Social determinants of health and population health: How do I get started?
Algorex Health delivers data, models, and algorithms founded in social determinants
Life affects patients’ lives
Algorex Health defines social determinants as non-clinical factors that impact the ability of a member to access, receive, or maintain clinical care.
## Social Determinants of Health

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<tr>
<td>• Employment</td>
<td>• Housing</td>
<td>• Literacy</td>
<td>• Hunger</td>
<td>• Social integration</td>
<td>• Health coverage</td>
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<td>• Income</td>
<td>• Transportation</td>
<td>• Language</td>
<td>• Access to healthy food options</td>
<td>• Support systems</td>
<td>• Provider availability</td>
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<td>• Expenses</td>
<td>• Safety</td>
<td>• Childhood education</td>
<td>• Affordability</td>
<td>• Community engagement</td>
<td>• Provider linguistic and cultural competency</td>
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<td>• Debt</td>
<td>• Parks</td>
<td>• Vocational training</td>
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<td>• Discrimination</td>
<td>• Quality of care</td>
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<td>• Medical bills</td>
<td>• Playgrounds</td>
<td>• Higher education</td>
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<td>• Stress</td>
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<td>• Geography</td>
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### Health Outcomes

- Mortality
- Morbidity
- Life expectancy
- Malnutrition
- Health care expenditures
- Health status loss
- Functional limitations

**Source:**
Determinants of Health: Factors with Health Outcomes for an Individual Patient

- **Social Circumstances**: 23%
- **Individual Behavior**: 38%
- **Physical Environment**: 7%
- **Genetics & Biology**: 21%
- **Medical Care**: 11%

**Metrics**
- Micro Determinants
- Macro Determinants
- Categories

**Stress Level**
- Hopelessness Level
- Anxiety Level
- Depression Level

Source:
1. DeterminantsOfHealth.org
Life is not captured in a claim

Models fed with social determinants drastically increase performance
The research supports targeted interventions that account for and overcome social determinants.

| Propensity Value Return (monthly) Return (annual) |

Source:

- *Journal of Aging and Health.* “Social Isolation and Medicare Spending: Among Older Adults, Objective Isolation Increases Expenditures While Loneliness Does Not.” Jonathan G. Shaw, MD, MS; Monica Fartad, BA, Claire-Nael Alliger, MPA, PhD; Noorkei Joseph, ANP; Ari Houser, MA; Steven M. Asch, MD, MPH; Jay Bhattacharya, MD, PhD; Linda Flowers, JD, MPH, RN. September 17 (13), 2017.

- *JAMA.* “Association of a Negative Wealth Shock With All-Cause Mortality in Middle-aged and Older Adults in the United States.” Lindsay P. Pest; Sarah A. Bergart; Belinda L. Needham, PhD. April 3 (319:13), 2018.

The research supports targeted interventions in support of social determinants.

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<tr>
<th>Propensity</th>
<th>Value</th>
<th>Return (monthly)</th>
<th>Return (annual)</th>
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</thead>
<tbody>
<tr>
<td>6%</td>
<td>$134</td>
<td>$80,400</td>
<td>$964,800</td>
</tr>
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</table>

Note: return based on 10,000 members

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<th>Isolationism</th>
<th>Transportation</th>
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<tbody>
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<td>37%</td>
</tr>
<tr>
<td>Value</td>
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<td>$65</td>
</tr>
<tr>
<td>Return (monthly)</td>
<td>$80,400</td>
<td>$240,500</td>
</tr>
<tr>
<td>Return (annual)</td>
<td>$964,800</td>
<td>$2,886,000</td>
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Academic Verification: 4

The research supports targeted interventions in support of social determinants.

<table>
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<th>Propensity</th>
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</tr>
<tr>
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Health Organizations are Reaping the Gain

Market leaders are beginning to deploy specific interventions to improve member’s overall health through targeted interventions.
How to Get Started

Visualization tools allow organizations to target specific geographies and populations to get started, while at the same time determining the areas for scaling up solutions.

1. Understand propensity of social determinant factors
2. Define the right pathway
3. Determine the operational intervention
4. Start small and measure
5. Scale as appropriate

Source: Algorex Healthcare
How to Get Started

The following exercise will help turn the big topic of social determinants into a **pathway** that your teams can address.

1. Print the graphic from DeterminantsofHealth.org
2. Use a public, geographic based resource for your service area:
   a. Area Deprivation Index: hipxchange.org/ADI
   b. County Health Facts: countyhealthrankings.org
3. Review the biggest disparities in your service areas
4. Design a minimum viable plan to tackle top issues
To learn how your organization can use an open analytics approach to identify and engage members in a value-based world, please contact:

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