A future for population health after COVID-19

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Possible coronavirus waves scenario 1: Peaks and valleys

Source: Center for Infectious Disease Research and Policy at University of Minnesota
Possible coronavirus waves scenario 2: Fall peak

Source: Center for Infectious Disease Research and Policy at University of Minnesota
Possible coronavirus waves scenario 3: Slow burn

Source: Center for Infectious Disease Research and Policy at University of Minnesota
Will a vaccine save us?
Demographic characteristics as of May 24

<table>
<thead>
<tr>
<th>Age (in years)</th>
<th>Median</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>50</td>
<td>0-111</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age groups</th>
<th>n=41025</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>≤ 19</td>
<td>2333</td>
<td>6%</td>
</tr>
<tr>
<td>20-39</td>
<td>11148</td>
<td>27%</td>
</tr>
<tr>
<td>40-59</td>
<td>13210</td>
<td>32%</td>
</tr>
<tr>
<td>60-79</td>
<td>7946</td>
<td>19%</td>
</tr>
<tr>
<td>80+</td>
<td>6388</td>
<td>16%</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Gender</th>
<th>n=41268</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>22536</td>
<td>55%</td>
</tr>
<tr>
<td>Male</td>
<td>18715</td>
<td>45%</td>
</tr>
<tr>
<td>Other</td>
<td>17</td>
<td>&lt;1%</td>
</tr>
</tbody>
</table>
Who is at greatest risk for COVID-19

- Older adults
- Those with pre-existing health conditions
- Health care workers
- Essential workers
- Lower income
- Housing density
- Immigrants
- Indigenous
## Social Determinants of Health

<table>
<thead>
<tr>
<th>Economic Stability</th>
<th>Neighborhood and Physical Environment</th>
<th>Education</th>
<th>Food</th>
<th>Community and Social Context</th>
<th>Health Care System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment</td>
<td>Housing</td>
<td>Literacy</td>
<td>Hunger</td>
<td>Social integration</td>
<td>Health coverage</td>
</tr>
<tr>
<td>Income</td>
<td>Transportation</td>
<td>Language</td>
<td>Access to healthy options</td>
<td>Support systems</td>
<td>Provider availability</td>
</tr>
<tr>
<td>Expenses</td>
<td>Safety</td>
<td>Early childhood education</td>
<td>Social integration</td>
<td>Community engagement</td>
<td>Provider linguistic and cultural competency</td>
</tr>
<tr>
<td>Debt</td>
<td>Parks</td>
<td>Vocational training</td>
<td>Support systems</td>
<td>Discrimination</td>
<td>Quality of care</td>
</tr>
<tr>
<td>Medical bills</td>
<td>Playgrounds</td>
<td>Higher education</td>
<td>Health care expenditures</td>
<td>Stress</td>
<td></td>
</tr>
<tr>
<td>Support</td>
<td>Walkability</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Zip code / geography</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Health Outcomes
- Mortality, Morbidity, Life Expectancy, Health Care Expenditures, Health Status, Functional Limitations
Determinants of Overall Health

- Individual Behavior: 40%
- Genetics: 30%
- Social Circumstance: 15%
- Environmental Factors: 10%
- Health Care: 5%

Population health consequences of the public health measures

• Delayed medical visits and surgical procedures
• Delayed immunization programs
• Domestic violence and child abuse
• Mental health effects of isolation
• Delayed early childhood development
• Physical inactivity, food insecurity, increased alcohol consumption
• **Decreased motor vehicle accidents, pollution**
• Increased mortality due to unemployment
Health Footprint of Pandemic

1st Wave
Immediate mortality and morbidity of COVID-19

2nd Wave
Impact of resource restriction on urgent non-COVID conditions

1st Wave Tail
Post-ICU recovery

3rd Wave
Impact of interrupted care on chronic conditions

4th Wave
- Psychic trauma
- Mental illness
- Economic injury
- Burnout
How do we get out of this

• Need to convince population we can live with COVID-19
• Stop scaring people
• Protect those at highest risk
• Test and trace smartly and efficiently
• Create conditions for workplaces, schools, stores, restaurants, travel sector and entertainment to function
  • Reconsider 2M separation
  • Look at legal immunity
Looking to the future

• Strengthen population and public health services
• We need a national model that integrates Federal-Provincial-Territorial services
  • The Constitution Act is the biggest threat to the health of Canadians
• Let’s get real about health information
  • Deal with the privacy bogeyman
• Health systems and providers should be held to account for health outcomes, not outputs
Sustainable development

PEOPLE
End poverty and hunger in all forms and ensure dignity and equality

PLANET
Protect our planet's natural resources and climate for future generations

PROSPERITY
Ensure prosperous and fulfilling lives in harmony with nature

PARTNERSHIP
Implement the agenda through a solid global partnership

PEACE
Foster peaceful, just and inclusive societies