Use Case 4: Integrating Clinical and Community Data to Address COVID-19 and the Social and Structural Determinants of Health
Enhanced Data to Support COVID-19 Research and Response

1. Community mitigation and recovery from the health, social, economic impacts

2. Research on social and structural determinants of COVID-19 outcomes

3. Community preparedness for future pandemics

To meet the needs of organizations and researchers to readily find, explore, and validate relevant data and information.
Our Information Systems
COVID-19 Surveillance

<table>
<thead>
<tr>
<th>Hospitalizations</th>
<th>Emergency Visits</th>
<th>ICU Admits</th>
<th>Recovery*</th>
<th>Hospital Mortality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unique Patients</td>
<td>65,075</td>
<td>115,263</td>
<td>10,621</td>
<td>677,971</td>
</tr>
<tr>
<td>% of COVID+</td>
<td>7.7%</td>
<td>16.1%</td>
<td>1.5%</td>
<td>94,816</td>
</tr>
<tr>
<td>% of visit+</td>
<td></td>
<td></td>
<td></td>
<td>9,234</td>
</tr>
</tbody>
</table>

Hospitalizations by County, Mar-01 - Apr-26

Individuals hospitalized: Daily Totals, Mar-01 - Apr-26
Disseminating COVID-19 Information to the Community:

1. Community-level Risk Estimation
2. Community Needs Assessment
3. Community Impact Assessment
4. Exploration of Social and Structural Determinants of Disparities
2009 icePHI (Grannis et al.)

CDC proposal (funded)

Polis - Regenstrief Informatics Partnership

2008 IUPUI Signature Center for Health Geographics (Bodenhamer et al.)

Upon request

Fully automated since 2010

A Near-Term Solution
The Pilot

Small sub-set of high demand SAVI variables

All patients with COVID-19 diagnosis since 1/1/2020
Clinical Data

1. COVID-19 phenotype (for selecting INPC patient records) collaboratively defined with input from an advisory committee

2. INPC extract, transform, load (ETL) processes in place

3. Developing data derivatives for the National COVID Cohort Collaborative (N3C)
Community Measures

1. Poverty
2. Food access
3. 211 calls for social services
4. Residential segregation
5. Transit service
6. Tobacco access
7. Air quality
8. Life expectancy
Data Governance

— RI is already the honest data broker for Indiana CTSI research usage of INPC data
— RI is leveraging current research data use agreements (DUAs) with INPC, IU Health, and Eskenazi
— Polis is leveraging current DUAs with its SAVI data providers
— Polis develops SAVI indicators for public use. DUAs are not required by end users of public SAVI data.
— An MOU between RI and Polis has established our respective expectations for our partnership

Data Requests

— SAVI + CoRDaCo data requests can be submitted via a form on the Regenstrief Institute web portal. https://www.regenstrief.org/data-request/
— If someone initially just wants to explore partnership, they can send an email directly to RI and/or Polis via the portal. We will contact the individual to discuss their research/community interests and to help identify data needs.
Challenges
## Community Applications

<table>
<thead>
<tr>
<th>Challenges</th>
<th>Solutions</th>
</tr>
</thead>
</table>
| Umbrella data use agreement (DUA) focused on research and healthcare uses | • Community organizations develop partnerships with I-CTSI researchers, RI, and/or Polis  
• Polis develops and publishes community health measures to SAVI Community Information System |
| Limited scope of pilot                               | • Expand scope over time with funding  
• Partner with others building complimentary infrastructure                                                                                     |
| Sustainability                                       | • Market the resource  
• Confirm interest and need  
• Raise appropriate levels of funding  
• Automate                                                                                                                                      |
Our Shared Vision

Improved Data Discovery

Improved Data Exploration  More Timely Information Creation  Improved Knowledge and Decision Making

Improved Data Validation
Next Steps
Next Steps

- Partner and stakeholder engagement
- Conduct preliminary analyses of COVID-19 outcomes using the pilot SAVI + CoRDaCo data
- Demonstrate use of SAVI + CoRDaCo for the analysis of social and structural determinants of health
- Collect stakeholder feedback on pilot data commons and define/refine requirements for the longer-term solution
- Jointly pursue funding for the long-term vision
SAVI+CoRDaCo Team

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