EPI INSIGHT: CONNECTING THE DOTS

Wake County Public Health (WCPH) Epidemiology (Epi) Program Newsletter

Welcome to Epi Insight!

Dear Epi Enthusiasts,

As fall begins, we enter a season of both reflection and preparation. The national public health landscape continues to shift, and our dedication at the local level remains steady. Staying connected, informed, and resilient is as important as ever.

In this edition of Epi Insight: Connecting the Dots, you'll find timely updates, highlights of local efforts, and reminders of how collaboration and data continue to drive our work forward.

Thank you for being with us in this effort. We value your partnership and hope you find this edition both informative and energizing as we move through the next season together.

Epi Program Members:

- Morgan Poole, Epi Program Manager: Leading our team with a focus on COVID-19 Surveillance and Guidance, Wastewater Surveillance, Mpox Surveillance, and Heat-Related Illness Surveillance.
- Katie LaWall, Senior Epidemiologist: Specializing in Injuries (including overdoses), Sexually Transmitted Diseases (STDs), ArcGIS/mapping, and Communicable Diseases (including outbreaks as needed).
- Akanksha Acharya, Senior Epidemiologist: Bringing expertise in Respiratory Virus Surveillance, Communicable Diseases, Chronic Diseases, and Mental Health.
- Marlene Kurt, Epidemiology Specialist: Diving deep and bringing knowledge and expertise in Wastewater Surveillance, COVID-19 Data and Research, Maternal and Child Health Data, ArcGIS/mapping, and often serving as our Community Health Worker Liaison.

IN THIS ISSUE

How to Make an Epi Curve (And Why It's Your Outbreak's Best Friend)

by Akanksha Acharya, Senior Epidemiologist

https://www.cdc.gov/training/quicklearns/createepi/

An epidemic curve, or epi curve, is your outbreak's storyboard. With one look, it shows when people got sick, spots unusual cases, reveals how big the outbreak is, hints at how it's spreading, and even pinpoints the likely time of exposure.

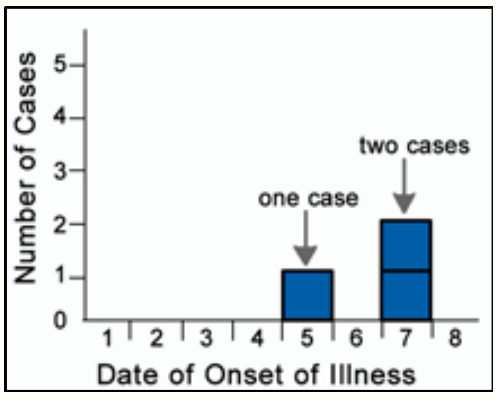
Here's your step-by-step guide:

Collect Your Data: Start with your line list. Use the symptom onset date for each case. If that's missing, use diagnosis or report dates instead.

Pick Your Time Intervals: Choose an interval for your x-axis that matches the disease's progression speed, about one-quarter of its average incubation period. For example, if measles averages a 12-day incubation, your interval would be 3 days. For diseases with short incubation periods (e.g., hours to a day), intervals can be set to hours or even minutes. For diseases with longer incubation periods, daily or weekly intervals may be more appropriate.

Set Up & Label Your Axes
X-axis: Time intervals (onset dates)
Y-axis: Number of new cases
Add a short, descriptive title so it is easy to understand.

Plot the Cases: Put each case into the right time slot. Stack them for the same date. Make sure the bars are touching, with gaps only if there are zero cases.



Read the Shape

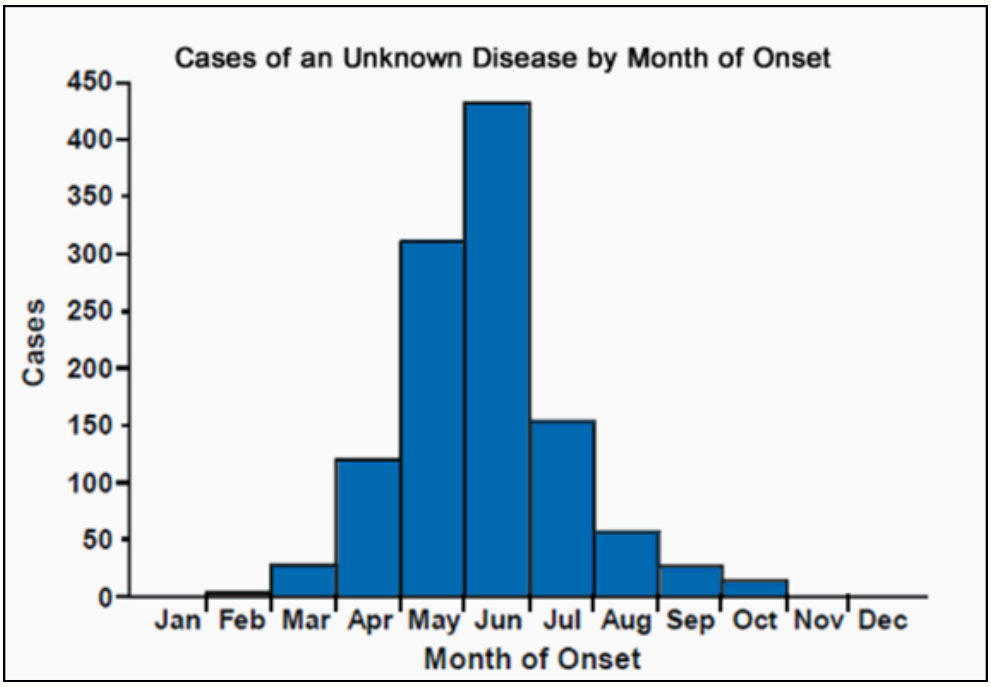
- Sharp spike & quick drop: Point-source outbreak (one-time exposure)
- Flat plateau: Continuous exposure
- Multiple waves: Person-to-person spread. And watch those outliers—they could be the first case, a second wave, or something unrelated.

Spot the Peak

The tallest bar marks the peak, often the clue to when exposure most likely happened.

An epi curve is more than a simple graph, it's a unique snapshot of your outbreak, guiding you to act quickly and effectively before illness spreads further.

Figure 1. Example of an epidemic curve showing cases by month of onset



EPI SNAPSHOT

by Marlene Kurt, Epidemiology Specialist

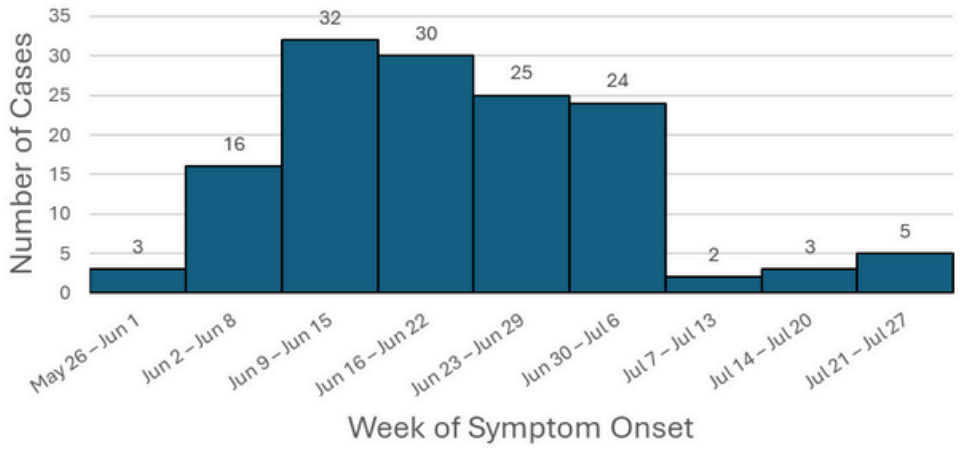
Epidemiology Snapshot: Cyclosporiasis in Wake County, 2025

Welcome to our latest Epidemiology Snapshot, where we provide a concise overview of recent and current disease and illness trends in Wake County. In this edition, we focus on cyclosporiasis, highlight background and trends from the 2025 season, and share how Wake County is responding.

Background and Trends

As of September 12th, 2025, 166 confirmed cases of cyclosporiasis have been reported in Wake County, the highest number in three years. Seven residents required hospitalization, and no deaths were reported. Case reporting was highest in June and July, with most symptom onsets occurring in June.

Figure 2. Cyclosporiasis Cases by Symptom Onset Week (n=140)



SOURCE: WAKE COUNTY PUBLIC HEALTH, COMMUNICABLE DISEASE INVESTIGATIONS AND NORTH CAROLINA ELECTRONIC DISEASE SURVEILLANCE SYSTEM (NCEDSS), DATA ACCESSED 9/2025.

Cyclospora cayetanensis is a microscopic parasite that causes cyclosporiasis, an intestinal illness spread through contaminated food or water. Infections often bring days of watery diarrhea, along with bloating, fatigue, nausea, and loss of appetite (CDC). For some, illness is disruptive but manageable; for others, dehydration may lead to hospitalization.

Wake County Environmental Health and Safety, Epidemiology, and Communicable Disease staff working with the North Carolina Department of Health and Human Services (NCDHHS), the Centers for Disease Control and Prevention (CDC), and the Food and Drug Administration (FDA) conducted a detailed investigation. Through case interviews and exposure assessments, clusters were identified and confirmed by the CDC. Most cases during this season were attributed to more widespread foodborne and waterborne exposures rather than a single location.

Cases most frequently reported eating leafy greens (particularly lettuce), berries, cilantro, bananas, parsley, and other produce items during investigation interviews. Despite extensive interagency coordination, no single food source was confirmed. Nationally, this pattern is common. According to CDC outbreak surveillance data from 2014-2022, 38% of reported foodborne outbreaks had no implicated food identified (MMWR 2025). These findings highlight the challenges of outbreak investigations and the continued importance of surveillance and collaboration.

Table 1. Wake County Confirmed Cyclosporiasis Cases, Three-Year Trend Comparison (2023–2025)

Year	Total Confirmed Cases	Hospitalized (All Cases)	Deaths (All Cases)	Peak Reporting Period (All Cases)
2023	65	0	0	July
2024	150	0	0	June and July
2025	166*	7	0	June and July

*2025 TOTAL REFLECTS YEAR-TO-DATE (YTD) CASES THROUGH SEPTEMBER.
SOURCE: WAKE COUNTY PUBLIC HEALTH, COMMUNICABLE DISEASE INVESTIGATIONS AND NORTH CAROLINA ELECTRONIC DISEASE SURVEILLANCE SYSTEM (NCEDSS), DATA ACCESSED 9/2025.

Environmental Factors

The increase in cyclosporiasis cases in Wake County reflects broader national reports of rising foodborne illness. Environmental factors may contribute to this trend. A recent review in the journal *Climatic Change* highlighted that warmer global temperatures and heavy rainfall can extend pathogen survival outside the human host, increasing opportunities for exposure (Awad et al. 2024). Still, climate conditions alone do not explain why Wake County has reported more cases than other areas of North Carolina.

Food Supply Chain Factors

Other factors are likely involved, particularly the produce supply chain and imported fresh items. CDC notes that outbreaks in the United States have often been linked to basil, cilantro, mesclun lettuce, raspberries, and snow peas (CDC). Tracing produce through the supply chain, from suppliers to distributors to handlers, is a central and time-intensive part of outbreak response.

Local response

Wake County Public Health is addressing the rise in cases through several ongoing efforts. Staff are working with state and federal partners on traceback investigations, which are complex and require time to complete. Locally, outreach continues with restaurants, food suppliers, and residents to help reduce risk. Active surveillance allows new cases to be detected promptly. Community education highlights safe food handling practices and supports awareness of this illness. Together, these steps strengthen prevention and response in Wake County.

What You Can Do

Residents can help reduce their risk of cyclosporiasis by:

- Rinsing fresh produce thoroughly, storing fruits and vegetables at safe temperatures, and choosing reputable sources for fresh foods.
- Washing hands before handling food and after using the restroom also lowers the chance of spreading illness.
- Anyone experiencing persistent diarrhea, especially after eating fresh produce, should seek medical care and let their provider know about possible foodborne illness.

Wake County Public Health also encourages residents to report suspected cases. To report a possible foodborne illness from a restaurant or large gathering, you can fill out this online form or call 919-250-4462 to speak with a communicable disease nurse. To report a problem with a particular restaurant, complete the online form at the link above or call 919-856-5700.

Figures showing formation of Cylospora cayetanensis egg-cells and spores.

EPI HUMOR CORNER

This issue's laugh:

"Why don't viruses ever get lost in autumn?"

Because they always follow the seasonal trends!

COMMUNITY CONNECTION: Spotlight on Public Health in Action – Bringing Health Services to Our Community

by Akanksha Acharya, Senior Epidemiologist

This month, we are featuring the HealthLit4Wake Program, and its launch of a brand-new Wake Wheels for Health minibus designed to bring health services directly to the community. We asked the team a few questions, and their answers highlight how this program will bring meaningful benefits to our community.

Q1: Can you tell us a bit about the new Wake Wheels for Health minibus and what makes it special?

The minibus is a staff-coordinated mobile resource providing an extension of the Wake County Public Health team and the various public health programs and projects. It is a strategy to aid citizens despite barriers to health literacy/education and healthcare access. The vehicle is used to create opportunities for the community to engage with a focus on resources, services, partnerships, education and initiatives.

For more information on where the Wake Wheels for Health minibus is headed next or to request a visit, please visit wake.gov/PopulationHealth. The page is coming soon, be sure to bookmark or save it and check back regularly for updates.

Q2: What kinds of services will Wake Wheels for Health bring to the community?

We have currently been providing various testing services, vaccines, health education information on topics including nutrition, tobacco cessation, maternal and child health, diabetes, heart disease, respiratory illnesses, and HIV/STD, to name a few. We also share information on what kind of services are available at Wake County Public Health. We are looking forward to providing blood pressure, cholesterol, and glucose screenings.

Q3: How do you hope Wake Wheels for Health will improve access to care or public health resources?

We hope to ensure equitable access to county services, information, and resources for vulnerable and historically marginalized communities. Moreover, we hope to Strengthen relationships between the various Wake County departments, community organizations, and residents through face-to-face interactions.

Q4: The COVID/Flu Bootcamps were very popular before—what are they, and what can people expect this fall?

The COVID-19/Flu/Cold Bootcamps were created by the HealthLit4Wake team to equip community members with timely information on how to stay healthy during peak respiratory virus season, to dispel vaccine hesitancy, and share tips on how to talk with friends/family about these topics. This fall, we will be revamping the training to include updated guidance on vaccines and address relevant concerns. Community organizations or internal team members can request this training from Kate Broadwell, the team's Health Educator. The training can also be adapted to answer specific questions or concerns! Kate can be contacted at kate.broadwell@wake.gov.

Q5: What's one thing you hope people take away from these programs?

Wake County Public Health works hard to advance health equity and eliminate health disparities among all populations living in Wake County. Our health department is determined to connect practice to policy for positive change to happen locally with partnerships among different sectors of the community—public health, industry, academia, health care, local government entities, etc.—to achieve positive health outcomes.

EPI ALERTS AND NOTIFICATIONS

Provider Memo from NCDHHS: First 2025 Measles Case in North Carolina. Issued on June 27, 2025. For more information on this memo: https://www.dph.ncdhhs.gov/news/press-releases/2025/06/27/measles-provider-memo-june-27-2025

The CDC issued the following HAN notifications to inform the public of a public health incident of importance.

Health Alert Network (HAN) No. 524 - Ebola Outbreak in the Democratic Republic of the Congo. Issued on 09/18/2025.

For more details and information on the CDC Health Alert Network and these alerts, please visit: https://emergency.cdc.gov/han/

RECENT PUBLICATIONS

FROM THE WAKE COUNTY EPIDEMIOLOGY PROGRAM

- 2025 Communicable Disease Report
- 2024 Wake County Drug Overdose Integrated Epidemiologic Profile
- 2024 Chronic Disease Report
- 2025 Mental Health Issue Brief: Youth Mental Health
- 2024 Mental Health Issue Brief: Suicide
- 2024 Maternal and Child Health Report
- 2024 Injury Report
- For all other reports and briefs, please visit wake.gov/epidemiology

UPCOMING EVENTS AND OBSERVANCES

- 2025 NC Violence Prevention Conference, Raleigh, North Carolina – October 27 and 28, 2025
- National Breast Cancer Awareness Month – October 2025
- Domestic Violence Awareness Month – October 2025
- National Depression and Mental Health Screening Month – October 2025
- National Diabetes Month – November 2025
- Lung Cancer Awareness Month – November 2025
- Pancreatic Cancer Awareness Month – November 2025
- World AIDS Day – December 1, 2025
- National Influenza Vaccination Week – December 2025

RESOURCES

FOR MORE INFORMATION AND GUIDANCE, VISIT THE FOLLOWING LINKS:

HTTPS://WWW.CDC.GOV/TRAINING/QUICKLEARNS/CREATEEPI/
HTTPS://WWW.CDC.GOV/CYCLOSPORIASIS/HCP/CLINICAL-OVERVIEW/INDEX.HTML
HTTPS://WWW.CDC.GOV/MMWR/VOLUMES/74/SS/SS7401A1.HTM
HTTPS://LINK.SPRINGER.COM/ARTICLE/10.1007/S10584-024-03748-9
HTTPS://WWW.CDC.GOV/CYCLOSPORIASIS/DATA-RESEARCH/INDEX.HTML
HTTPS://WWW.WAKE.GOV/DEPARTMENTS-GOVERNMENT/HEALTH-HUMAN-SERVICES/PUBLIC-HEALTH-AND-MEDICAL-SERVICES/FOODBORNE-ILLNESS
HTTPS://WWW.WAKE.GOV/DEPARTMENTS-GOVERNMENT/HEALTH-HUMAN-SERVICES/PUBLIC-HEALTH-AND-MEDICAL-SERVICES/FOODBORNE-ILLNESS/REPORT-FOODBORNE-ILLNESS
HTTPS://WWW.WAKE.GOV/NEWS/WAKE-COUNTY-PUBLIC-HEALTH-OFFERS-GUIDANCE-PREVENTING-SUMMER-FOODBORNE-ILLNESSES
HTTPS://WWW.WAKE.GOV/DEPARTMENTS-GOVERNMENT/HEALTH-HUMAN-SERVICES/COMMUNITY-RESOURCES/POPULATION-HEALTH
HTTPS://WWW.DPH.NCDHHS.GOV/NEWS/PRESS-RELEASES/2025/06/27/MEASLES-PROVIDER-MEMO-JUNE-27-2025
HTTPS://EMERGENCY.CDC.GOV/HAN/

REACH US & SUBSCRIBE!

VISIT OUR WEBPAGE AND SUBSCRIBE AT: WAKE.GOV/EPIDEMIOLOGY

DATA REQUEST FORM: SUBMIT A REQUEST FOR DATA FROM OUR EPIDEMIOLOGY PROGRAM

WAKE COUNTY EPIDEMIOLOGY PROGRAM PHONE NUMBER: 919-250-1252

FOR NON-DATA RELATED INFORMATION, EMAIL WAKEEPIDEMIOLOGY@WAKE.GOV