

NEARS: Identifying Environmental Factors Contributing to Foodborne Illness Outbreaks

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CDC's National Center for Environmental Health Objective

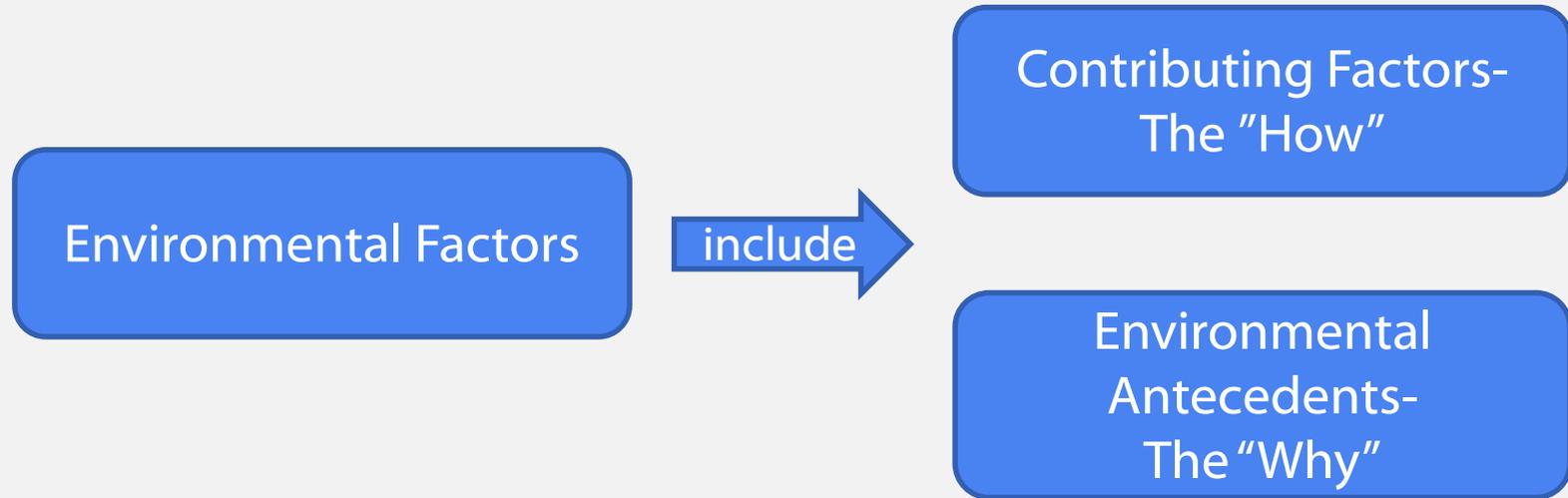
Improve identification of environmental factors contributing to foodborne illness outbreaks

through

Support of environmental assessments at the state and local level

Collection and analysis of environmental assessment data at the national level

Environmental Factors Contributing to Foodborne Outbreaks



Environmental Factors Contributing to Outbreaks

Contributing Factors

Contamination

- Cross-contamination of ingredients
- Contact by an infectious/ill worker

Proliferation

- Improper cold holding due to malfunctioning equipment
- Improper cold holding due to improper procedure

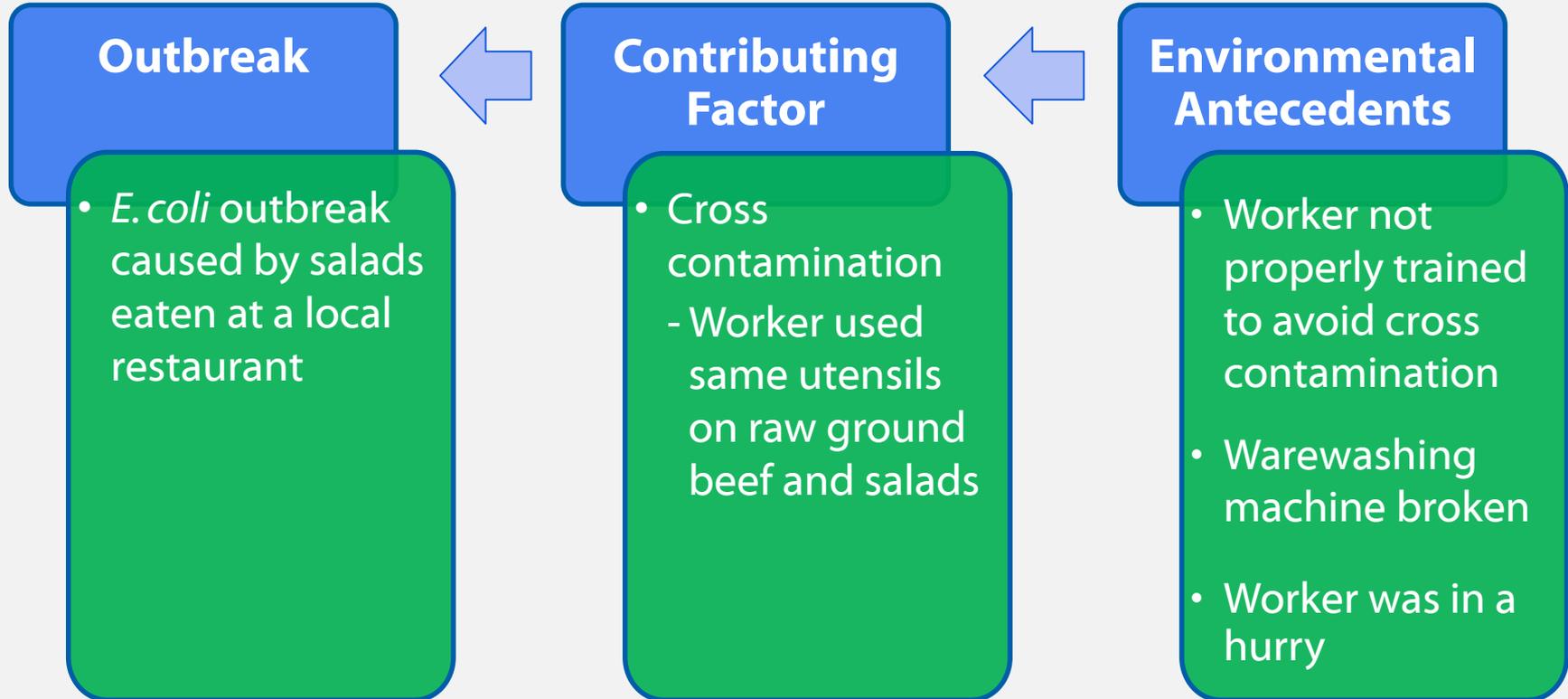
Survival

- Insufficient time/temp during reheating
- Insufficient time/temp during freezing

Environmental Antecedents

- People
- Equipment
- Processes
- Food
- Economics

Environmental Factors Contributing to Outbreaks



Outbreak Environmental Assessments

Describe how the environment contributes to the introduction and transmission of illness agents

Are conducted by environmental health program staff

Involve a thorough review of the food safety policies, processes and practices

Are guided by known information about the outbreak (e.g., agent)

May include food flows, staff interviews, observations of food preparation, sampling

Generate recommendations for intervention

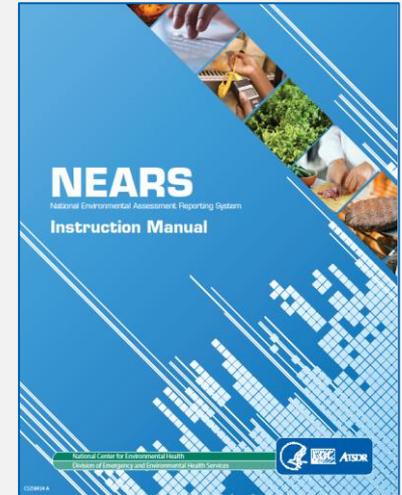
The Need to Improve Reporting of Environmental Assessment Data

- **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 responsible for conducting environmental assessments**
- **Increase environmental assessment data reported at a national level**

Collection and Analysis of Environmental Assessment Data at the National Level

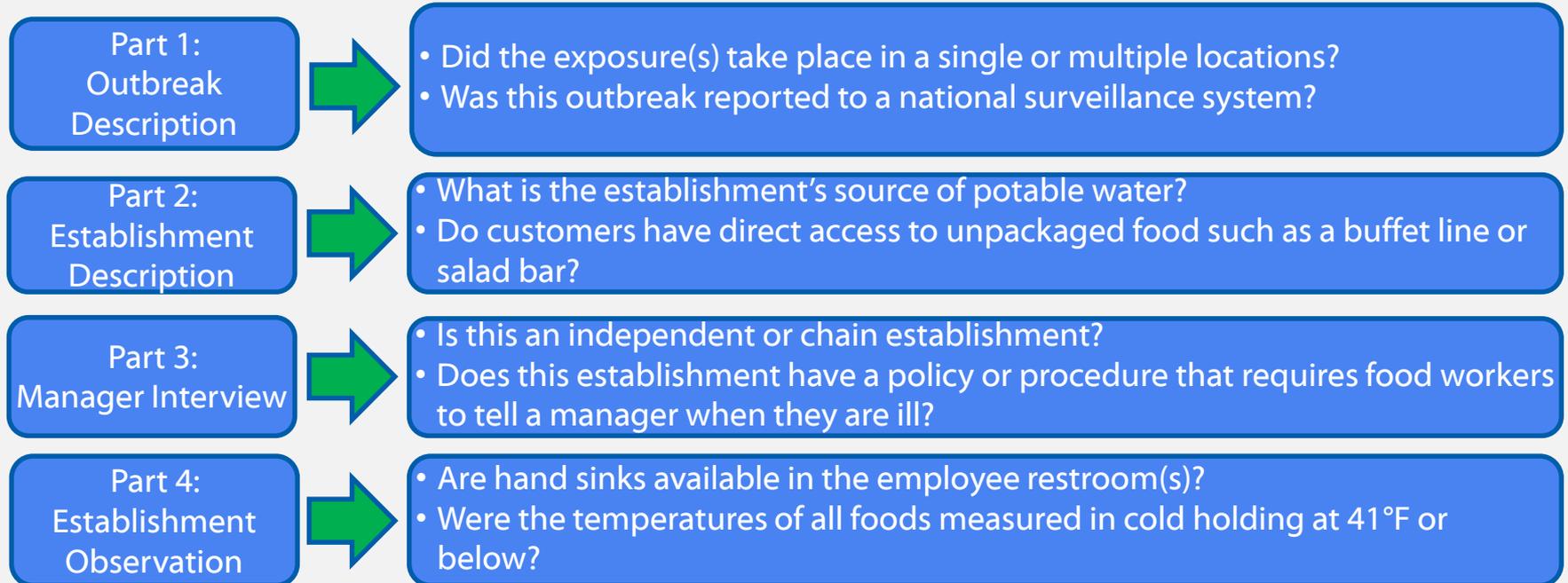
Development and launch of National Environmental Assessment Reporting System (NEARS)

- Companion surveillance system to the National Outbreak Reporting System (NORS)
- Repository for state and local programs to report data collected from their environmental assessments
- 30 state and local agencies are currently registered to begin reporting data into NEARS



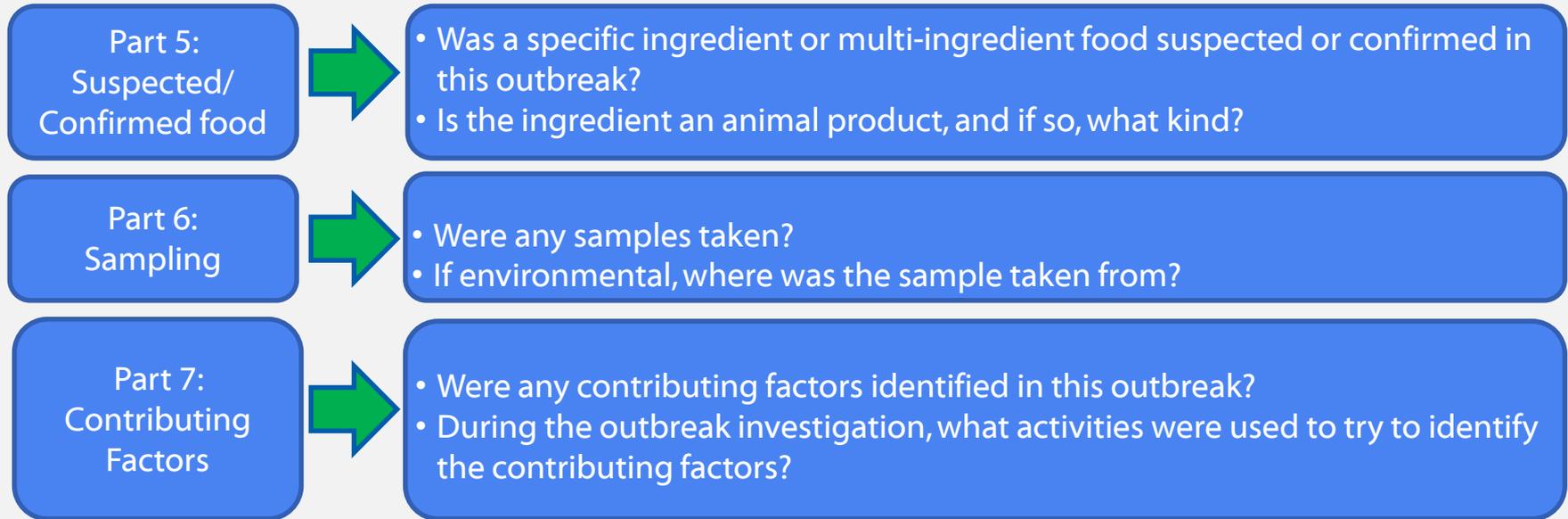
Collection and Analysis of Environmental Assessment Data at the National Level

Programs report data into NEARS on:



Collection and Analysis of Environmental Assessment Data at the National Level

Programs report data into NEARS on:



Collection of Environmental Assessment Data at the National Level

- **State and local agencies' concerns**
 - “Data captured in NEARS is often unrelated to the outbreak and/or I cannot see the value of all data collected.”



Collection of Environmental Assessment Data at the National Level

- **State and local agencies' concerns**
 - “The forms are too complex and will take far more time than I have to complete.”



Short-term Benefits of NEARS Participation

**Annual report from
CDC summarizing
your NEARS data**

***Complements
FDA Standard 5
Requirements**

**Collaboration/
communication with
other states/localities
participating in
NEARS**

**Potential scientific
publication
opportunities**

**Ability to document
and track foodborne
outbreak response
data**

CDC's National Environmental Assessment Reporting System (NEARS)

2015 Summary Report

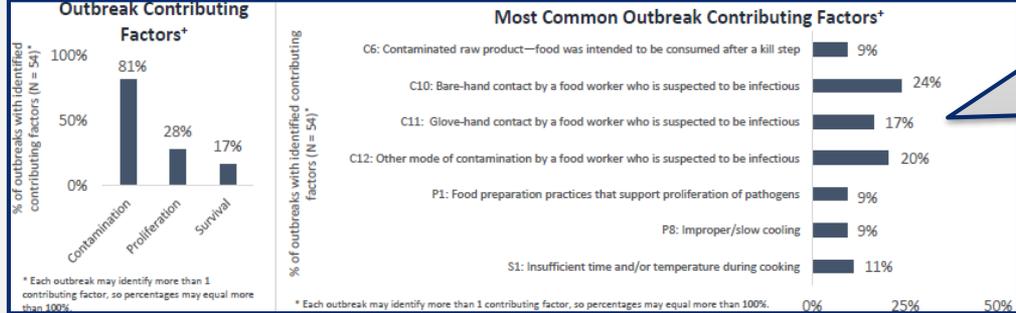
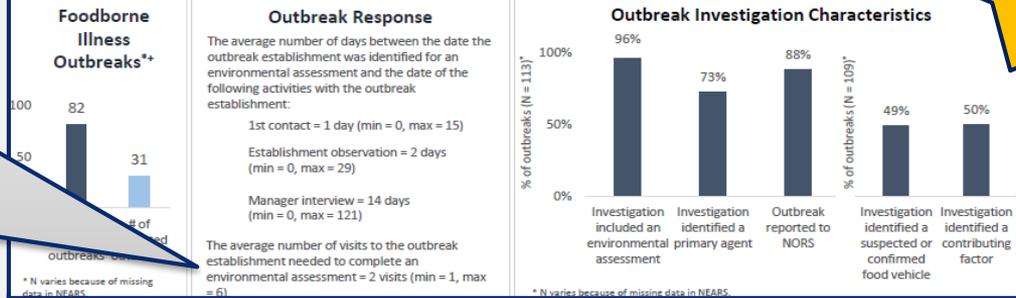
In 2015, a total of 114 outbreaks were reported to NEARS. This summary provides information on characteristics of those outbreaks and the establishments where the outbreaks occurred.

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



Contributing Factors

C10
C11
C12

Long-term Benefits of NEARS Participation

**Data to improve
foodborne
outbreak
response**

What investigation characteristics lead to identification of environmental factors?

Do worker interviews make contributing factor identification more likely?

**Data to improve
retail food
safety**

What environmental antecedents are linked with specific contributing factors?

Is lack of ill worker policies linked with workers working while ill?

Summary

Support of environmental assessments at the state and local level

Collection and analysis of environmental assessment data at the national level

Improved identification of environmental factors contributing to foodborne illness outbreaks

Improved prevention and intervention

Improved food safety; fewer outbreaks

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
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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.

