Goal: To conduct health equity analysis to understand the impact of COVID19 in Chelsea, MA.

- Total number of cases: 3302
- Weeks 11-32 of the calendar year (March 9-August 3, 2020)
Hospitalizations by Week

Deaths by Week

Events by weeks:
Age of cases:

Mean age of cases: 44.2 years

Female - 44.4 years
Male - 43.9 years
Mean age of cases by outcome:

- Died: 80.7 years
- Recovered: 43.2 years
- LTF: 49.4 years
Cases by Race:

<table>
<thead>
<tr>
<th>Race</th>
<th>Cases</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Indian or Alaskan Native</td>
<td>3</td>
<td>0.1%</td>
</tr>
<tr>
<td>Asian</td>
<td>16</td>
<td>0.6%</td>
</tr>
<tr>
<td>Black or African American</td>
<td>105</td>
<td>3.7%</td>
</tr>
<tr>
<td>White</td>
<td>634</td>
<td>22.2%</td>
</tr>
<tr>
<td>Other</td>
<td>1974</td>
<td>69.1%</td>
</tr>
</tbody>
</table>

Hispanic:
Yes – 1938 (59.7%)
No - 722 (22.2%)
Unknown - 642 (19.4%)
Labs used and turnaround time:

- 31 labs used
- Average time between symptom onset and results in general - 7.1 days

<table>
<thead>
<tr>
<th>Lab</th>
<th>Turnaround time</th>
<th>Number of Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIDMC</td>
<td>0.00 days</td>
<td>392</td>
</tr>
<tr>
<td>BROAD</td>
<td>0.96 days</td>
<td>300</td>
</tr>
<tr>
<td>LAPCORP NJ</td>
<td>2.33 days</td>
<td>116</td>
</tr>
<tr>
<td>MDPH</td>
<td>1.56 days</td>
<td>149</td>
</tr>
<tr>
<td>MGH</td>
<td>0.41 days</td>
<td>1113</td>
</tr>
<tr>
<td>QUEST</td>
<td>2.03 days</td>
<td>772</td>
</tr>
</tbody>
</table>
Symptoms:

- Symptoms:
  - **463 (35%) had no symptoms**
  - 865 (65.1%) had symptoms -
    - Single symptom - 92 (6.9%)
    - Multiple symptoms - 773 (58.2%)

No significant difference in:
- Abdominal pain
- Appetite loss
- Cough
- Chills
- Diarrhea
- Loss of taste and smell
- Vomiting
Differences in symptoms:

Retired people
- 98% Less likely to have chills, headache, body ache
- 85% Less likely to have sore throat
- 76% Less likely to have fever

Children
- 91% Less likely to have body aches
- 84% Less likely to have chills
- 77% Less likely to have headache

Diabetics have less headache
Differences in symptoms:

- "Other" shortness of breath: 4.7x
- Asthma shortness of breath: 6.1x
Clinical Characteristics:

• Hospitalized
  • Average hospitalization time: 7.9 days

• Outcomes
  • Recovered - 1434 (90.1%)
  • Died - 142 (8.9%)
  • Lost to Follow-up - 15 (0.9%)
Cases by employment:

<table>
<thead>
<tr>
<th>Category</th>
<th>Cases</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Essential</td>
<td>143</td>
<td>19.0%</td>
</tr>
<tr>
<td>Non-essential</td>
<td>97</td>
<td>12.9%</td>
</tr>
<tr>
<td>Retired</td>
<td>262</td>
<td>34.8%</td>
</tr>
<tr>
<td>Unemployed</td>
<td>104</td>
<td>13.8%</td>
</tr>
<tr>
<td>Child/minor/infant</td>
<td>46</td>
<td>6.1%</td>
</tr>
<tr>
<td>Other</td>
<td>100</td>
<td>13.3%</td>
</tr>
</tbody>
</table>
### Hospitalization by employment:

<table>
<thead>
<tr>
<th>Employment</th>
<th>Cases</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Essential</td>
<td>13</td>
<td>10.0%</td>
</tr>
<tr>
<td>Non-essential</td>
<td>10</td>
<td>7.7%</td>
</tr>
<tr>
<td>Retired</td>
<td>74</td>
<td>56.9%</td>
</tr>
<tr>
<td>Unemployed</td>
<td>20</td>
<td>15.4%</td>
</tr>
<tr>
<td>Child/minor/infant</td>
<td>2</td>
<td>1.5%</td>
</tr>
<tr>
<td>Other</td>
<td>11</td>
<td>8.5%</td>
</tr>
</tbody>
</table>
Who is more likely to be hospitalized?

62%

- Women are less likely than men to be hospitalized
- Pregnant
- Seniors
- Unemployed

27.5x
17.4x
5.9x
Do some diseases make us more likely to die of COVID-19?

89%

• "Other" have less probability of dying

Cardiac Disease: 132.6x
CPD: 131.4x
Hypertension: 116.5x
Diabetes: 40.3x
Who is more likely to die of COVID-19?

Seniors are 78.5x more likely to die
Conclusions:

• In Chelsea, those who are most likely to get COVID are Hispanic essential workers in their 40’s and retired persons.

• Retired persons and older people are more likely to be hospitalized and die of COVID.

• Patients take about 1 week between onset of symptoms to testing, which may lead to increased spreading.

• Almost 35% of positive cases have no symptoms.
Conclusions:

• While Hispanics are less likely to die of COVID, those with cardiac or pulmonary diseases, hypertension and diabetes are much more likely to die of COVID.

• While women are less likely than men to be hospitalized, pregnant women are highly likely to be hospitalized.

• Those with asthma, unemployed and retired persons are much more likely to be hospitalized.
Thank you, wash your hands, wear a mask, and avoid social gatherings