



Recent Tennessee Vaccine-Preventable Disease Outbreaks

(and one soon to be vaccine-preventable disease)

Timeline of Outbreaks

Measles
April-
May
2019

COVID-19: January 2020-
Current

Hepatitis A: May 2018- May 2020





Hepatitis A

Hepatitis A Virus

Picornavirus

**Fecal-oral
transmission**

**Incubation
Period: 15-50
days**

**Infectious
Period: 2
weeks before
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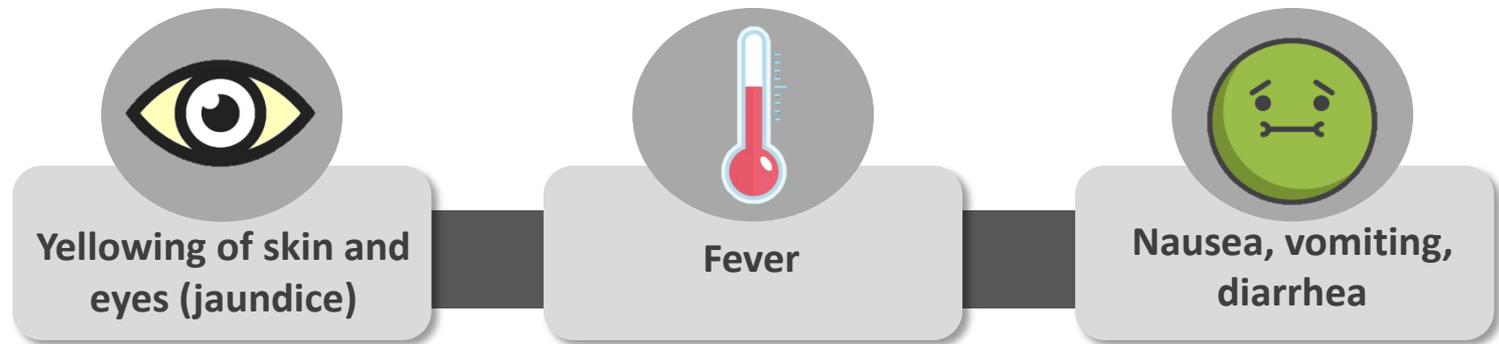
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Hepatitis A

Symptoms



Testing

- HAV IgM positive
- ALT >200
- Bilirubin >3.0 (or jaundice)

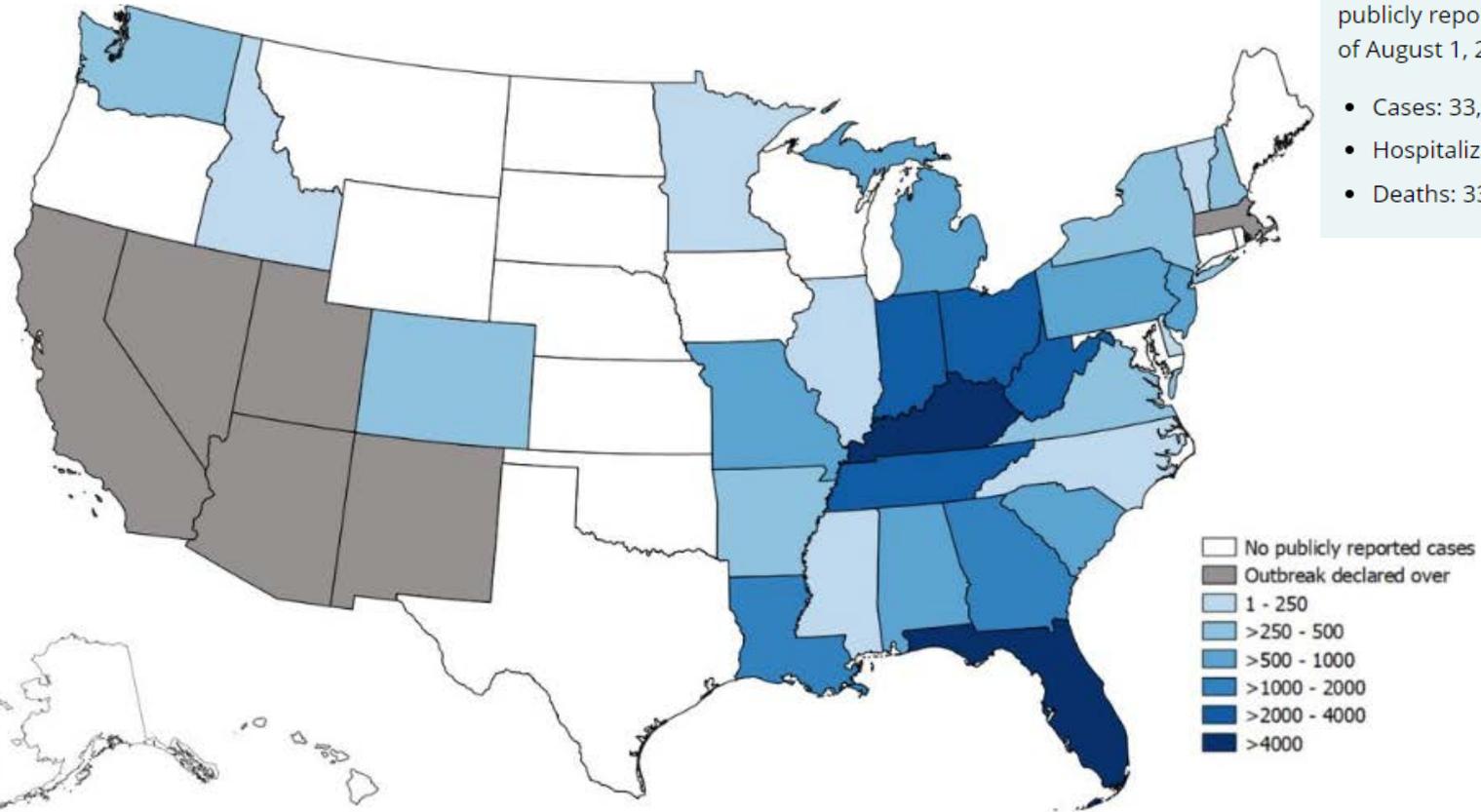
Hepatitis A Vaccination

- Licensed in the US in 1995
- Recommended by ACIP:
 - All children ages <18 years beginning at 12 months, international travelers, adoptive parents,
 - People with unstable housing or experiencing homelessness,
 - People who are at increased risk for infection*,
 - Persons who are at increased risk for complications from hepatitis A, and,
 - Any person wishing to obtain immunity (protection).
- Post Exposure Prophylaxis
 - Vaccine within 2 weeks of exposure
 - IG should be given in addition to vaccine when indicated

*The full list of persons who are at increased risk for hepatitis A infections or complications of infection can be found on CDC's website at:
<https://www.cdc.gov/hepatitis/hav/havfaq.htm>

Nationwide Hepatitis A Outbreak

State-Reported Hepatitis A Outbreak Cases as of August 1, 2020

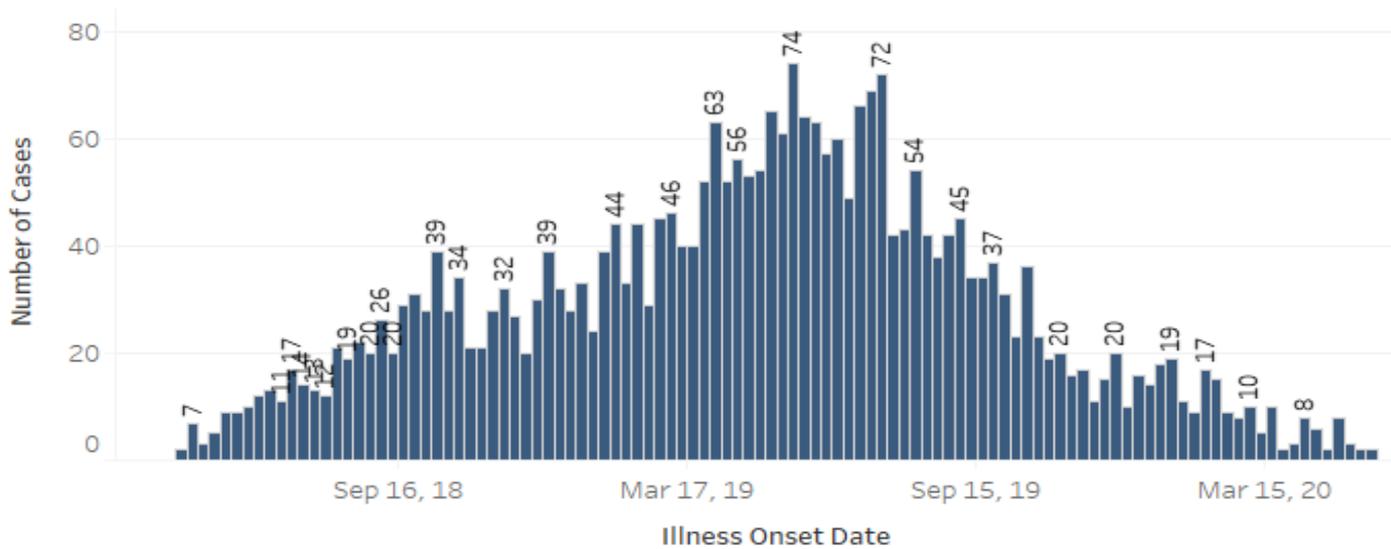


Since the outbreaks were first identified in 2016, 33 states have publicly reported the following as of August 1, 2020

- Cases: 33,615
- Hospitalizations: 20,595 (61%)
- Deaths: 332

Tennessee's Hepatitis A Outbreak

Illness Onset Epi Curve for Confirmed Cases (N=3,051)



How Do We Stop this Hepatitis A Outbreak?

- **The hepatitis A vaccine is the best way to prevent HAV infection**
- The following at-risk groups should be offered the hepatitis A vaccine for outbreak mitigation
 - **People who use drugs (injection or non-injection)**
 - **People experiencing unstable housing or homelessness**
 - **Men who have sex with men (MSM)**
 - **People who are currently or were recently incarcerated**
 - **People with chronic liver disease, including cirrhosis, hepatitis B, or hepatitis C**
- One dose of single-antigen hepatitis A vaccine provides up to 95% protection for up to 11 years.

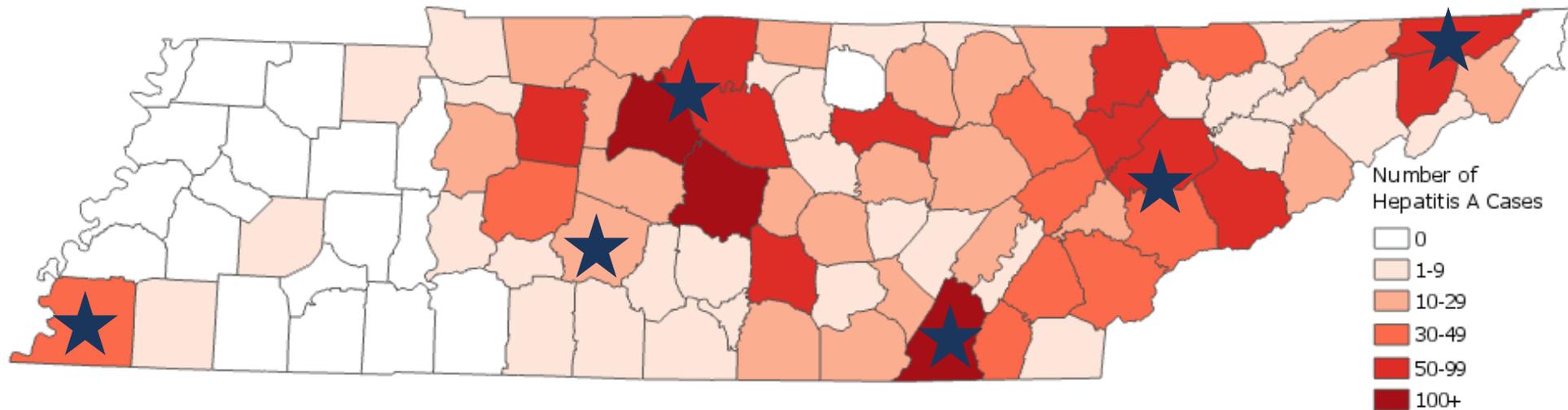


Public Health Outreach

- What types of outreach events does Public Health conduct?
 - Jails
 - Feeding ministries/ food banks
 - Homeless shelters/ clinics
 - Mental Health service providers
 - Post-correctional services
 - Substance use services providers
 - Others, such as drug courts, day laborer services, extended stay hotel/motel, bar outreach, peer recovery groups, Pride, etc.



Public Health Outreach: Strike Teams



6 Teams

22 Staff

Partnership Building

Public Health was not able to mitigate this outbreak alone.

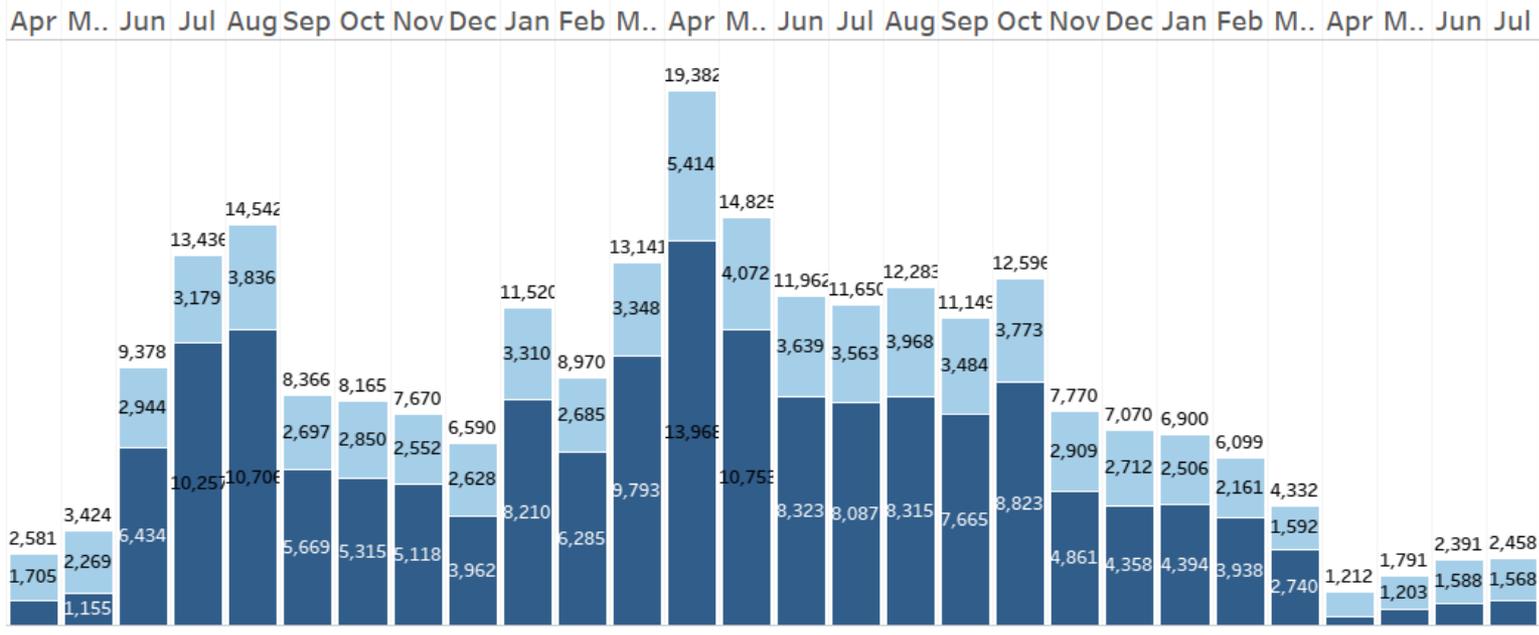
Partnered with state funded vaccine:
Providers that see high risk populations, FQHCs, emergency departments, mental health facilities, etc.

Outreach event facilities:
Substance use providers, drug courts, homeless shelters, post correctional services, SSPs, feeding ministries, hotel/motels, jails, etc.

Are you a person experiencing homelessness?	Do you share drugs or drug paraphernalia?	Are you a man who has sex with men?
If you answered yes to any of these questions, then you are at increased risk of hepatitis A infection. Hepatitis A can easily spread from person to person through contact with feces. The best way to prevent hepatitis A is by getting vaccinated.		
TO REDUCE YOUR RISK: Wash Your Hands. Don't Share. Get Vaccinated.		
 Wash Your Hands <ul style="list-style-type: none">• After using the bathroom• Before preparing or eating meals• After touching anything unclean		
DON'T SHARE <ul style="list-style-type: none">• Drugs (injection, non-injection or marijuana)• Cigarettes• Towels or toothbrushes		DON'T SHARE Food, drinks or eating utensils 
 Get Vaccinated Talk to your healthcare provider, pharmacist or your health department		
	Find a local health department: www.tn.gov/health	

Tennessee's Vaccination Outreach

Adult Hepatitis A Vaccinations Reported to TennIIS
by Public and Private Providers
April 1, 2018 to August 10, 2020



Provider Type
■ Private
■ Public Health

Total
Vaccinations
reported:
242,270

Total Public
Health:
162,831

Total Private:
79,439





Measles

Measles Virus

**Paramyxo-
virus**

**Airborne
transmission**

**Incubation
Period: 7-21
days**

**Infectious
Period: 4 days
before to 4
days after
rash onset**

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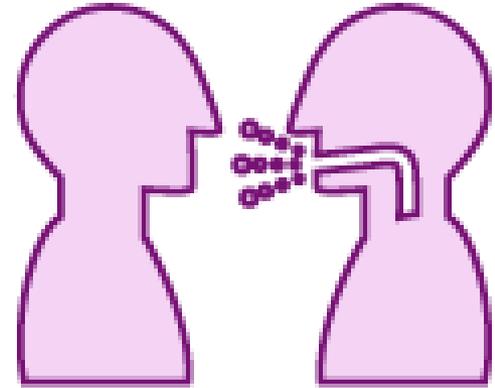
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Measles Transmission

Measles is highly infectious.

- 90% of exposed susceptible close contacts will become ill
- Airborne spread can happen
- Virus can remain infectious in air up to 2 hours after an infected person leaves



Measles Presentation

- Acute viral respiratory illness
 - Prodrome
 - Malaise, fever (as high as 105F) cough, coryza, conjunctivitis,
 - Rash
 - Maculopapular rash starts 3-7 days after prodrome begins
 - Progression: face, trunk, extremities
 - From exposure to rash onset
 - Average 14 days, range 7-21
 - Infectious period
 - 4 days before through 4 days after rash onset
 - Rash onset is Day 0

Measles

IT ISN'T JUST A LITTLE RASH



Measles can be dangerous, especially for babies and young children.

MEASLES SYMPTOMS TYPICALLY INCLUDE

- High fever (may spike to more than 104° F)
- Cough
- Runny nose
- Red, watery eyes
- Rash breaks out 3-5 days after symptoms begin



Measles Can Be Serious



About 1 out of 4 people who get measles will be hospitalized.



1 out of every 1,000 people with measles will develop brain swelling due to infection (encephalitis), which may lead to brain damage.

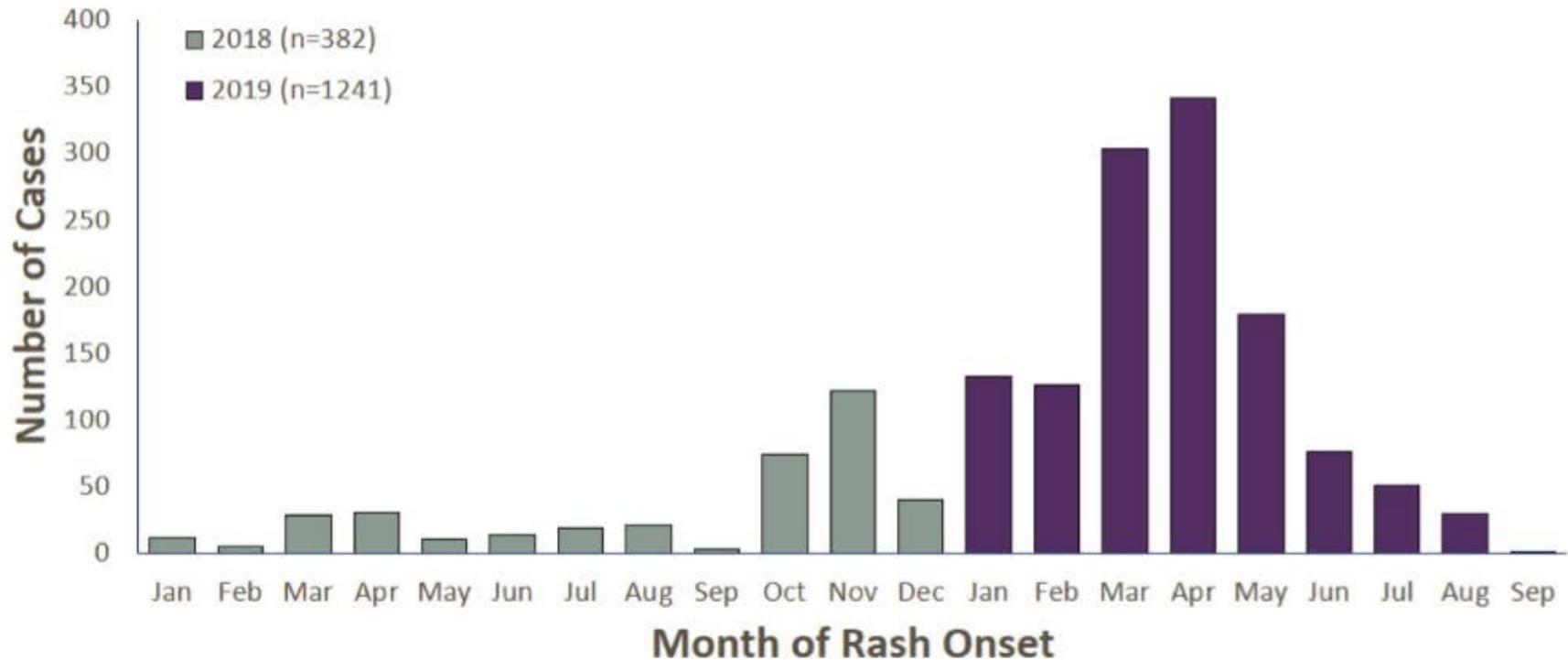


1 or 2 out of 1,000 people with measles will die, even with the best care.

Day -4	Day -3	Day -2	Day -1	Day 0	Day +1	Day +2	Day +3	Day +4
				RASH	RASH	RASH	RASH	RASH

Measles Nationwide

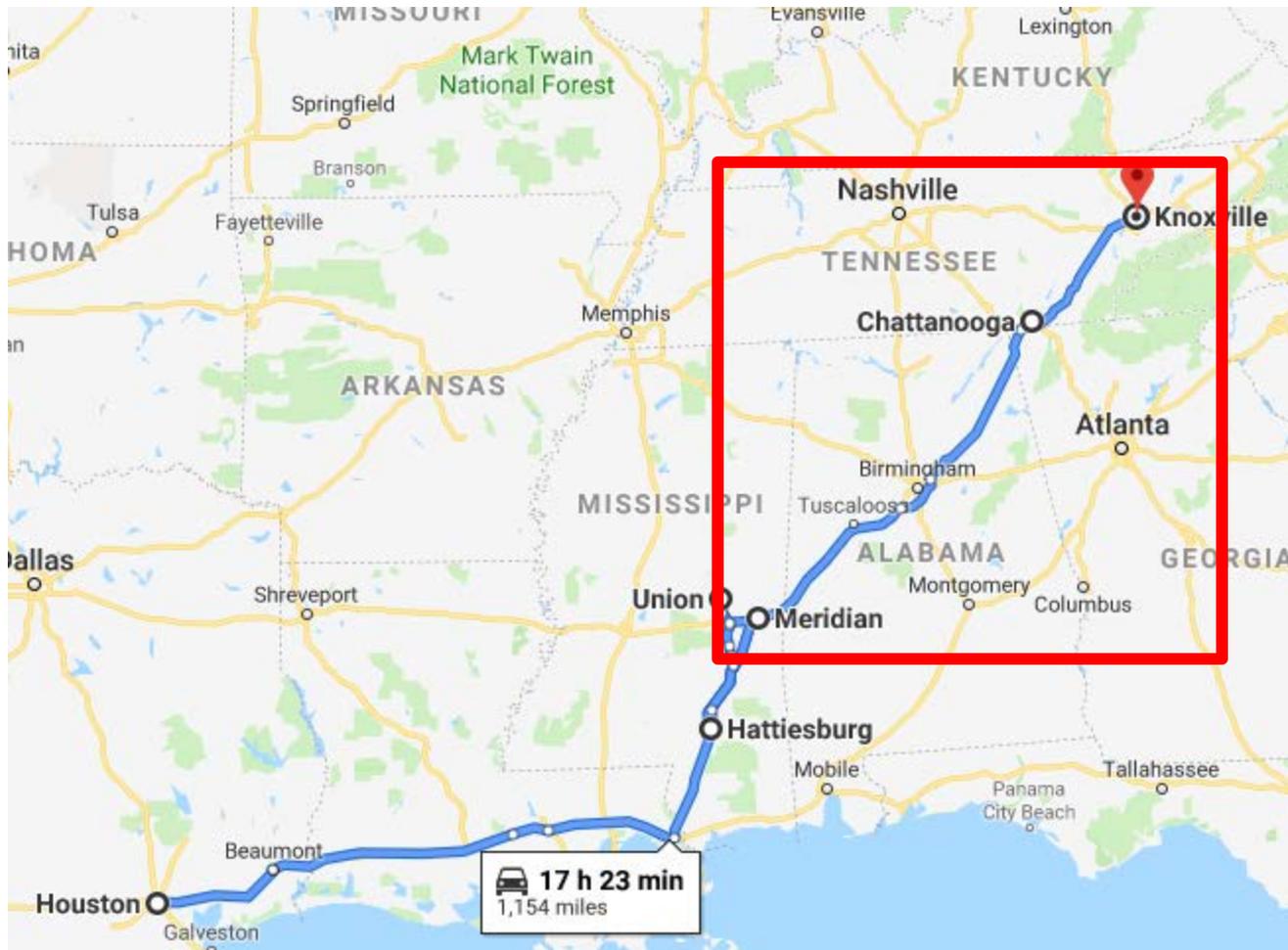
Number of Measles Cases in the US by Month— January 2018– September 19, 2019 (N=1,623)



*2018 and 2019 data as of September 19, 2019

East TN Measles Outbreak

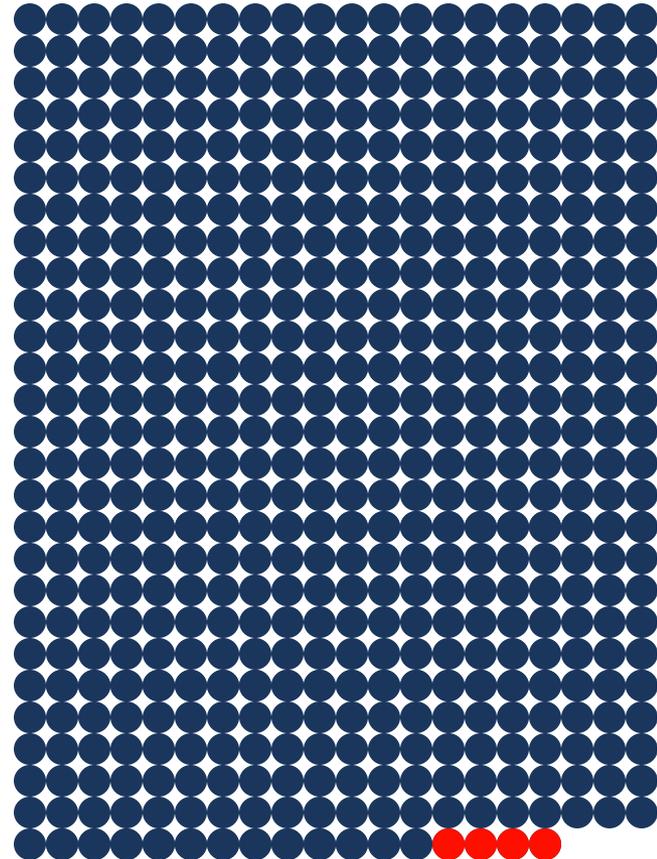
- Index case traveled from an outbreak country



East TN Measles Outbreak

537

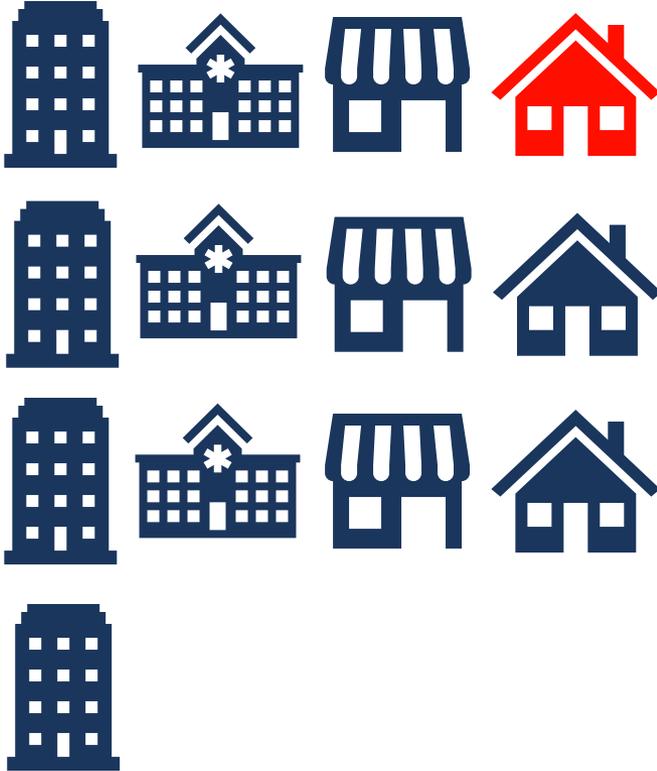
exposures
in
Tennessee



East TN Measles Outbreak

13

exposure
locations in
Tennessee



East TN Measles Outbreak

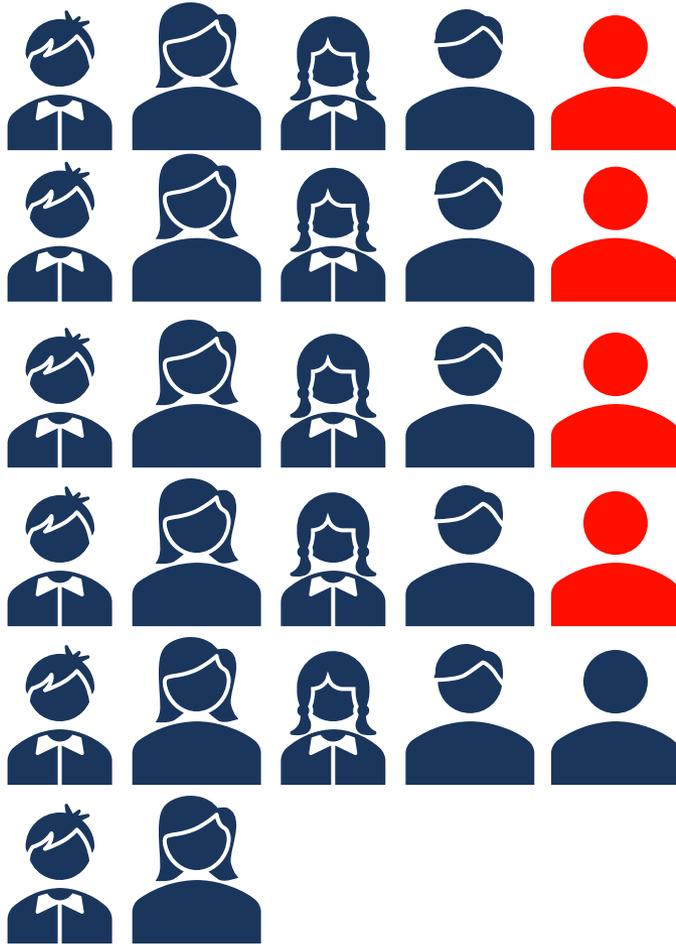
4
healthcare
facilities



East TN Measles Outbreak

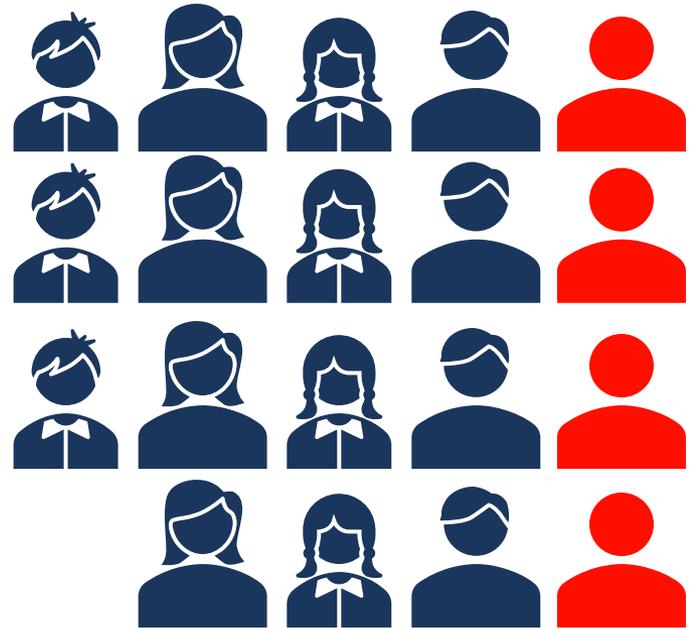
27

individuals
quarantined



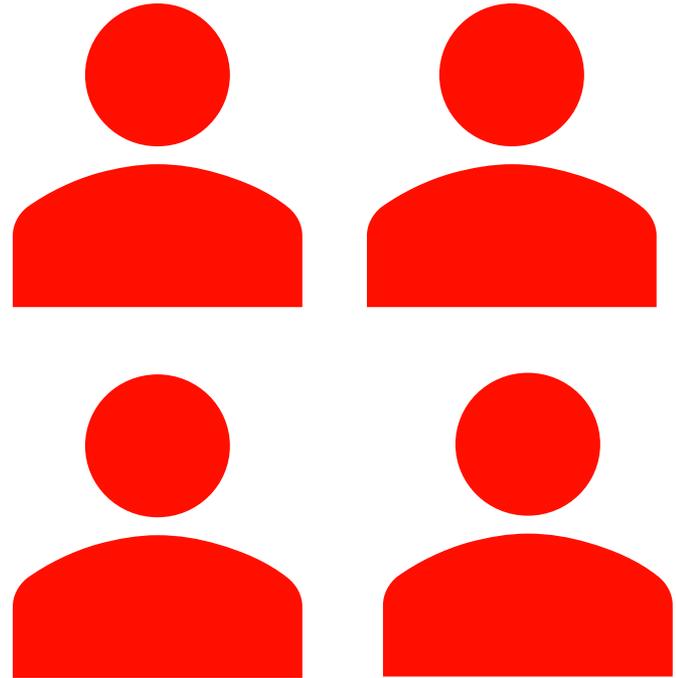
East TN Measles Outbreak

19
individuals
actively
monitored



East TN Measles Outbreak

4
additional
cases



Tennessee's Response

How did Tennessee only have 4 additional cases?



High immunization rates!



Swift identification and quarantine of susceptible contacts.



COVID-19

SARS-CoV-2 Virus

Coronavirus

Droplet
transmission*

Incubation
Period: 2-14
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Infectious
Period: 2 days
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*Current knowledge

** For public health purposes, still being studied

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SARS-CoV-2 Virus



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Global Trends

Global Confirmed
22,497,390

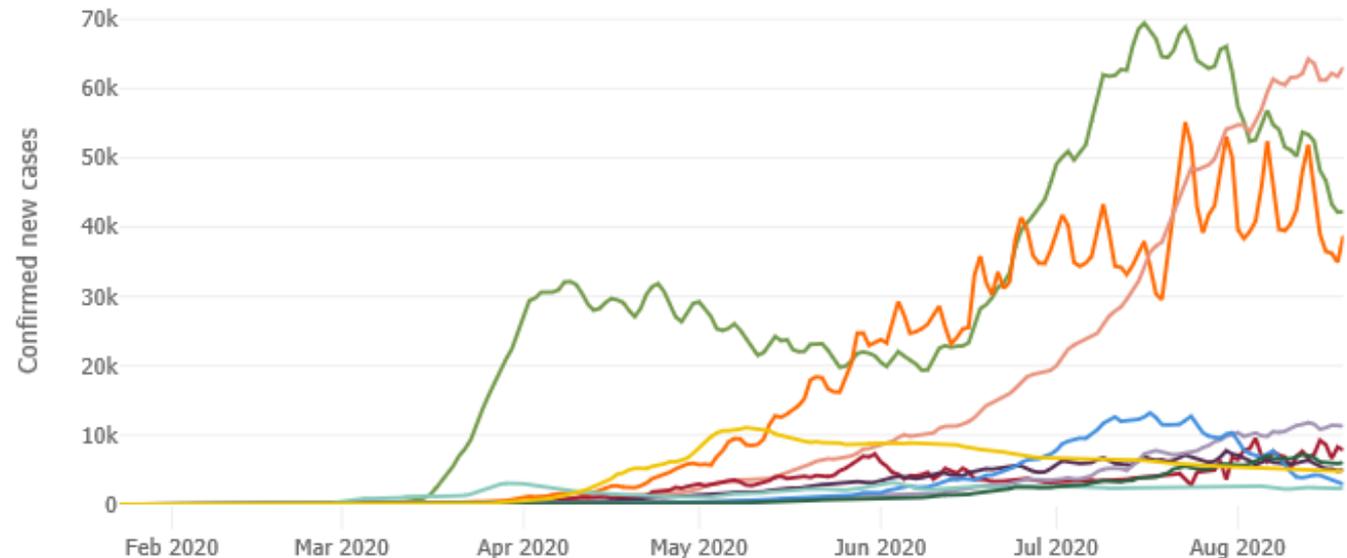
Global Deaths
789,455

U.S. Confirmed
5,549,826

U.S. Deaths
173,626

DAILY CONFIRMED NEW CASES (5-DAY MOVING AVERAGE)

Outbreak evolution for the current 10 most affected countries

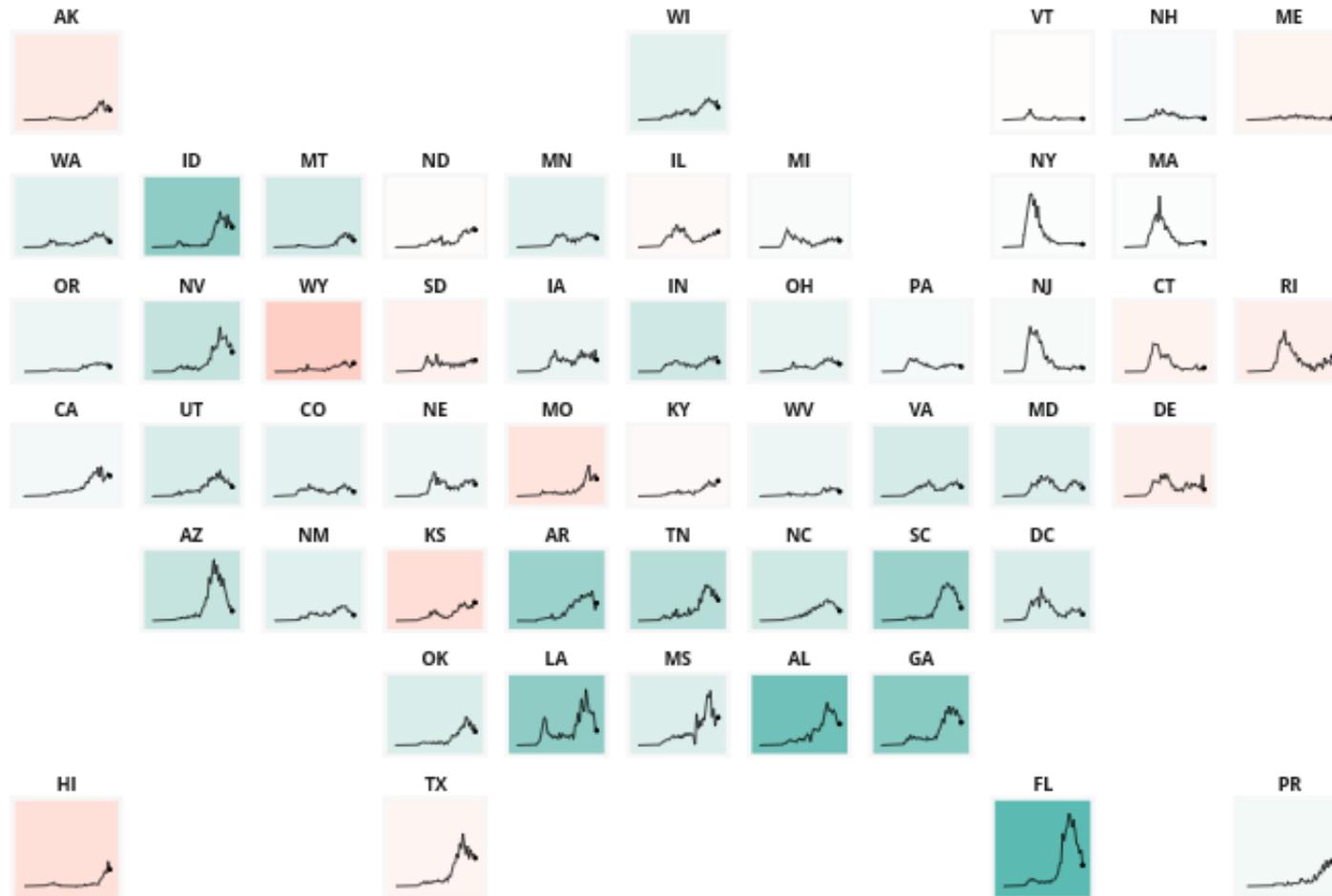


Click any country below to hide/show from the graph:

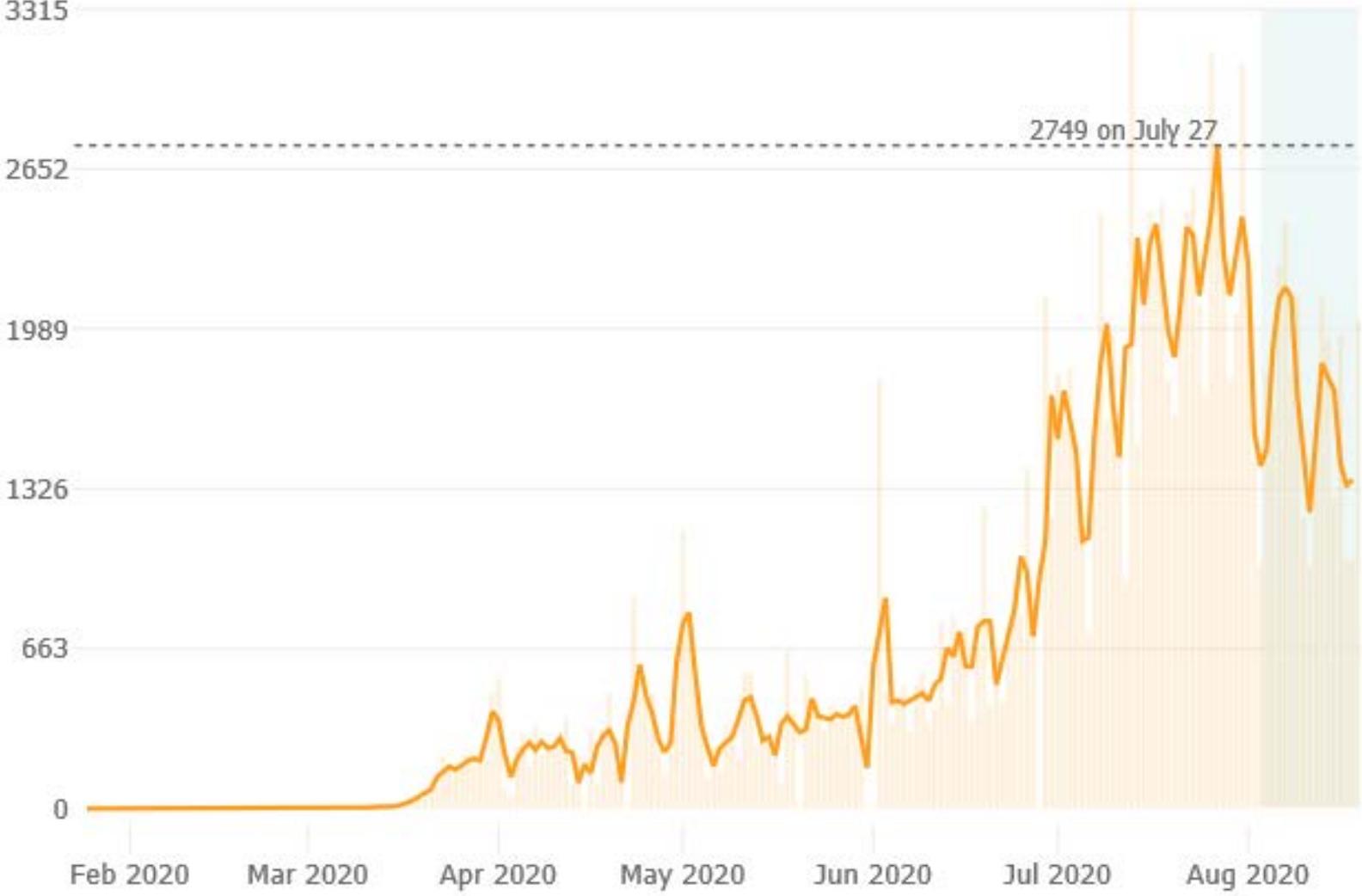
- | | | | | |
|----------|--------------|-------|-----------|--------|
| US | Brazil | India | Peru | Mexico |
| Colombia | South Africa | Iran | Argentina | Russia |

Nationwide Trends

Daily New Cases per 100k people. Data shown from 1/22/20 to 8/19/20.



Tennessee Trends



Data Current as of 8/20/2020
<https://coronavirus.jhu.edu/data/new-cases-50-states/tennessee>



Tennessee's Website



Go to TN.gov

Search Health



Contact Us Program Areas News Health Professionals Parents Individuals Statistical Data Career Opportunities



📍 FIND COVID-19 INFORMATION AND RESOURCES

📍 INFORMATION FROM TN DEPT OF HEALTH ABOUT THE ONGOING NOVEL CORONAVIRUS OUTBREAK



Go Here: <https://www.tn.gov/health>



Tennessee's Website

TN [Contact Us](#) [Program Areas](#) [News](#) [Health Professionals](#) [Parents](#) [Individuals](#) [Statistical Data](#) [Career Opportunities](#)
🔍

[Click here for locations of testing sites.](#)

☑ COVID-19 Public Information Number 877-857-2945 or 833-556-2476 Available 10 a.m. – 8 p.m. Monday – Friday and 10 a.m. – 4 p.m., Saturday and Sunday.

139,175 Cases	100,967 Recovered	1,488 Deaths	6,156 Hospitalized	1,949,404 Tests
+1,375 since yesterday	+1,882 since yesterday	+36 since yesterday	+87 since yesterday	+23,047 since yesterday <small>7.2% Positive Ratio</small>

COVID-19
Critical Indicators

105,959 Total Cases

105,959	3,088	38,542	1,060
Total Cases	New Cases	Recovered	Deaths

Click here for critical indicators report

▼ [Click here for complete data report, including county level information.](#)

Cases by County

 Patients	 Community Guidance	 Healthcare Providers & Laboratories	 Testing Sites	 Public Health
 Mental Health	 Educational Resources	 Congregate Care Settings	 Help Out	 Mask or Face Covering

[Recursos e información en español sobre COVID-19](#)

Tennessee's Website

The screenshot displays the Tennessee Department of Health website. At the top left is the TN Department of Health logo. A search bar labeled "Search Health" is in the top right. A navigation menu includes: Contact Us, Program Areas, News, Health Professionals, Parents, Individuals, Statistical Data, and Career Opportunities. A prominent red banner reads "FIND COVID-19 INFORMATION AND RESOURCES". Below it, a yellow banner states "INFORMATION FROM TN DEPT OF HEALTH ABOUT THE ONGOING NOVEL CORONAVIRUS OUTBREAK". The breadcrumb trail shows: CEDEP > Novel Coronavirus > Epidemiology and Surveillance Data. The main heading is "Epidemiology and Surveillance Data". A grid of eight tiles provides access to: Syndromic Surveillance (line graph), Epi Curves (bar chart), Maps (state map), Unified Command Dashboard (map), Long Term Care Facility Data (people icon), Hospitalization Data (hospital icon), Data FAQs (question mark icon), and Downloadable Datasets (folder icon). At the bottom, a summary box for "Tennessee COVID-19 - August 20, 2020 Epidemiology and Surveillance Data" lists: Total Cases: 139,175; Confirmed Cases: 136,476; Probable Cases: 2,699; Recovered Cases: 100,967; Total Deaths: 1,488; Confirmed Deaths: 1,447; Probable Deaths: 41. Below this is a "Cases by County" section with a map.

TN Department of Health

Go to TN.gov

Search Health

Contact Us Program Areas News Health Professionals Parents Individuals Statistical Data Career Opportunities

FIND COVID-19 INFORMATION AND RESOURCES

INFORMATION FROM TN DEPT OF HEALTH ABOUT THE ONGOING NOVEL CORONAVIRUS OUTBREAK

CEDEP > Novel Coronavirus > Epidemiology and Surveillance Data

Epidemiology and Surveillance Data

- Syndromic Surveillance
- Epi Curves
- Maps
- Unified Command Dashboard
- Long Term Care Facility Data
- Hospitalization Data
- Data FAQs
- Downloadable Datasets

TN Department of Health

Tennessee COVID-19 - August 20, 2020 Epidemiology and Surveillance Data

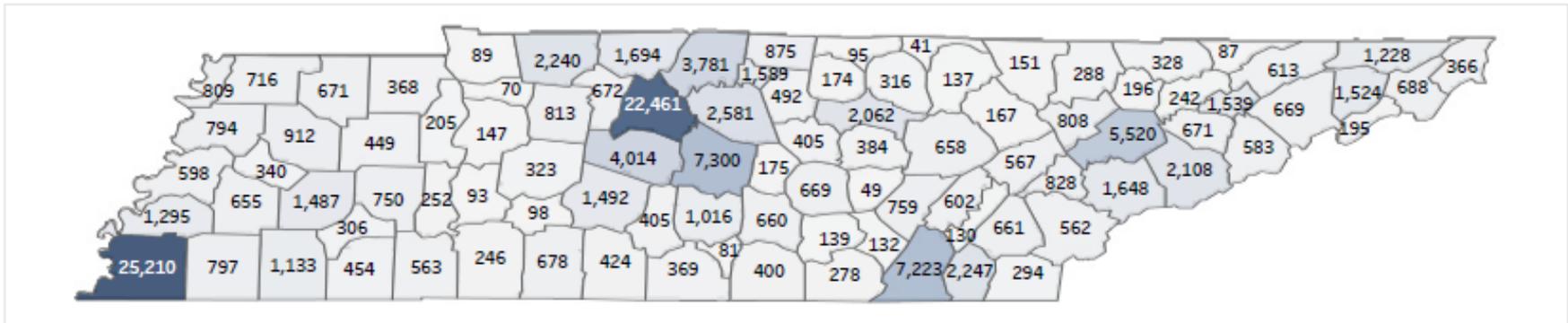
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Cases by County

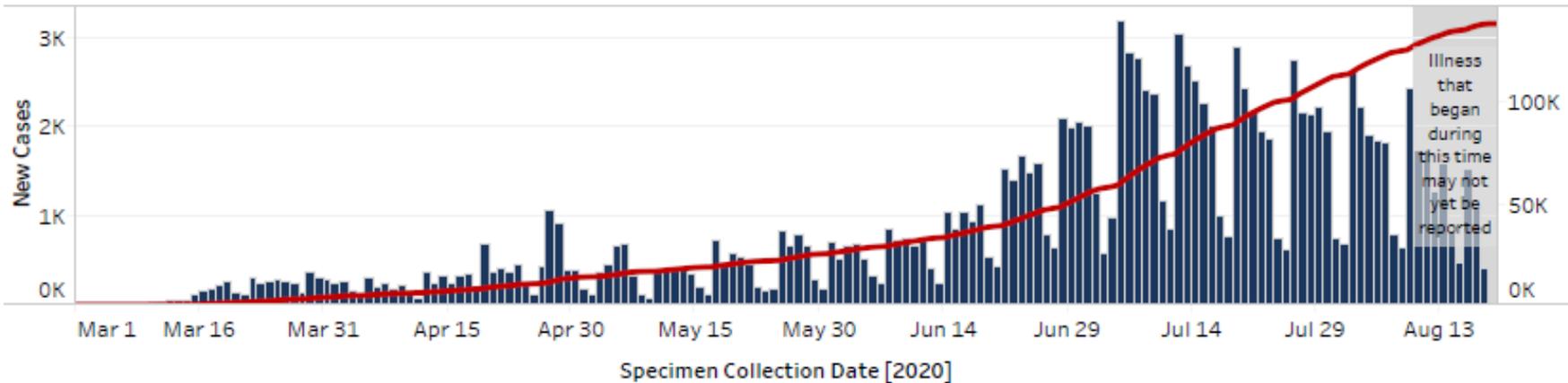
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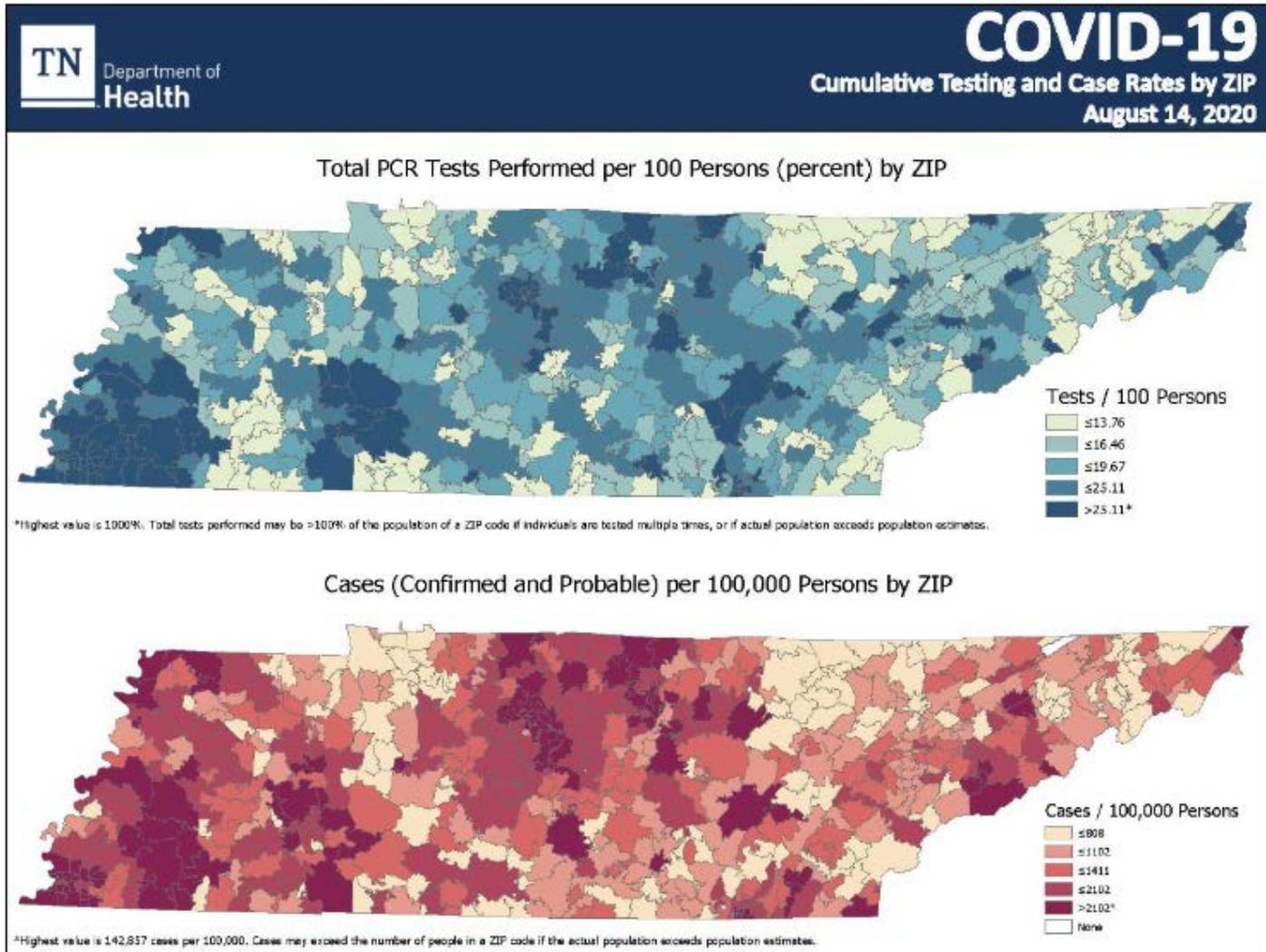
Cases by County



Daily Counts of Cases



Zip Code Trends



<https://www.tn.gov/health/cedep/ncov/data/maps.html>

Recent Trends by Zip Code: <https://www.tn.gov/health/cedep/ncov/data/maps.html>

Contact

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Immunization Program

Cassandra.jones@tn.gov

tn.gov/health