COVID-19 Update

October 13, 2020
As of 10/12, Chicago’s travel order consists of 25 states and Puerto Rico. Indiana, North Carolina, Rhode Island, and New Mexico added.

Designated States: Between 10 - 15 daily cases per 100k residents
< 15 daily cases for one week while designated
Between 10 - 15 daily cases per 100k
Less than 10 daily cases per 100k

The District of Columbia has <10 daily cases per 100k

Next 5 states

<table>
<thead>
<tr>
<th>State</th>
<th>Daily Cases /100k</th>
</tr>
</thead>
<tbody>
<tr>
<td>Louisiana</td>
<td>14.9</td>
</tr>
<tr>
<td>Colorado</td>
<td>13.5</td>
</tr>
<tr>
<td>Texas</td>
<td>13.2</td>
</tr>
<tr>
<td>Puerto Rico*</td>
<td>13.1</td>
</tr>
<tr>
<td>Ohio</td>
<td>12.0</td>
</tr>
</tbody>
</table>

Note: *This State was on the designated list and is now under 15 daily cases per 100k residents, if they stay below for another week, it will be taken off the list. 
New Daily COVID-19 Cases, Chicago

Confirmed daily COVID-19 cases and 7-day rolling average

Current
Confirmed cases

364 ▲
Prior wk.: 332 (10%)

Source: chi.gov/coronavirus
Current Test Positivity
4.4%
Test Positivity by Zip Code

The SW and NW sides of city remain highest in test positivity

For week ending 10/3/20 MMWR week 40
Hospitalizations and Deaths, Chicago

Source: chi.gov/coronavirus
Tests per day (7-day RA) highest ever and growing

Source: chi.gov/coronavirus

Daily testing target > 4,500

Prior wk: 8,994 (11%)
Number needed to test (NNT)

Number of tests needed to identify one case has remained stable since re-opening. This suggests stable and steady community transmission.

TESTS

NUMBER OF PEOPLE TESTED TO FIND ONE CASE:
- Flat is acceptable
- Higher is better

24 people tested to find one positive result
Reproduction number ($R_t$)

How well is the virus reproducing?

$R_t = 2$

Each person spreads to an average of 2 other people

$R_t = 1$

Each person spreads to an average of 1 other people

$R_t$: The average number of people who are infected by each person with COVID-19 in Chicago.
Reproduction number ($R_t$)

*How well is the virus reproducing?*

$R_t$: The *average* number of people who are infected by each person with COVID-19 in Chicago.

- The higher the $R_t$ is above 1, the faster COVID will spread.
- If $R_t$ is below 1, infections will slow.

Very early in our outbreak: $R_t$ in Chicago estimated at **3.62**.
Each person with COVID-19 spread disease to between 3 and 4 other people, on average. That’s why our cases rose so quickly.

When we successfully flattened the curve, we did that by changing the conditions to make it harder for the virus to reproduce.
We successfully got Rt down to under 1 (**as low as 0.85**).
Each person with COVID-19 spread disease to an average of less than other person, meaning many infected people did not spread the disease at all.

Current Rt in Chicago estimated at **1.013**.
Reproduction Number ($R_t$): 1.013 suggests stable outbreak

Current estimated $R_t$: 1.013

Chicago

Estimated $R_t$ using NU's COVID transmission model

Estimated $R_t$ for Oct 7th: 1.013 (95% CI: 0.991 - 1.034)

*Model fitted to hospitalizations, intensive care unit census and deaths

*Rt estimated using EpiEstim with an uncertain SI distribution

Plot truncated in March, before March 15th, Rt was estimated at 3.62 (95%CI 1.82-7.22)
Thank You!

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