SOCIO-DEMOGRAPHIC AREAS OF JEFFERSON COUNTY
JEFFERSON COUNTY

AREA 1
A: 70793
B: 48317

AREA 2
A: 41578
B: 72910

AREA 3
A: 151,551
B: 122,656

AREA 4
A: 101,725
B: 131,970

PARTICIPANTS RECRUITMENT 0.32 % OF TOTAL POPULATION

STAGE 1
FIXED PROPORTION
RANDOMIZATION

STAGE 2: RACE
% WHITE: 1A, 28; 1B, 45; 2A, 77: 2B, 93; 3A, 80; 3B, 75; 4A, 91; 4B, 86.

STAGE 3: AGE
20-35, 36-60, 61-90

STAGE 4: SEX
1200 Males and 1200 Females

FIXED NUMBER

* NW = Non White – Blacks, Hispanic, and Asians
Measurement of Coronavirus in Wastewater

Wastewater results must correspond to community prevalence

Need for reliable estimates of disease prevalence and wastewater abundance
APPROACH

A stratified sample of households was selected after allocating the sample proportional to the total population of the sector.

Sampling frame of household was based on addresses derived from the US Postal Service delivery files.

Within each sector, the addresses were stratified by whether they lived in a census Block Group with a high proportion that are non-White. Households were then sampled with a higher sampling rate for those living in Block Groups with a high proportion of non-White persons.

For each wave - 25,000 – 35,000 invitations were mailed.

Response rate was around 3 %

Additional participants from convenience sampling.
Invitations: 32,000
Responses: 1576
Volunteers: 632
Total tested: 2,208
RANDOM SAMPLING OF JEFFERSON COUNTY

**SEPT 2020**

RANDOM SAMPLING

**Serology**

Total: 1576 percent positive – **4.44** (95% CI: 2.8-6.9)

In Jefferson county = 34,044 (21,469 – 52,906)

Reported = 17,516

**PCR**

Total: 1550, percent positive – **0.20** (0.06 -0.62)

In Jefferson County = 1,533 (460 - 4,753)

Reported (average) = 707; (total = 7787)

Mortality Rate = # deaths/infections =326/34,4044 =0.09%
ANTIBODY POSITIVITY RATE

% Antibody positive population

REPORTED CASES

Jun-20: 4000
Jul-20: 17,516
Aug-20: 20,500
Sep-20: 48,228
Oct-20: 73,656
Nov-20: 118,800
Dec-20: 121,820
Jan-21: 74,015
Feb-21: 81,630
Mar-21: 121,820
Apr-21: Most publicly available data underestimate prevalence
Contemporaneous waste water sampling and randomized community testing

In 8 different zones of the city

Sampling Frequency – Twice a week at 20 different sites

Community Testing – Once every eight weeks
<table>
<thead>
<tr>
<th>Map ID</th>
<th>Sewershed ID</th>
<th>Site Name</th>
<th>Median HH Income</th>
<th>Population</th>
<th>White (%)</th>
<th>Black (%)</th>
<th>Hispanic (%)</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>MSD00278</td>
<td>Morris Forman WQTC</td>
<td>$54,138</td>
<td>349,850</td>
<td>68</td>
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<tr>
<td>6</td>
<td>MH03554 (B)</td>
<td>Shawnee Park</td>
<td>$27,695</td>
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<td>9</td>
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<tr>
<td></td>
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<td>MSD00082-PS</td>
<td>34th Street PS</td>
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<td>8</td>
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<td>Muddy Forks PS</td>
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<tr>
<td>9</td>
<td>MH32985</td>
<td>Wood Rd &amp; Terry Rd</td>
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<tr>
<td>10</td>
<td>MH09837</td>
<td>Ashby Ln</td>
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<td>Locust St &amp; Lobdell Alley</td>
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<td>17</td>
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<td>S. 15th and Wilson</td>
<td>$24,084</td>
<td>20,832</td>
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<td>32</td>
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Shawnee Park
(CSO189)

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Corrected CoV N1 (Log Scale)
Wastewater Sampling Trends by Zone
2020/09/21 – 2021/04/21
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