



# Church Health's COVID-19 Resources and Workflows

## **Call #1: Intro to COVID-19: Shelby County**

Jenny Bartlett-Prescott  
Rachel Depperschmidt  
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# Disclaimer!

*What we have included in these presentations are what we have found to work for us at Church Health in this moment. They are continuously monitored and improved upon to meet the changing needs of our community and guidance of our national, state, and local public health leaders.*

*We are glad to share what we have learned with you, but do not intend to prescribe our workflows onto your practice. By walking you through the questions we've had to answer, we hope you can apply them to the unique needs of your community and patients.*



# COVID-19 Resource Series

**Tuesday – Intro to COVID-19: Shelby County**

Wednesday – Workforce Management

Thursday – Testing – In-clinic and Car-based

Friday – Pre-test/Post-test Processes



# Church Health Context

Serving Shelby County, TN for 32 years. SC Pop: 935,000

- High economic inequity in Memphis
- 53% Non-Hispanic Black
- 6.5% Hispanic
- 35% Non-Hispanic White

Shelby County = ~12% uninsured

CH Pt Pop –

- 40% Hispanic; 35% Black; 20% White
- 33,000 medical visits in FY19 – 10 staff providers, 12 residents



# Shelby County - COVID

## Total COVID-19 Tests in Shelby County as of 05-03-2020

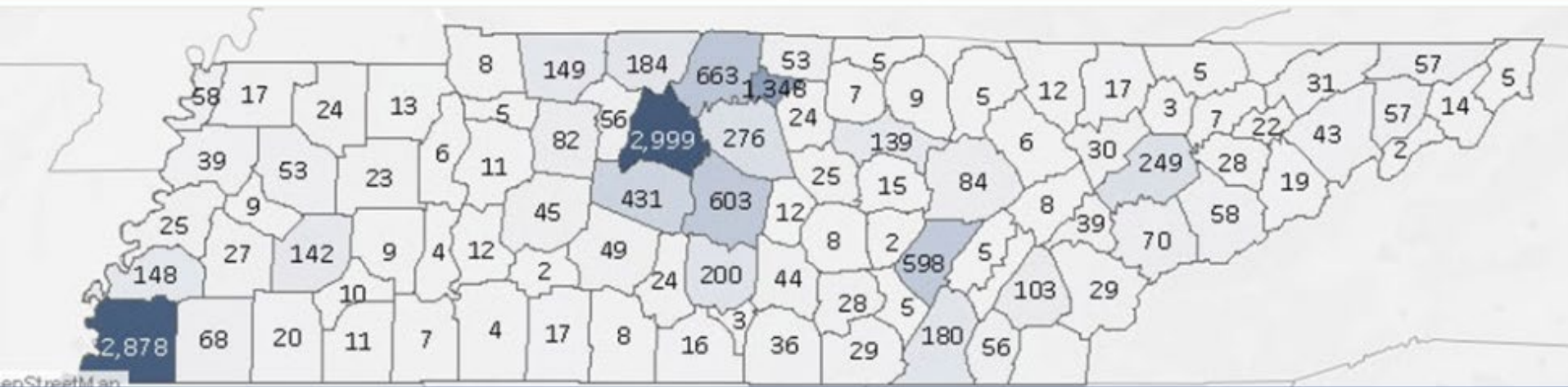
COVID-19 Tests	N	%
Positive	2850	8.4%
Negative	31046	91.6%
<b>Total</b>	<b>33896</b>	<b>100.0%</b>

Data Source: National Electronic Disease Surveillance System (NEDSS)

## Total COVID-19 Cases Recovered in Shelby County as of 05-03-2020

COVID-19 Cases	N	%
Recovered	1457	51.1%
Deceased	53	1.9%
Current Cases	1340	47.0%
<b>Total</b>	<b>2850</b>	<b>100.0%</b>

Data Source: National Electronic Disease Surveillance System (NEDSS). Note: "Recovered" are defined as (1) people who are living and have been confirmed to be asymptomatic by the health department and have completed their required isolation period or (2) are at least 21 days beyond the first test confirming their illness.

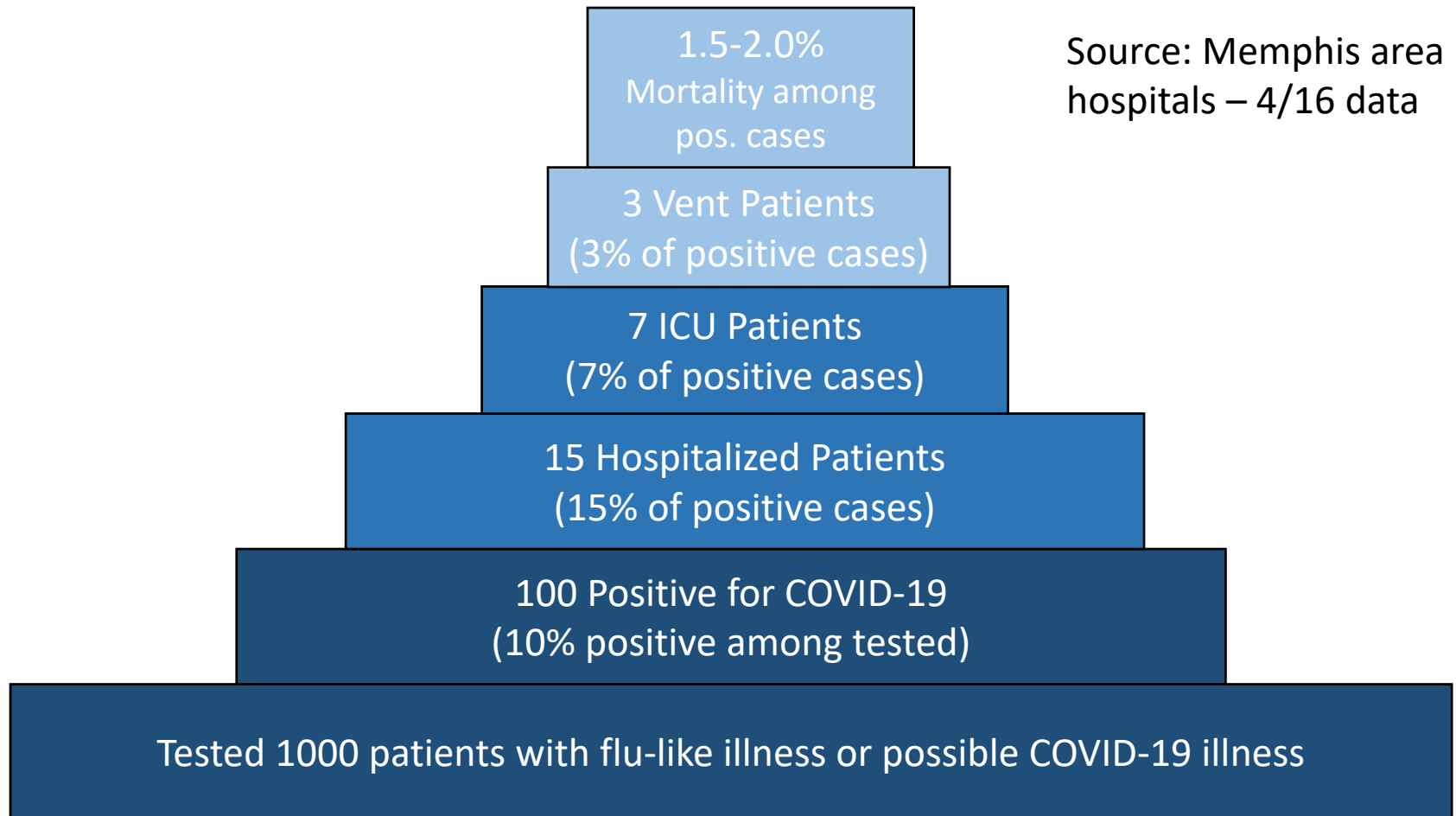


<https://www.tn.gov/health/cedep/ncov.html>  
<http://www.shelbytnhealth.com/>



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# Memphis – COVID 19 Pyramid



# Epidemiology 101 Vocab

**Epidemiology** – the study of distribution and determinants of disease in human populations.

**COVID Exposure** – Considered ‘exposed’ if within 6ft of a COVID positive person for >10 minutes WITHOUT protected equipment.

**Incubation period** – time from exposure to clinical onset of symptoms.

*Everything subject to change! Stay abreast of recommendation changes by subscribing to CDC’s COVID distribution list and MMWR.*

**CDC COVID Case definition** –

Symptoms may appear **2-14 days after exposure to the virus.** People with these symptoms or combinations of symptoms may have COVID-19:

Cough

Shortness of breath or difficulty breathing

*Or at least two of these symptoms:*

Fever

Chills

Repeated shaking with chills

Muscle pain

Headache

Sore throat

New loss of taste or smell



# Epidemiology 101 Vocab

Two ways to reduce new cases:

**Isolation** – keeping symptomatic or COVID positive people away from healthy people.

**Quarantine** – keeping people with exposure to COVID who are likely to become COVID positive away from healthy people.

**Case** – person diagnosed with COVID-19.

**Case-contact** – Person who was exposed to person who then tested positive for COVID-19 while they were contagious. What does that mean? Within 6 feet for longer than 10 minutes *since two days before the COVID+ person's symptoms start.*

**Case – contact investigation** – Conducted by your local health department or TDH with each COVID+ person to trace their case-contacts and then tell those people to go into quarantine.





# Epidemiology 101 Vocab

“The Quality of a Test” What does that mean?

How often a test or screener produces the correct result.

Two ways a test can be not perfect:

- 1) Produces false positives
  - Test measure epi term: Specificity
- 2) Produces false negative
  - Test measure epi term: Sensitivity



# Key data your public health leaders will be looking at

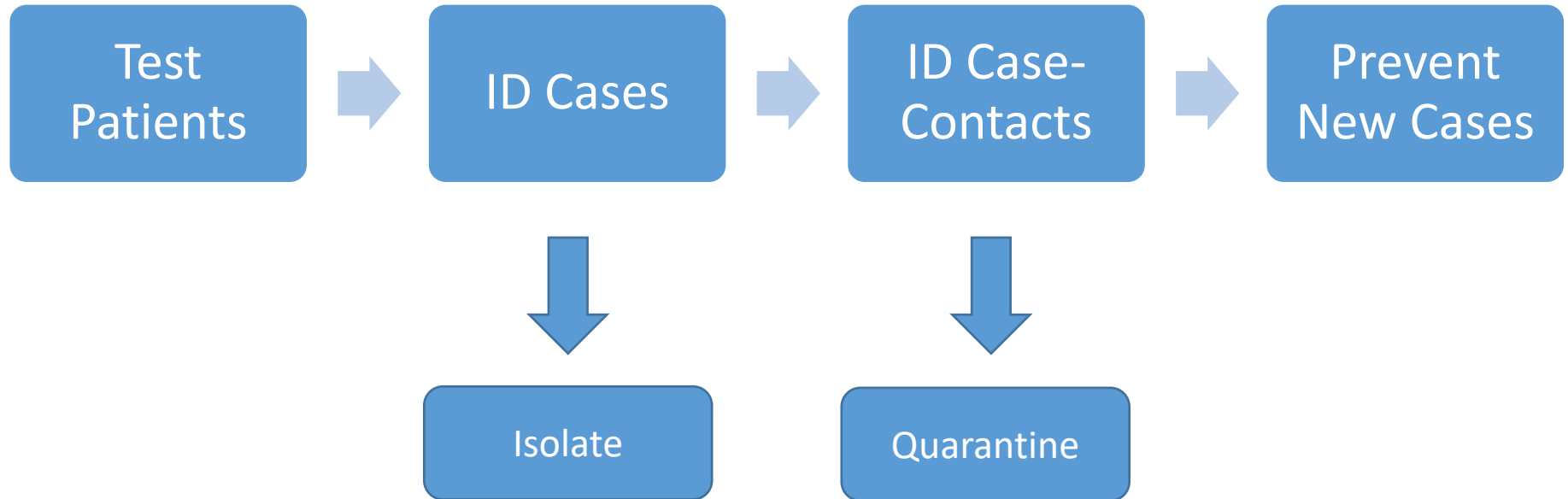
- Test positivity rate - % of tests that come back positive
- # of cases – incidence (new cases), prevalence (current active cases), total cases (includes active cases, recovered/fatal cases)
- Demographic/Geographic characteristics of cases and fatalities
- Capacity of hospital systems - # of beds, # of ICU beds, staff utilization, # of COVID pts/PUI in system, PPE!
- Replication rate –  $R_0$  – the average number of people which one COVID sick person infects before the termination of their disease. Less than 1 highly desirable!

Why care what they are measuring? Metrics guide strategy!  
Balancing of physical and economic health of a community.



# Testing

Why all the fuss about testing??



# Roles of Different Tests

**Diagnostic (PCR) Test** – Used to diagnosis those that are currently sick with COVID-19.

- What our commercial labs are using
- Most accurate/reliable test we have right now, but not perfect. Can produce false negatives if specimen taken too early in virus's incubation period. Can produce inconclusive results with improper collection (more to come in Call #3 – Testing)
- In Shelby County, we get our results back in 24 hours, but had been up to 6 days wait in the past.

**Rapid Test** – Point of Care Test that can occur in outpatient settings – results back in about 20 minutes.



# Roles of Different Tests

**Antibody Test** – Identifies people who have had a previous infection with Coronavirus.

- Not a diagnostic tool – doesn't detect if the virus is currently active. Useful at a population level to show the spread of the virus in the community
- Don't know enough about COVID yet to correlate antibody test result to COVID immunity
- **Questions about quality of this test – Recommendation from TDH not to use for strategic decisions**

**Antigen Test** – could be used as a potential screener to tell if a person's specimen should be sent on for Diagnostic (PCR) Test. Quick result means test is applicable in workplace settings to alert people who need further testing. Not on the market yet!



# Role of Charitable Clinics

## Collaborate with your Safety Net Community

- Go far together!
- Work to have consistency – consistent screening criteria, patient education, centralized website for information, shared learned lessons.
- Other clinics, like FQHCs, have more resources than you
- Play to each other strengths –
  - CH: Spanish-speaking pts lead; CCHS: homeless population lead



# Role of Charitable Clinics

## Be a champion for the underserved

- The healthcare infrastructure is built for those with access – it would be easy for pandemic response to be that way too. Use your perspective to constantly counsel your local leadership on equitable resources and the needs of your patients.
- If your local leadership convenes a task force – find your way onto it! You'll get inside information and decision making processes and you'll add a voice to the table experienced working with underserved populations.
- Advocate for primary care – chronic conditions like hypertension and diabetes are significant risk factors for increased morbidity and mortality with Covid



# Church Health Example:

## Prioritization Matrix

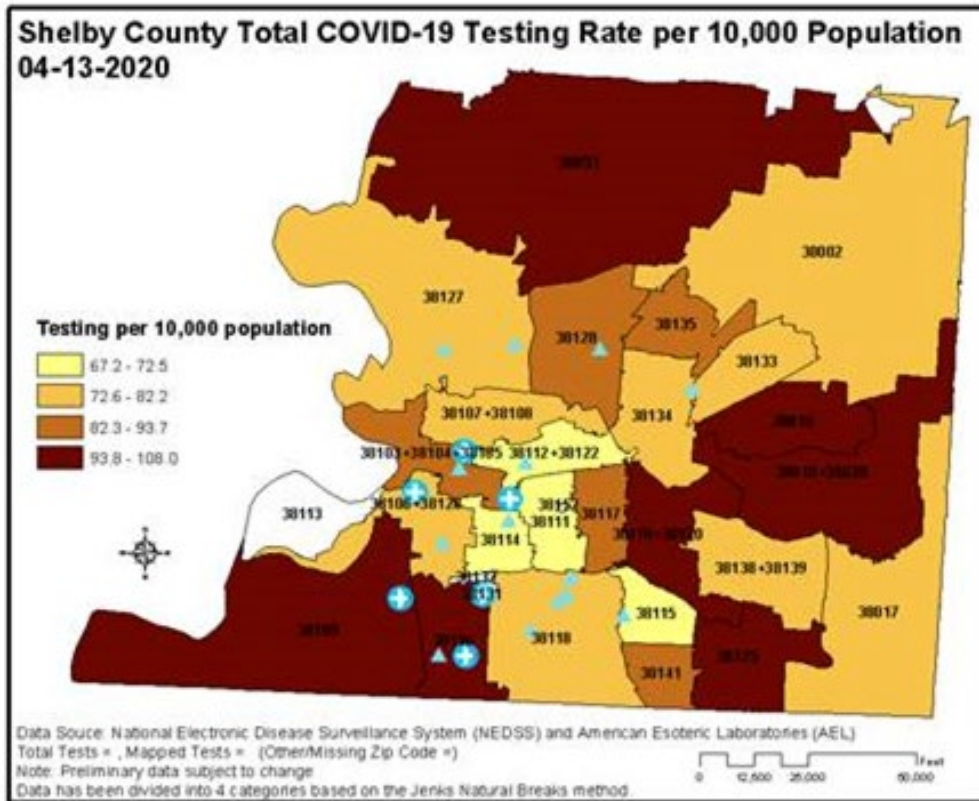
What combination of variables would tell us where expanded testing is most needed?

Testing Need; Case Density; Social Vulnerability





# Testing Need



## Defining Testing Need:

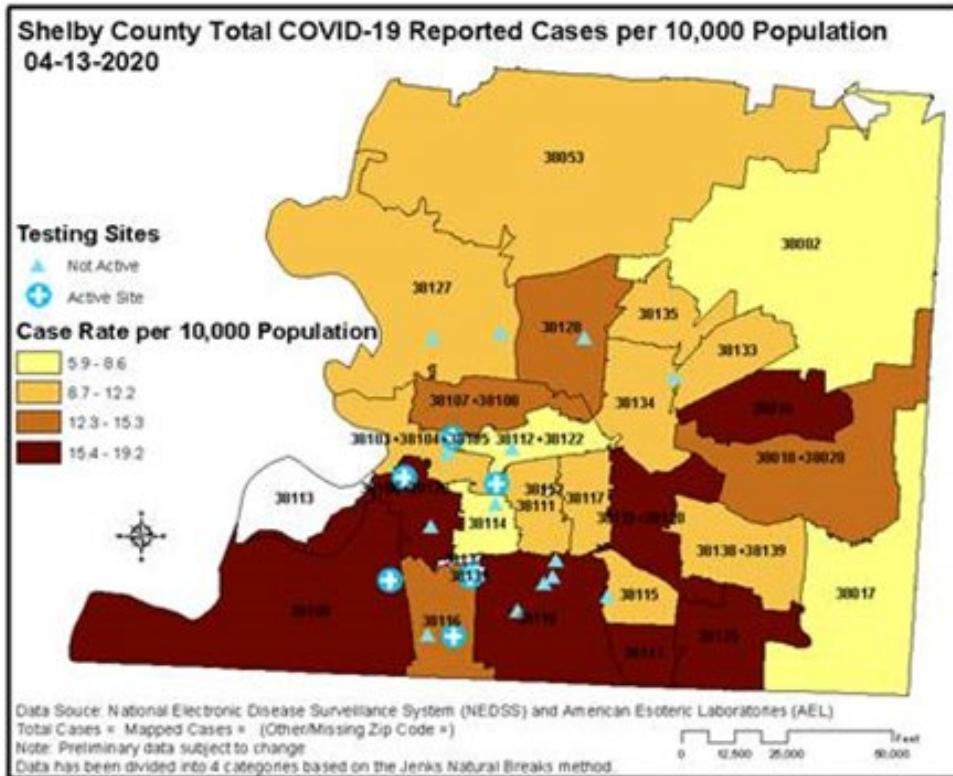
Testing per 10,000 pop

Rate:	Testing Need Priority Score
67.2-72.5	4
72.6-82.2	3
82.3-93.7	2
93.8-108.0	1

Those with lower rates are in higher need of testing.



# Case Density



## Case Density:

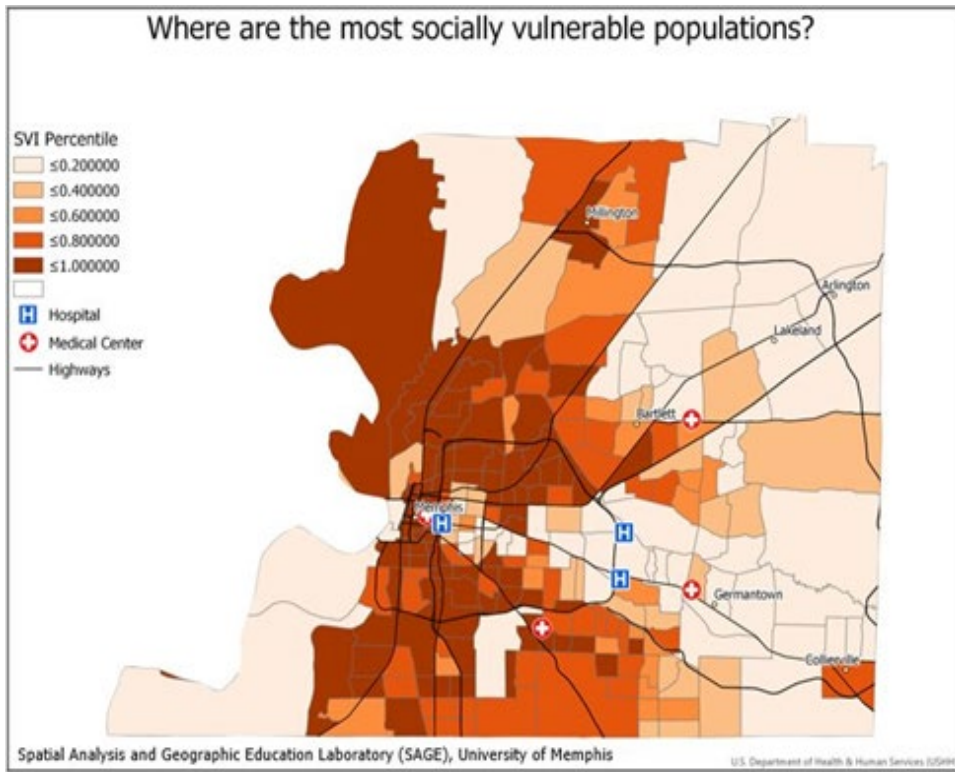
Reported Cases per 10,000

Rate:	Case Density Priority Score
5.9-8.6	1
8.7-12.2	2
12.3-15.3	3
15.4-19.2	4

Populations with higher case density are of higher priority for testing.



# Social Vulnerability



## Social Vulnerability:

Used Social Vulnerability Index map from UoM to roughly assign zipcodes as high or low social vulnerability.

Approx. Rank	Social Vulnerability
High	2
Low	1



# Prioritization Score

Testing Need Priority Score	X	Case Density Priority Score	X	Social Vulnerability	=	Prioritization Score
38118 logic <u>example:</u>	<i>Testing = 72.6-82.2 per 10,000</i> <b>Testing Priority Score = 3</b>	<i>Reported Cases = 15.4-19.2 per 10,000</i> <b>Case Density Priority Score = 4</b>	X	<i>High Social Vulnerability</i> <b>Social Vulnerability Score = 2</b>	=	<b>Prioritization Score = 24</b>



# Priority Matrix

Zip Code	Location	Testing Need (based on Rate per 10,000)	Case Density (based on Rate per 10,000)	Social Vulnerability (high/low)	Prioritization Score	Phase Rank
38118	Parkway Village, Airport, Mississippi State Line	3	4	2	24	1
38106 + 38126	South Memphis	3	4	2	24	
38107 + 38108	North Memphis, Hyde Park, Douglass	3	3	2	18	
38111 + 38152	Univ. of Memphis, Sherwood Forest	4	2	2	16	
38115	Hickory Hill	4	2	2	16	
38141	Bennington - South of Hickory Hill, Mississippi line	2	4	2	16	
<u>38114</u>	<u>Orange Mound</u>	<u>4</u>	<u>1</u>	<u>2</u>	<u>8</u>	
<u>38112 + 38122</u>	<u>Binghampton, Berclair, High Point Terrace</u>	<u>4</u>	<u>1</u>	<u>2</u>	<u>8</u>	
38134	Bartlett, North Shelby Farms, Summer Ave east of 240 loop	3	2	2	12	2
38128	Raleigh	2	3	2	12	
38127	<u>Frayser</u>	3	2	2	12	
38133	<u>Wolfchase</u> , E Bartlett	3	2	2	12	
38109	Southwest corner of county, west Whitehaven	1	4	2	8	
38119 + 38120	White Station, Shelby Farms	1	4	2	8	
38103 + 38104 + 38105	Downtown, Midtown, Uptown, Harbor Town	2	2	2	8	

Questions?

