

^ DIRECT FROM CDC ENVIRONMENTAL HEALTH SERVICES

**E**nvironmental assessments (EAs) help ensure outbreaks are fully understood and addressed to protect health

## Quick Links

- Read more about the National Environmental Assessment Reporting System findings from norovirus outbreaks in restaurants: [www.cdc.gov/nceh/ehs/nears/norovirus-outbreaks-restaurant-practices.html](http://www.cdc.gov/nceh/ehs/nears/norovirus-outbreaks-restaurant-practices.html)
- Explore the *Legionella* Environmental Assessment Form, *Legionella* Control Toolkit, and training videos: [www.cdc.gov/nceh/ehs/activities/legionella.html](http://www.cdc.gov/nceh/ehs/activities/legionella.html)
- Find tools to help you conduct assessments after an emergency: [www.cdc.gov/nceh/ehs/rra/conducting-assessments.html](http://www.cdc.gov/nceh/ehs/rra/conducting-assessments.html)

## Environmental Assessment Data

States, tribes, localities, and territories can adopt the Food and Drug Administration's *Food Code* for their own restaurant food safety rules. The Centers for Disease Control and Prevention's environmental assessment (EA) data show that states that have adopted the *Food Code* provision on certified kitchen managers have fewer norovirus outbreaks.



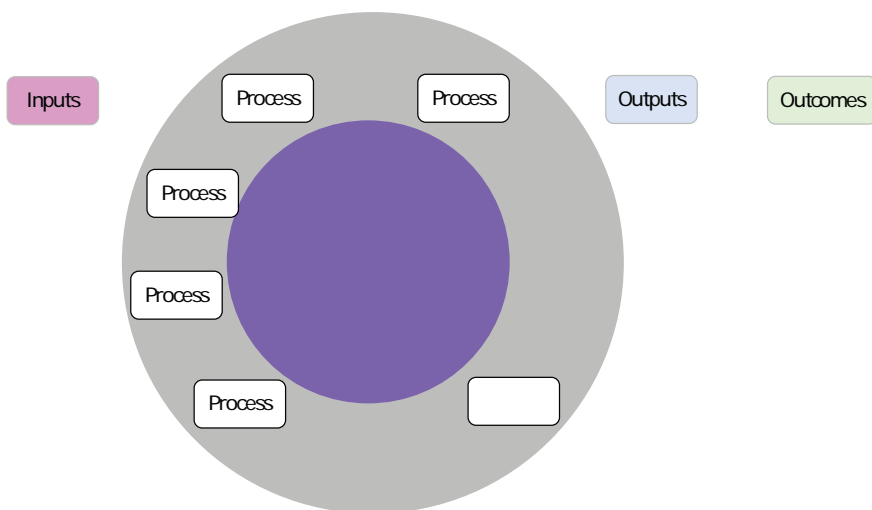
Data from the National Environmental Assessment Reporting System (NEARS) have also helped us understand the following:

- Why investigators did or did not conduct EAs for outbreaks.
- Practices linked to smaller and shorter norovirus outbreaks in restaurants.
- Traits to outbreaks that helped investigators identify their contributing factors.

Learn more about findings from NEARS at [www.cdc.gov/nceh/ehs/nears/publications.htm](http://www.cdc.gov/nceh/ehs/nears/publications.htm).

The CDC Toolkit for Controlling Legionella in Common Sources of Exposure can further support EAs during public health investiga-

Diagram of the Food Safety System



## Data Collected During Environmental Assessments Can Help Inform Prevention Efforts

Illness outbreaks are common in food settings. Data from the Centers for Disease Control and Prevention (CDC) show that restaurants with certified kitchen managers had lower rates of foodborne norovirus outbreaks compared to those without certified kitchen managers (Hoover et al., 2020). In addition, EA data from 404 outbreaks showed key gaps in retail food safety practices and outbreak investigations, particularly around sick workers who were noted to be a common source of food contamination and outbreaks (Lipcsei et al., 2019).

EAs can also apply to other settings, like outbreaks related to water. For example, outbreak investigations of Legionnaires' disease require an EA to identify potential sources of exposure (Garrison et al., 2016) and such assessments have shown that water management programs are an effective control strategy for preventing Legionella outbreaks (Clopper, Kunz, Salandy, et al., 2021).

## Environmental Assessments Are Different From Inspections and Require Different Training

Routine inspections look at regulations, operational violations, and sanitary condi-

tions during normal operations when there is no outbreak. EAs look for clues to understand how factors in the environment led to an outbreak. Since outbreaks can be infrequent in a community, EAs might not be common for health department staff. Everyone needs to know their roles during an outbreak investigation. Training staff before the emergency means they will be ready when an outbreak occurs.

## Centers for Disease Control and Prevention Tools to Help Conduct Environmental Assessments

CDC's National Environmental Assessment Reporting System helps food safety programs capture EA data from investigations of foodborne illness. Programs can join for free and use their data to help identify environmental causes of outbreaks and take follow-up actions to reduce or prevent future outbreaks. CDC's Environmental Assessment Training Series provides training on the role of EAs in the context of outbreak investigations and the food safety system.

The Legionella Environmental Assessment Form helps investigators assess a facility's water system, determine whether to conduct Legionella environmental sampling, and helps investigators design sampling plans.

tions. The toolkit contains essential information regarding design, operation, maintenance, and controls specific to the source of exposure (Clopper, Kunz, & Hannapel, 2021). Investigators can watch educational videos (Photo 1) to learn tips for conducting these EAs and how to interpret results from the form.

### **Environmental Assessment Data Improve Public Health Outcomes**

Outbreak investigations can be complex and difficult to solve. The goal of every investigation is to learn how and why the outbreak is occurring and fix the problem to help prevent more illness. Data collected from outbreaks can inform the most common contributing factors and environmental antecedents. What we learn from EA data can help identify risk factors and stop outbreaks before they occur. Ultimately, this evidence-based information strengthens the science behind the root causes of an outbreak to inform and influence public health practices and policies.

Hoover, E.R., Hedeem, N., Freeland, A., Kambhampati, A., Dewey-Mattia, D., Scott, K.-W., Hall, A., & Brown, L. (2020). Restaurant policies and practices related to norovirus outbreak size and duration. *Journal of Food Protection*, 83(9), 1607-1618. <https://doi.org/10.4315/JFP-20-102>

Lipscsei, L.E., Brown, L.G., Coleman, E.W., Kramer, A., Masters, M., Wittry, B.C.,

Reed, K., & Radke, V.J. (2019). Food-borne illness outbreaks at retail establishments National Environmental Assessment Reporting System, 16 state and local health departments, 2014-2016. *Morbidity and Mortality Weekly Report Surveillance Summaries*, 68(1), 1-20. <https://doi.org/10.15585/mmwr.ss6801a1>

Rispens, J.R., Freeland, A., Wittry, B., Kramer, A., Barclay, L., Vinj0, J., Trefletti, A., & Houston, K. (2020). Notes from the field: Multiple cruise ship outbreaks of norovirus associated with frozen fruits and berries United States, 2019. *Morbidity and Mortality Weekly Report*, 69(16), 501-502. <https://doi.org/10.15585/mmwr.mm6916a3>

## PROGRAMS ACCREDITED BY THE NATIONAL ENVIRONMENTAL HEALTH SCIENCE AND PROTECTION ACCREDITATION COUNCIL

The following colleges and universities offer accredited environmental health programs for undergraduate and graduate degrees (where indicated). For more information, please contact the schools directly or visit the National Environmental Health Science and Protection Accreditation Council website at [www.nehspac.org](http://www.nehspac.org).

Baylor University  
Waco, TX  
Bryan W. Brooks, MS, PhD  
[bryan\\_brooks@baylor.edu](mailto:bryan_brooks@baylor.edu)

Benedict College  
Columbia, SC  
Milton A. Morris, MPH, PhD  
[morrism@benedict.edu](mailto:morrism@benedict.edu)

Boise State University  
Boise, ID  
Kimberly Rauscher, MA, ScD  
[kimberlyrauscher@boisestate.edu](mailto:kimberlyrauscher@boisestate.edu)

California State University at Northridge  
Northridge, CA  
Nola Kennedy, PhD  
[nola.kennedy@csun.edu](mailto:nola.kennedy@csun.edu)

California State University at San Bernardino  
San Bernardino, CA  
Lal S. Mian, PhD  
[lmian@csusb.edu](mailto:lmian@csusb.edu)

Central Michigan University  
Mount Pleasant, MI  
Rebecca Uzarski, PhD  
[uzars2ri@cmich.edu](mailto:uzars2ri@cmich.edu)

Colorado State University  
Fort Collins, CO  
Joshua Schaeffer, PhD, CIH  
[joshua.schaeffer@colostate.edu](mailto:joshua.schaeffer@colostate.edu)

East Carolina University  
Greenville, NC  
William Hill (undergraduate)  
[hillw@ecu.edu](mailto:hillw@ecu.edu)  
Stephanie Richards, PhD (graduate)  
[richardss@ecu.edu](mailto:richardss@ecu.edu)

East Central University  
Ada, OK  
Michael Bay, PhD  
[mbay@ecok.edu](mailto:mbay@ecok.edu)

East Tennessee State University  
Johnson City, TN  
Kurt Maier, MS, PhD  
[maier@etsu.edu](mailto:maier@etsu.edu)

Eastern Kentucky University  
Richmond, KY  
Vonia Grabeel, MPH, RS (undergraduate)  
[voniam.grabeel@eku.edu](mailto:voniam.grabeel@eku.edu)  
Clint Pinion, Jr., MA, MPH, DrPH, CIT, RS  
[clint.pinion@eku.edu](mailto:clint.pinion@eku.edu)

Fort Valley State University  
Fort Valley, GA  
Oreta Samples, PhD  
[sampleso@fvsu.edu](mailto:sampleso@fvsu.edu)

Illinois State University  
Normal, IL  
Guang Jin, PhD, PE  
[gjin@ilstu.edu](mailto:gjin@ilstu.edu)

Indiana University Purdue University Indianapolis  
Indianapolis, IN  
Max Moreno, MEM, PhD  
[mmorenom@iu.edu](mailto:mmorenom@iu.edu)

Mississippi Valley State University  
Itta Bena, MS  
Swatantra Kethireddy, PhD  
[swatantra.kethireddy@mvsu.edu](mailto:swatantra.kethireddy@mvsu.edu)

Missouri Southern State University  
Joplin, MO  
Teresa Boman, PhD  
[boman-t@mssu.edu](mailto:boman-t@mssu.edu)

Montana State University  
Bozeman, MT  
Seth Walk, PhD  
[seth.walk@montana.edu](mailto:seth.walk@montana.edu)  
Mari Eggers, PhD  
[mari.eggers@montana.edu](mailto:mari.eggers@montana.edu)

North Carolina Central University  
Durham, NC  
John Bang, MD, PhD  
[jjbang@nccu.edu](mailto:jjbang@nccu.edu)

Ohio University  
Athens, OH  
Michele Morrone, PhD  
[morrone@ohio.edu](mailto:morrone@ohio.edu)

Old Dominion University  
Norfolk, VA  
Sean Banaee, PhD, CIH  
[sbanaee@odu.edu](mailto:sbanaee@odu.edu)

State University of New York, College of Environmental Science and Forestry  
Syracuse, NY  
Lee Newman, PhD  
[lanewman@esf.edu](mailto:lanewman@esf.edu)

Texas Southern University  
Houston, TX  
Zivar Youse pour, PhD  
[zivar.youse\\_pour@tsu.edu](mailto:zivar.youse_pour@tsu.edu)

The University of Findlay  
Findlay, OH  
Timothy Murphy, PhD  
[murphy@findlay.edu](mailto:murphy@findlay.edu)

University of Georgia, Athens  
Athens, GA  
Anne Marie Zimeri, PhD  
[zimeri@uga.edu](mailto:zimeri@uga.edu)

University of Illinois  
Springfield  
Springfield, IL  
Egbe Egiebor, PhD  
[eegie2@uis.edu](mailto:eegie2@uis.edu)

University of Washington  
Seattle, WA  
Tania Busch-Isaksen, MPH, PhD, REHS  
[tania@uw.edu](mailto:tania@uw.edu)

University of Wisconsin  
Eau Claire  
Eau Claire, WI  
Crispin Pierce, PhD  
[piercech@uwec.edu](mailto:piercech@uwec.edu)

University of Wisconsin  
Oshkosh  
Oshkosh, WI  
Sabrina Mueller-Spitz, DVM, PhD  
[muellesr@uwosh.edu](mailto:muellesr@uwosh.edu)

West Chester University  
West Chester, PA  
Lorenzo Cena, PhD  
[lcena@wcupa.edu](mailto:lcena@wcupa.edu)

Western Carolina University  
Cullowhee, NC  
Kim Hall, PhD  
[kkhall@email.wcu.edu](mailto:kkhall@email.wcu.edu)

Western Kentucky University  
Bowling Green, KY  
Ritchie Taylor, PhD  
[ritchie.taylor@wku.edu](mailto:ritchie.taylor@wku.edu)

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