Risk-Based Decision Support Tools

August 20, 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
## Region Risk Indices

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<th>NorthEast</th>
<th>NorthWest</th>
<th>SouthWest</th>
<th>NorthCentral</th>
<th>SouthCentral</th>
<th>SouthEast</th>
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<td>Population Age Risk</td>
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### Risk Index
- Orange: 14-Day COVID-19 Cases Risk
- Blue: Commute Risk
- Green: ICU Capacity Risk
- Purple: Population Density Risk
- Violet: Population Age Risk
# County Risk Indices

<table>
<thead>
<tr>
<th>Somerset</th>
<th>Butler</th>
<th>Westmoreland</th>
<th>Greene</th>
<th>Washington</th>
<th>Cambria</th>
<th>Allegheny</th>
<th>Beaver</th>
<th>Indiana</th>
<th>Armstrong</th>
<th>Fayette</th>
</tr>
</thead>
</table>

**Risk Index**
- Orange: 14-Day COVID-19 Cases Risk
- Red: Commute Risk
- Brown: ICU Capacity Risk
- Green: Population Density Risk
- Purple: Population Age Risk

**Risk**
- 14-Day COVID-19 Cases Risk
- Commute Risk
- ICU Capacity Risk
- Population Density Risk
- Population Age 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”