Long-Term Outcomes for Reporting Environmental Assessment Data to NEARS

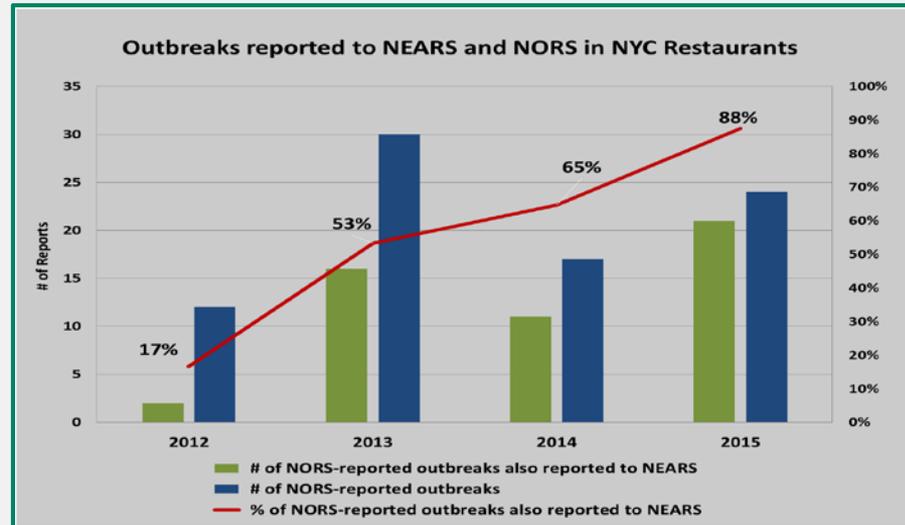
Improve Retail Food Safety

- Identify what environmental antecedents are associated with outbreak occurrences
 - Identify what environmental antecedents are associated with outbreak types (e.g., bacterial vs. viral) or specific pathogens
 - Identify what environmental antecedents are associated with specific contributing factor (CF) categories (contamination, proliferation, survival) or specific CFs
- 

Long-Term Outcomes for Reporting Environmental Assessment Data to NEARS

New York City Department of Health and Mental Hygiene

- Improve reporting of environmental assessment data



Benefit of Reporting Environmental Assessment Data to NEARS

▪ Retail Food Safety Programs

- Receive annual reports from CDC summarizing:

Data from your program

Data from all programs – <https://www.cdc.gov/nceh/ehs/nears/docs/2015-nears-report.pdf>

- Document and track foodborne outbreak response data
- Meet FDA Retail Food Regulatory Program Standards

Standard 5: Foodborne Illness and Food Defense Preparedness and Response

- Collaboration/communication with other NEARS participants

CDC's National Environmental Assessment Reporting System (NEARS)

2015 Summary Report

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.

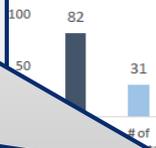
The data included in this summary were collected by NEARS participants in California; Connecticut; Davis County, Utah; Fairfax County, Virginia; Harris County, Texas; Minnesota; New York City; New York State; Rhode Island; Tennessee; and Wisconsin.

88%
outbreaks reported to NORS

Average # of Visits to Complete an Environmental Assessment
2 Visits

Outbreak Characteristics

Foodborne Illness Outbreaks**



* 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:

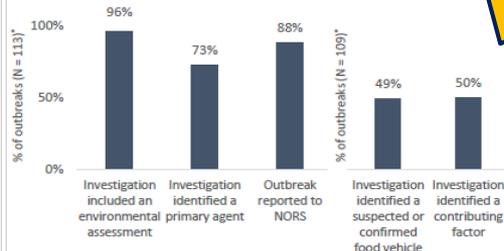
1st contact = 1 day (min = 0, max = 15)

Establishment observation = 2 days (min = 0, max = 29)

Manager interview = 14 days (min = 0, max = 121)

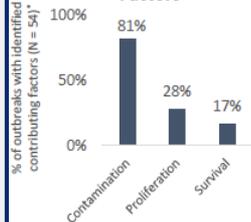
The average number of visits to the outbreak establishment needed to complete an environmental assessment = 2 visits (min = 1, max = 6)

Outbreak Investigation Characteristics



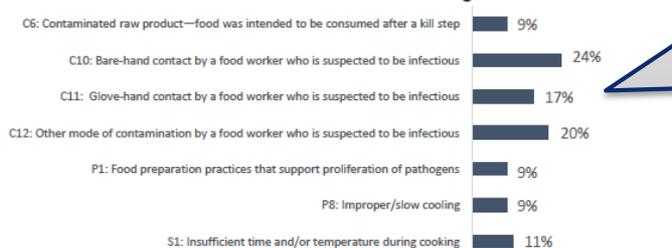
* N varies because of missing data in NEARS.

Outbreak Contributing Factors*



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

Most Common Outbreak Contributing Factors*



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

Contributing Factors

C10
C11
C12

Anticipated Benefit of Reporting Environmental Assessment Data to NEARS

▪ **Retail Food Safety Programs**

- Strengthen national description of foodborne illness outbreak data
- Prevent foodborne illness cases and deaths
- Mitigate social and economic disruptions (food production and manufacturing) when epidemics are prevented
- Cost savings

Begin Reporting Environmental Assessment Data to NEARS

- **Commit to conducting environmental assessments**
- **Complete NEARS Registration Form(s)**
 - State Notice and Acknowledgment of Local Participation
 - Notice of Participation Form
 - <https://www.cdc.gov/nceh/ehs/nears/registration.htm>
- **Complete CDC's free online Environmental Assessment Training Series (EATS)**
 - https://www.cdc.gov/nceh/ehs/elearn/ea_fio/index.htm

Thank You!



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For more information, contact NCEH
1-800-CDC-INFO (232-4636)
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The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

