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HEALTHCARE TECHNOLOGIES

Health IT Expo - 2018
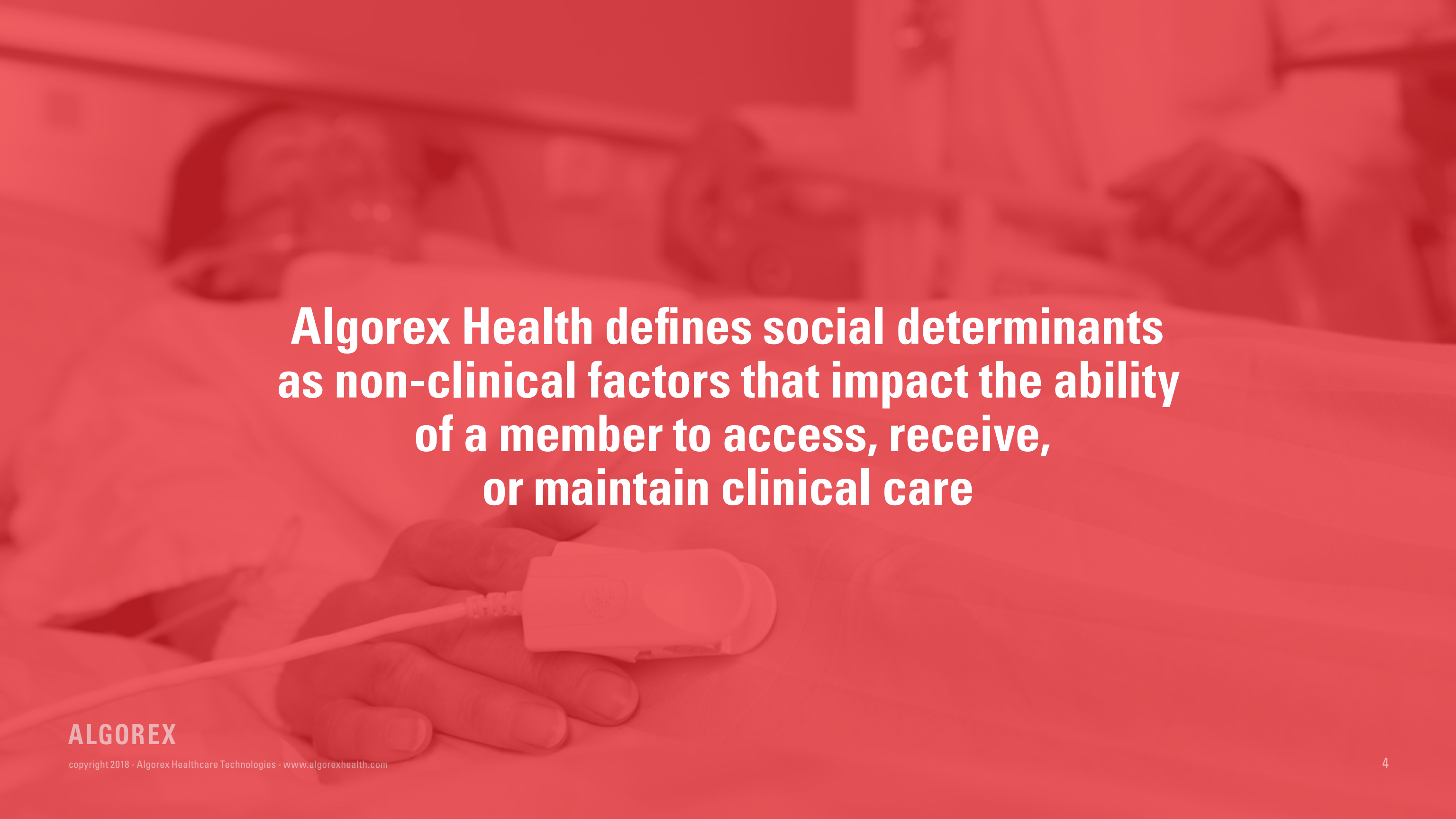
Algorex Health delivers data, models, and algorithms founded in social determinants

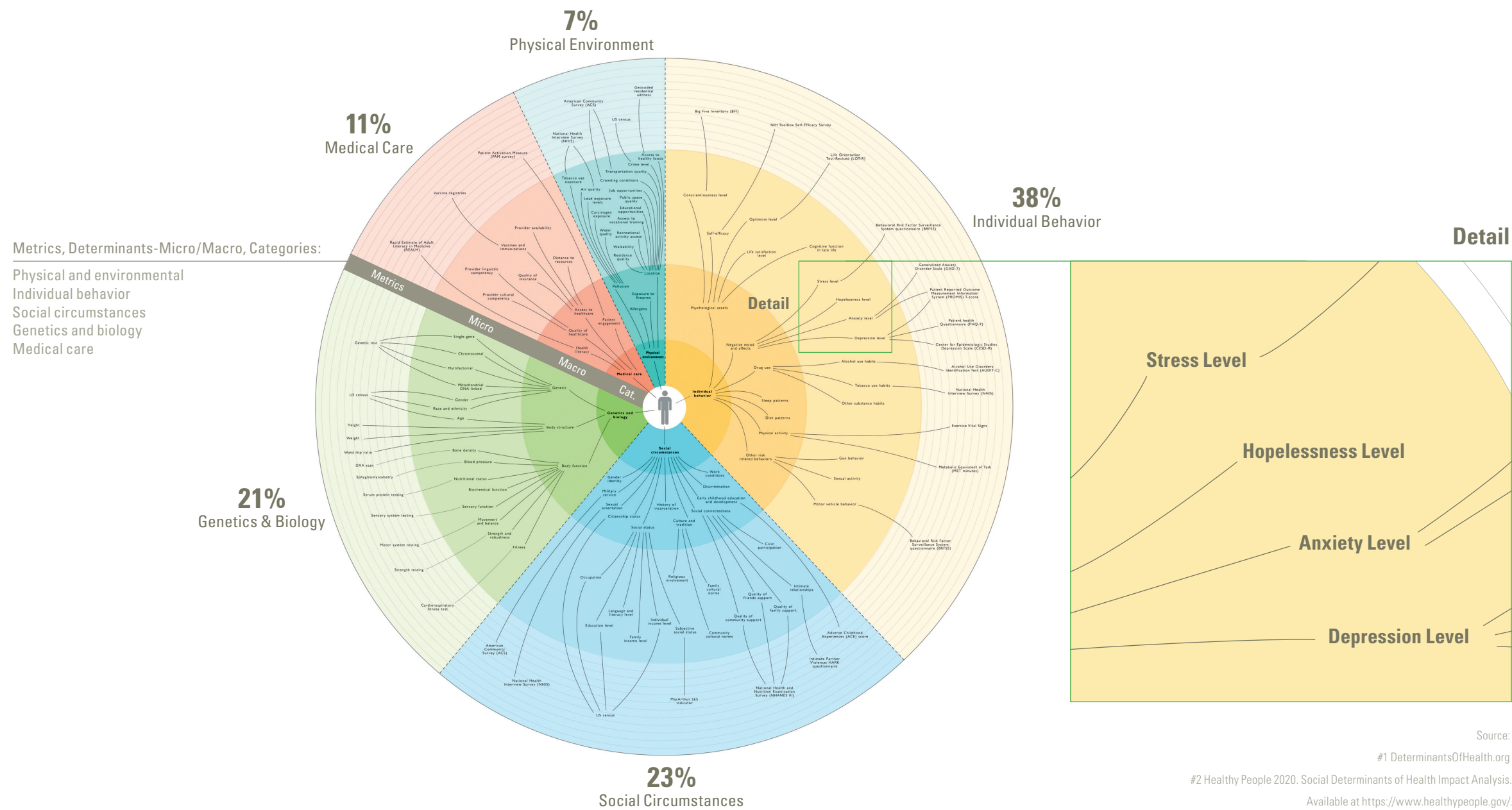# Life affects patients' lives

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

Economic Stability

- Employment
- Income
- Expenses
- Debt
- Medical bills
- Support

Neighborhood / Environment

- Housing
- Transportation
- Safety
- Parks
- Playgrounds
- Walkability
- Zip-code
- Geography

Education

- Literacy
- Language
- Childhood education
- Vocational training
- Higher education

Nutrition / Food

- Hunger
- Access to healthy food options

Community / Social Context

- Social integration
- Support systems
- Community engagement
- Discrimination
- Stress

Healthcare System

- Health coverage
- Provider availability
- Provider linguistic and cultural competency
- Quality of care

Health Outcomes

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

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Factors with Health Outcomes for an Individual Patient

7%
Physical Environment

11%
Medical Care

38%
Individual Behavior

Detail

Metrics, Determinants-Micro/Macro, Categories:

Physical and environmental
Individual behavior
Social circumstances
Genetics and biology
Medical care

21%
Genetics & Biology

23%
Social Circumstances

Stress Level

Hopelessness Level

Anxiety Level

Depression Level

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Life is not captured in a claim

Models fed with social determinants drastically increase performance

Academic Verification

The research supports targeted interventions in support of 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 Farid, BA, Claire Noel-Miller, MPA, PhD, Neesha Joseph, MPP, Ari Houser, MA, Steven M. Asch, MD, MPH, Jay Bhattacharya, MD, PhD, Lynda Flowers, JD, MSN, 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 R. Pool; Sarah A. Burgard; Belinda L. Needham, PhD, April 3 (319:13), 2018.

AIDS Care. "Rural HIV-infected women's access to medical care: ongoing needs in California." Sarnquist CC. Soni Hwang. July 23 (7), 2011.

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Academic Verification

The research supports targeted interventions in support of social determinants.

	Isolationism
Propensity	6%
Value	$134.00
Return (monthly)	$80,400
Return (annual)	**$964,800**

Note: return based on 10,000 members

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 Farid, BA, Claire Noel-Miller, MPA, PhD, Neesha Joseph, MPP, Ari Houser, MA, Steven M. Asch, MD, MPH, Jay Bhattacharya, MD, PhD, Lynda Flowers, JD, MSN, RN. September 17 (13), 2017.

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Academic Verification

The research supports targeted interventions in support of social determinants.

	Isolationism	Transportation
Propensity	6%	37%
Value	$134.00	$65.00
Return (monthly)	$80,400	$240,500
Return (annual)	**$964,800**	**$2,886,000**

Note: return based on 10,000 members

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 Farid, BA, Claire Noel-Miller, MPA, PhD, Neesha Joseph, MPP, Ari Houser, MA, Steven M. Asch, MD, MPH, Jay Bhattacharya, MD, PhD,
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Academic Verification

The research supports targeted interventions in support of social determinants.

	Isolationism	Transportation	Income
Propensity	6%	37%	11%
Value	$134.00	$65.00	$132.00
Return (monthly)	$80,400	$240,500	$145,200
Return (annual)	**$964,800**	**$2,886,000**	**$1,742,400**

Note: return based on 10,000 members

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 Farid, BA, Claire Noel-Miller, MPA, PhD, Neesha Joseph, MPP, Ari Houser, MA, Steven M. Asch, MD, MPH, Jay Bhattacharya, MD, PhD, Lynda Flowers, JD, MSN, RN. September 17 (13), 2017.

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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.
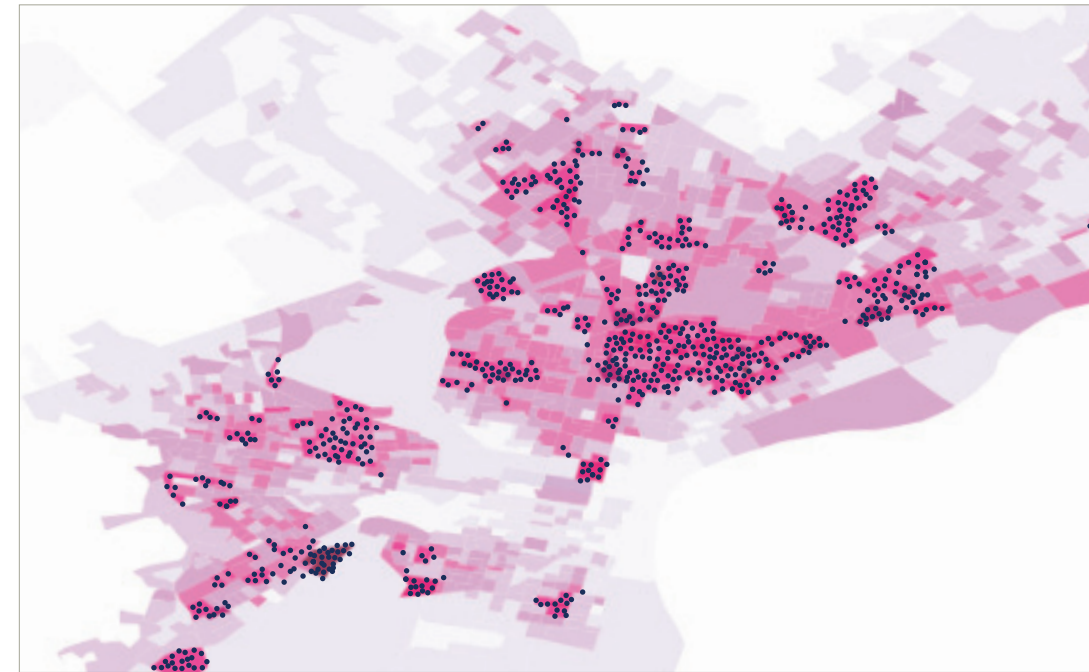
Utilizing **social determinants** can seamlessly integrate with your teams and bring value quickly to your members and patients.

1. Understand propensity of social determinant items

2. Define the right pathway

3. Determine the operational intervention

4. Start small and measure

5. Scale as appropriate

Distribution clusters of member with high unstable housing risk

Mapping neighborhood unstable housing risk provides intelligence into hot-spot areas where interventions will have maximum churn returns.

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The following exercise will help turn the big topic of social determinants into **a pathway** that your teams can address.
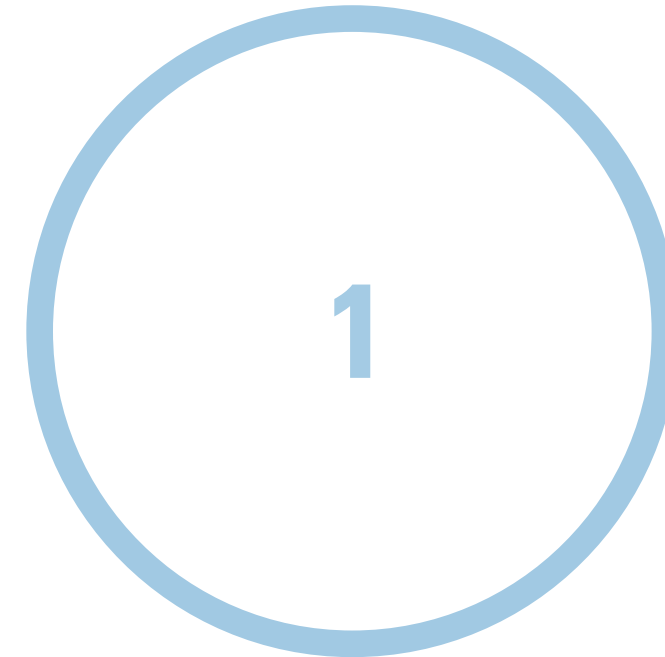
1. Print the graphic from **DeterminantsofHealth.org**

2. Use a public, geographic based resource for your service area:

   a. Area Depravation Index: **hipxchange.org/ADI**

   b. County Health Facts: **countyhealthrankings.org**

3. Review the biggest disparities in your service areas

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Data Availability

Combining data sources provides precise knowledge of your members and patients beyond traditional clinical risk measurement. **Orchestration of these data elements enables organizations to earn the value of social determinants.**

1 **Traditional Record**

- Age
- Gender
- Encounter history
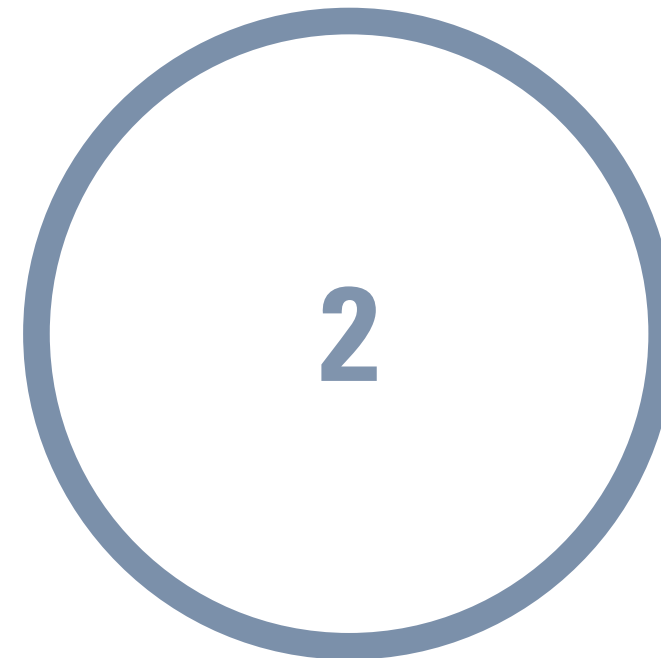- Disease condition
- Revenue code

1

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Data Availability

Combining data sources provides precise knowledge of your members and patients beyond traditional clinical risk measurement. **Orchestration of these data elements enables organizations to earn the value of social determinants.**

2 Patient-Consumer Identity

- Lifetime value
- Relocation history
- Touchpoint history
- Stress
- Churn
- Transition risk
- Isolationism
- Government assistance
- Income
- Geospatial location
- Household occupancy
- Food rating
- Household capture
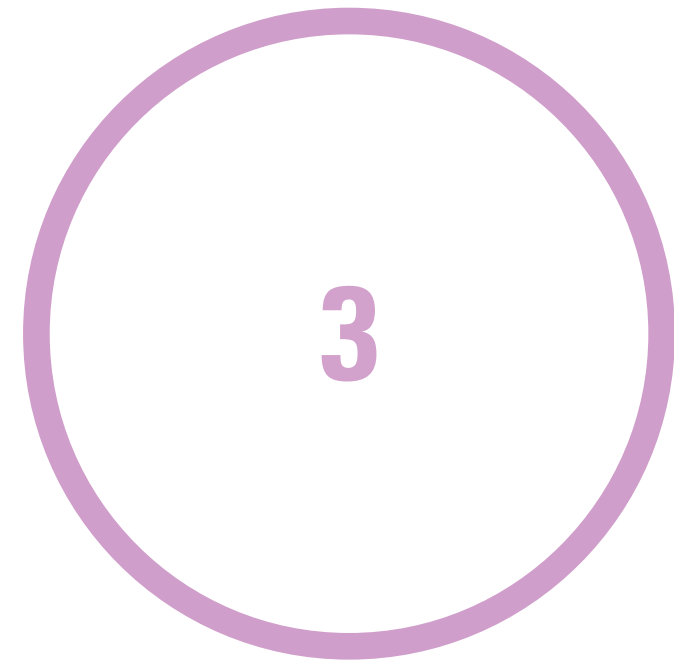- Transportation access

2

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Data Availability

Combining data sources provides precise knowledge of your members and patients beyond traditional clinical risk measurement. **Orchestration of these data elements enables organizations to earn the value of social determinants.**

3 **Engagement Record**

- Address
- Contact information
- Preferred channel
- Touchpoint history
- IP address
- Known relationships
- Households

3

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Data Availability

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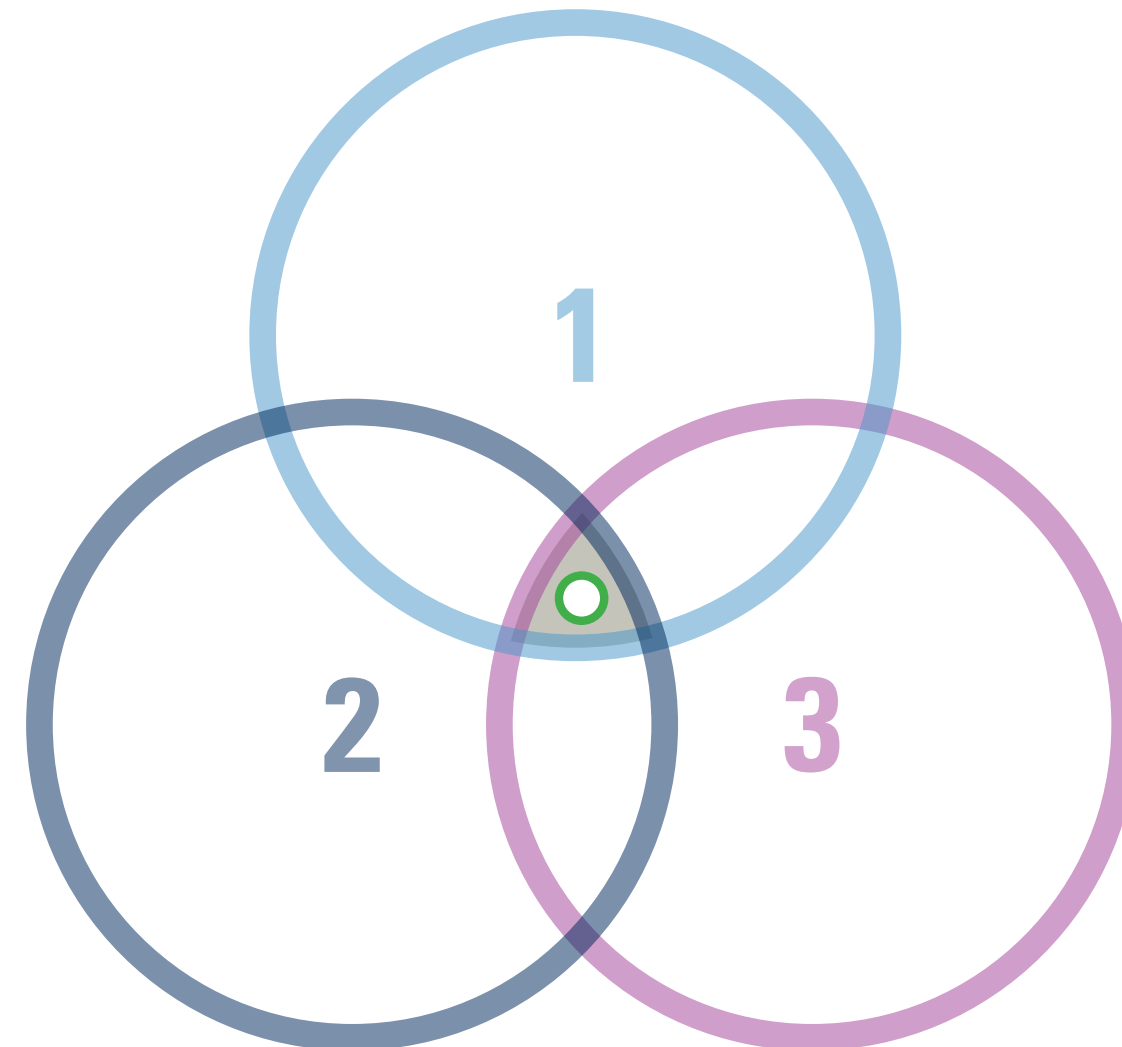- Disease condition
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◯ **Value**

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Use Case: **Unstable Housing**

Not only critical to residence verification used to drive insurance eligibility, housing stability impacts a member's ability to adhere to a plan of care, present at critical appointments, and maintain strong overall health.

Housing is health. A key step to supporting your membership is knowing the population's housing stability at scale.
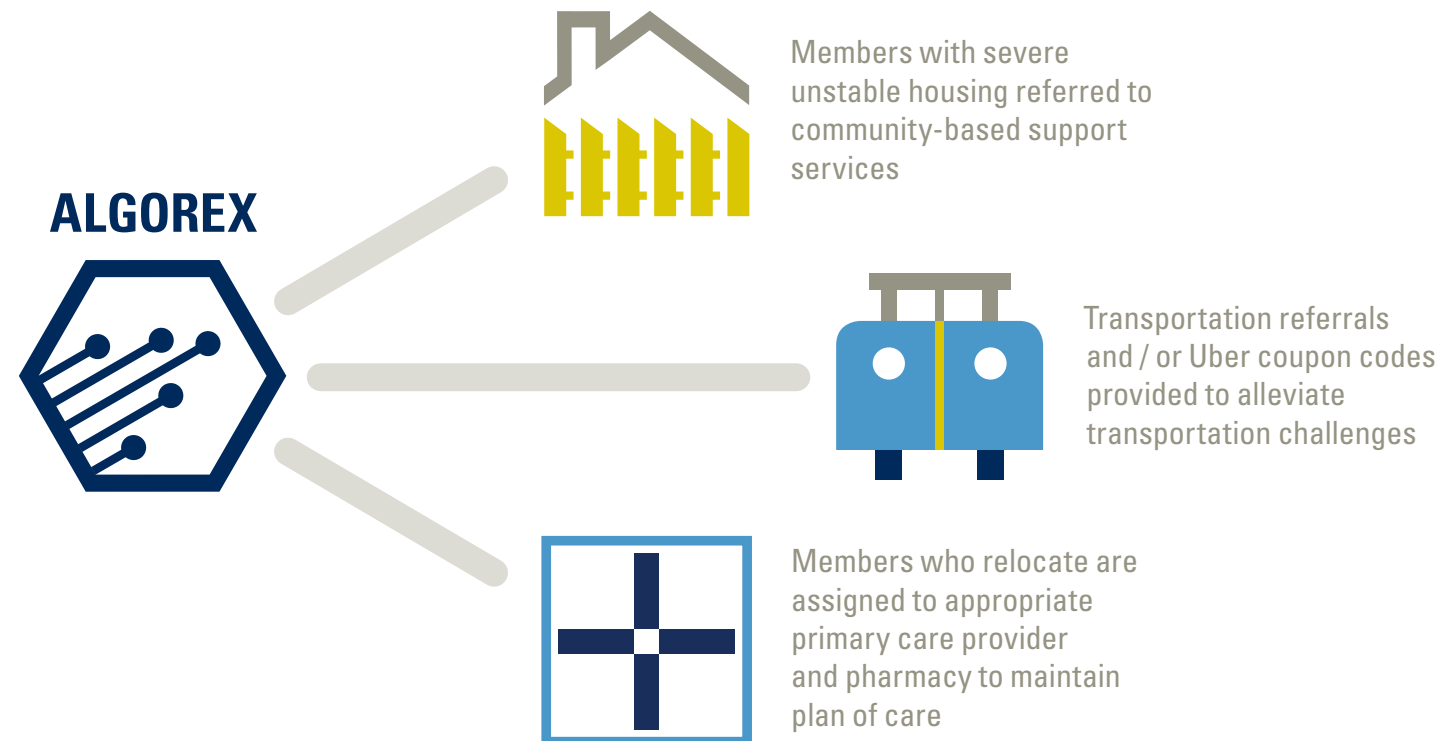
Actions:

1. **Align and refer members to community-based resources**
2. **Manage pharmacy and clinical encounter actions in support of member transience**

New Patient Data:

1. Current address
2. Historical addresses
3. Neighborhood stress score
4. Geo-spacial location
5. Transit acuity for RX and medical encounters

Results:

+ $600 PMPY medical budget

+ 30% adherence to RX plan of care

- 15% reduction to appointment no-shows

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Members with severe unstable housing referred to community-based support services

Transportation referrals and / or Uber coupon codes provided to alleviate transportation challenges

Members who relocate are assigned to appropriate primary care provider and pharmacy to maintain plan of care

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Use Case: **No-Show Appointment Reduction and Transportation Support**

Patients who do not own a car and live more than 2 miles from their appointment location are >40% more likely to no-show their appointments.

Algorex Health, through its network of data brokers and models identifies, and pro-actively informs clinics of no-show risk before an appointment slot is lost. **External data allows early identification of no-show risk.**

Actions:

Confirm appointment details and method of transportation to / from practice location

Refer to transportation service such as UberHealth, an Algorex Health partner

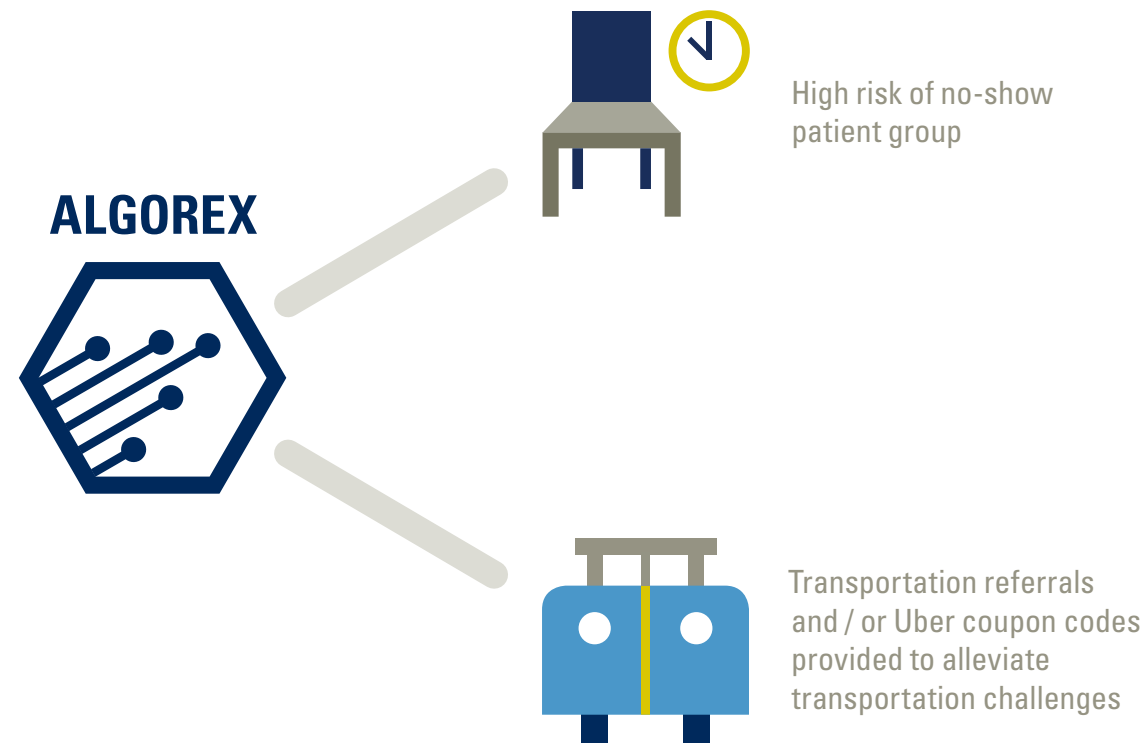**Support patients to get home after an appointment**

New Patient Data:

1. Active driver's license
2. Vehicle ownership
3. Transportation stress score
4. Travel time via geospatial mapping

Results:

50% reduction in no-show appointments

20% improvement of re-booking / captured appointments

Up to 10% appointment "save" rate

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High risk of no-show patient group

Transportation referrals and / or Uber coupon codes provided to alleviate transportation challenges

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Key takeaways:

- **Refine your approach to social determinants, do not begin by tackling all issues**

- **Assess the quality of your operational data – it is a great starting point**

- **Use a public data source to review disparities**

- **Deploy a survey tool - must be 5 questions or less**

- **Review external data opportunities**

- **Align disparities with operational processes and approaches**

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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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