Socially Determined, Inc.

How To Use Data to Deploy Resources to Vulnerable Populations for COVID-19

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Speakers

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RISK FACTORS

- Underlying chronic health conditions
- Social determinants of health
- Frequent utilization of healthcare resources
- Barriers to following public health measures (e.g., social distancing, self-isolation) or seeking care, such as lack of permanent housing, economic necessity, or fear of deportation, etc.

Vulnerable Populations

Vulnerable populations are at a greater risk for poor outcomes during the COVID-19 pandemic

- Higher risk of COVID-19 morbidity and mortality
- Higher burden on healthcare resources, when capacity is needed the most
- Less effective efforts to stop transmission across all populations in Maryland
Homeless Populations are at increased risk for infection and need for ICU/Ventilator resources given underlying untreated chronic conditions and congregate shelters/encampments.

➢ >6500 homeless in MD

Estimated rate of current undiagnosed infection > 40%

Homeless 1.6x relative risk of death to general population historically

➢ >10% ICU level care seen from limited national data

➢ >300 ICU beds/Ventilators

Homeless shelters generally don’t have embedded clinical teams or easy access for social distancing
COVID-19 Creates Challenges for Those Serving Vulnerable Populations

Vulnerable populations are traditionally supported by:

- Health agencies, local health care delivery systems, care management services
- Community groups and private organizations
- Faith networks

Support is often provided in congregate living facilities or at community-based locations

The need for social distancing, combined with staffing shortages, renders the traditional mechanisms of caring for our vulnerable populations ineffective.

Programs will struggle to provide critically needed support at a time when these populations are at greatest risk.
Task Force Membership

**Sponsor:** Dr. Howard Haft, Maryland Department of Health  
**Lead:** Dr. Susan Mani, LifeBridge Health  
Neil Carpenter, Array Advisors  
Trenor Williams, Socially Determined

Meals on Wheels  
United Way of Central Maryland  
UMD Horowitz Center for Health Literacy  
MD Dept of Housing and Community Development  
Johns Hopkins Center for Health Equity  
AbsoluteCare  
Peninsula Regional Health System  
UMMS Population Health  
Health Care for the Homeless  
MD Food Bank

*Provide content expertise*  
*Participate in workgroups for deliverables*  
*Disseminate key information to local coalitions for rapid communication*
Task Force Leads COVID-19 Response Plan for Vulnerable Populations

Purpose
Vulnerable populations are at greater risk of contracting COVID-19 and experiencing poor outcomes, which will further burden statewide healthcare resources. Changes to the traditional mechanisms of support and additional interventions are required to minimize transmission, healthcare utilization, and mortality among vulnerable populations and all Marylanders.

Task Force
The task force will develop a comprehensive response plan for vulnerable populations at greatest risk for poor outcomes from COVID-19:

• People experiencing homelessness
• High-risk elderly in congregate housing
• People with chronic diseases at greater risk for severe disease

Create and execute state-wide deliverables

1. Identify vulnerable populations at risk for severe disease
   • Create actionable data regarding vulnerable populations utilizing risk factors known to increase risk of COVID-19 morbidity and mortality
   • Overlay with density by region as this is known to promulgate rapid transmission
   • Create both geographic and person-level actionable list to prioritize outreach and management by health agencies, health systems, payers, CBOs

2. Identify necessary resources for vulnerable populations
   • Clinical and social needs from stakeholder input at a local level

3. Create educational materials
   • Create content with evidence-based recommendations for mitigating risk to be distributed by local coalitions throughout communities

4. Create a communication cascade structure
   • Ensure data and information about resources regarding vulnerable populations is shared throughout multiple state-wide stakeholders

Effectively execute interventions at a local level

Health Officers, Health Systems, Community Coalitions
Socially Determined: SDOH Risk Analytics & Insights

Socially Determined is an analytics company

That created the first purpose-built SDOH platform

That manages the ingestion, normalization, storage, integration, and analysis of clinical, financial, geographic, and social data

To generate SDOH risk analytic insights and related geospatial products, data feeds, and custom applications
What Do We Mean When We Say SDOH?
Creating a Common Language

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
<th>Experience: Food Insecurity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Determinants of Health</td>
<td>“The conditions in which people are born, grow, live, work, and age” (WHO)</td>
<td>Living in a Food Desert</td>
</tr>
<tr>
<td></td>
<td>The conditions that are likely to impact the health of a community</td>
<td></td>
</tr>
<tr>
<td>Social Risk</td>
<td>“Specific adverse conditions associated with poor health” (Alderwick &amp; Gottlieb)</td>
<td>Living pay check to pay check</td>
</tr>
<tr>
<td></td>
<td>The specific conditions that may impact individual health</td>
<td></td>
</tr>
<tr>
<td>Social Needs</td>
<td>“Immediate individual needs” (Green &amp; Zook)</td>
<td>Unable to afford healthy food this month</td>
</tr>
<tr>
<td></td>
<td>The actual experience of need that directly impacts health</td>
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</tbody>
</table>

“Social Determinants of Health” refers to the conditions in which people are born, grow, live, work, and age. These are the broader social conditions that may impact the health of a community. “Social Risk” refers to specific adverse conditions associated with poor health. “Social Needs” refer to immediate individual needs.
Pandemic Phases

Urgent Public Health Crisis
- Rapid-cycle identification and characterization of the most vulnerable populations
- Resource allocation and deployment

Short-Term Impacts (Clinical & Social)
- Onset of consequences of delayed primary and preventive care during the peak of the pandemic
- Rapid increase in social risk stemming from the economic crisis

Long-Term Impacts (Systemic)
- Sustained increases in SDOH risk exposure for certain communities and populations
- Need for better coordination across medical and social services
Socially Determined’s Response to COVID-19

Enabling organizations to understand risk, prioritize action, focus interventions & measure impact

- Current epidemiological data on COVID-19 indicates that the disease poses the most severe risk to older adults and those with pre-existing chronic conditions.

- We believe the risks posed by COVID-19 on these populations will be materially exacerbated among those facing elevated social risk such as financial strain, housing instability and food insecurity.

- Decision makers in government, public safety, and healthcare need accurate information about their community and those in the community most likely to be impacted.
Innovative Public-Private Partnership Model

Coordinated Approach led by State Task Force for Vulnerable Populations
Assessing COVID-19 Risk

**Community Factors:**
- Age Distribution
- Community Disease Burden
- Crowding
- Economic Stress
- Exposure Potential
- Infrastructure

**Common Risk Scale**
1 = Little to no risk
2 = Low risk
3 = Moderate risk
4 = High risk
5 = Severe risk

**Individual Factors:**
- Age
- Chronic Disease Burden
- Community COVID-19 SSI
- SDOH Risk Exposure

**Individual Level, Time-Bound**
COVID-19 Positive Screen

**Individual Factors:**
- Presence or absence of virus
Our Approach

DATA SOURCES

SOCIALSCAPE® PLATFORM

CRISP

~ 2.6M Medicaid and Medicare Lives

ANALYTIC ENGINE

SECURE CLOUD INFRASTRUCTURE

HIPAA-COMPLIANT

HITRUST HARDENED

GEOSPATIAL VISUALIZATIONS OF COMMUNITY SDOH RISK EXPOSURE

IDENTIFICATION OF HIGH-RISK INDIVIDUALS

STRATEGIC & OPERATIONAL DECISION SUPPORT TOOLS

IMPACT EVALUATIONS & DASHBOARDS
## Focused Information for Key Decision Makers

### Stakeholders Ready to Intervene:
- State Department of Health
- Local Health Improvement Coalitions (LHICs)
- Primary Care Practices
- Managed Care Organizations

### Actionable Insights to Inform Decisions:
- Statewide Visualizations & Analyses
- County-Level Visualizations & Analyses
- Risk Scores for Most Vulnerable Patients
- Rosters of Most Vulnerable Members
Prioritization Process to Maximize Reach and Impact

**Multi-Factor Risk Model**
- Age
- Disease
- COVID-19 SSI
- SDOH Risk Exposure

**Risk Stratification Process**
- 5s: Severe Risk
- 4s: High Risk
- 3s: Moderate Risk

**Centralized Delivery Mechanisms**

**Stakeholder-Specific Insights & Output**
- State DOH
- LHICs
- Practices
- MCOs
SocialScape Explorer

Creating a more effective care delivery model utilizing the unique strengths of each partner
Building Effective Response Strategies and Partnerships

• Innovative public-private partnerships can help mitigate the current public health crisis

• Resource constraints and related allocation decisions present a unique opportunity to overcome traditional challenges regarding data sharing and integration

• Key questions and decisions to be made are evolving rapidly in this first phase of the pandemic and will continue to do so in the coming phases, requiring an agile analytic approach and collaborative partnership models

• Understanding community-level SDOH risk exposure and individual-level social risk factors will remain critical as we move into subsequent phases of the pandemic
Thank You

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