Risk-Based Decision Support Tools

June 25, 2020
Recap: Project Goals

Create data-driven decision support tools to provide an additional input into the decisions being made to safely reopen the PA economy and achieve the following policy goals:

- Minimize the diffusion of COVID-19
- Maximize return to work and revitalize the economy
- Limit long-term economic impact of COVID-19 & the shut down
- Achieve equitable outcomes for vulnerable residents
Our Vision: Suite of Data-driven Decision Support Tools

Inputs: Data & Priorities

- Current version primarily relies on Public Data from Census, BLS, BEA, and DOH
  (Future Versions will hopefully use data from State Agencies: UI Claims, Wage Records, Revenue, SNAP, TANF, Medicaid, Revenue, DCED, Health)
- Health and Human Services Forecasts/Models from Partners (Pitt, Penn, and other partners)
- State Priorities & Policy Goals

Decisions we plan to inform

- Which industries can safely open, in which counties, and under what conditions?
- What will be the health risks and economic impact associated with opening an industry?
- Which industries can re-engineer workflows?
- What impact will this have on vulnerable workers & businesses?

Outputs we seek

- Health and Economic Monitoring Dashboard
- Health Risks
- Economic Impact
- Impact on Equity
- Evaluating the Impact of policy interventions
Risk-Based Approach

We take a wide variety of risks associated with re-opening a set of industries in a county or region. In addition to what we show in this presentation using public data, we are exploring and developing additional ones including:

- Face-to-Face Contact Risk (in workplaces)
- Nursing Home Spread Risk
- Customer Contact risk
- Supply Chain Risk
- Business Resilience risk
- Unemployment Risk
- Social Service Benefits Risk
- Equity Risk
How we intend the current risk indices to be used

- The current version primarily relies on public data sources to generate risk indices along a variety of dimensions.

- The scores and risk indices do not correspond to “open” or “not open” recommendations.

- These indices are provided to the State as one of many inputs they consider in making decisions affecting the “Process to Reopen Pennsylvania”.
Risk Indices

**COVID Case Risk:** # of reported COVID-19 cases / population of area

**Commute Risk:** Additional # of infected workers commuting from neighboring counties / Total # of workers in the county

**ICU Capacity Risk:** # of 60+ year olds in area / # of unoccupied ICU Beds

**Population Density Risk:** Population of Region / Area of Region

**Population Age Risk:** % of population in area > 60 yr old

**Re-Opening Contact Risk:** % of workers in an area employed in currently “physically closed” industry sectors
<table>
<thead>
<tr>
<th>Risk</th>
<th>County Risk Index</th>
<th>Risk</th>
<th>County Risk Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>14-Day COVID-19 Cases Risk</td>
<td>Commute Risk</td>
<td>ICU Capacity Risk</td>
<td>Population Density Risk</td>
</tr>
<tr>
<td>14-Day COVID-19 Cases Risk</td>
<td>Commute Risk</td>
<td>ICU Capacity Risk</td>
<td>Population Density Risk</td>
</tr>
<tr>
<td>14-Day COVID-19 Cases Risk</td>
<td>Commute Risk</td>
<td>ICU Capacity Risk</td>
<td>Population Density Risk</td>
</tr>
<tr>
<td>14-Day COVID-19 Cases Risk</td>
<td>Commute Risk</td>
<td>ICU Capacity Risk</td>
<td>Population Density Risk</td>
</tr>
<tr>
<td>14-Day COVID-19 Cases Risk</td>
<td>Commute Risk</td>
<td>ICU Capacity Risk</td>
<td>Population Density Risk</td>
</tr>
<tr>
<td>14-Day COVID-19 Cases Risk</td>
<td>Commute Risk</td>
<td>ICU Capacity Risk</td>
<td>Population Density Risk</td>
</tr>
<tr>
<td>14-Day COVID-19 Cases Risk</td>
<td>Commute Risk</td>
<td>ICU Capacity Risk</td>
<td>Population Density Risk</td>
</tr>
<tr>
<td>14-Day COVID-19 Cases Risk</td>
<td>Commute Risk</td>
<td>ICU Capacity Risk</td>
<td>Population Density Risk</td>
</tr>
<tr>
<td>14-Day COVID-19 Cases Risk</td>
<td>Commute Risk</td>
<td>ICU Capacity Risk</td>
<td>Population Density Risk</td>
</tr>
<tr>
<td>14-Day COVID-19 Cases Risk</td>
<td>Commute Risk</td>
<td>ICU Capacity Risk</td>
<td>Population Density Risk</td>
</tr>
<tr>
<td>14-Day COVID-19 Cases Risk</td>
<td>Commute Risk</td>
<td>ICU Capacity Risk</td>
<td>Population Density Risk</td>
</tr>
<tr>
<td>14-Day COVID-19 Cases Risk</td>
<td>Commute Risk</td>
<td>ICU Capacity Risk</td>
<td>Population Density Risk</td>
</tr>
<tr>
<td>14-Day COVID-19 Cases Risk</td>
<td>Commute Risk</td>
<td>ICU Capacity Risk</td>
<td>Population Density Risk</td>
</tr>
<tr>
<td>14-Day COVID-19 Cases Risk</td>
<td>Commute Risk</td>
<td>ICU Capacity Risk</td>
<td>Population Density Risk</td>
</tr>
<tr>
<td>14-Day COVID-19 Cases Risk</td>
<td>Commute Risk</td>
<td>ICU Capacity Risk</td>
<td>Population Density Risk</td>
</tr>
<tr>
<td>14-Day COVID-19 Cases Risk</td>
<td>Commute Risk</td>
<td>ICU Capacity Risk</td>
<td>Population Density Risk</td>
</tr>
<tr>
<td>14-Day COVID-19 Cases Risk</td>
<td>Commute Risk</td>
<td>ICU Capacity Risk</td>
<td>Population Density Risk</td>
</tr>
<tr>
<td>14-Day COVID-19 Cases Risk</td>
<td>Commute Risk</td>
<td>ICU Capacity Risk</td>
<td>Population Density Risk</td>
</tr>
</tbody>
</table>
County Risk Indices

SouthEast

Risk Index
- 14-Day COVID-19 Cases Risk
- Commute Risk
- ICU Capacity Risk
- Population Density Risk
- Population Age Risk
- Re-Opening Contact Risk

Risk
How we intend these risk indices to be used

- The risk indices and colors are relative risks and do not correspond to “open” or “not open” recommendations
- These indices are provided to the State as one of many inputs they consider in making decisions affecting the “Process to Reopen Pennsylvania”