Developing and Implementing a Risk Stratification Method in a Patient Centered Medical Home

PRESENTED BY: CAPELLA CROWFOOT LAPHAM, FNP-C, DNP
For the OPCA on August 16, 2018

Objectives

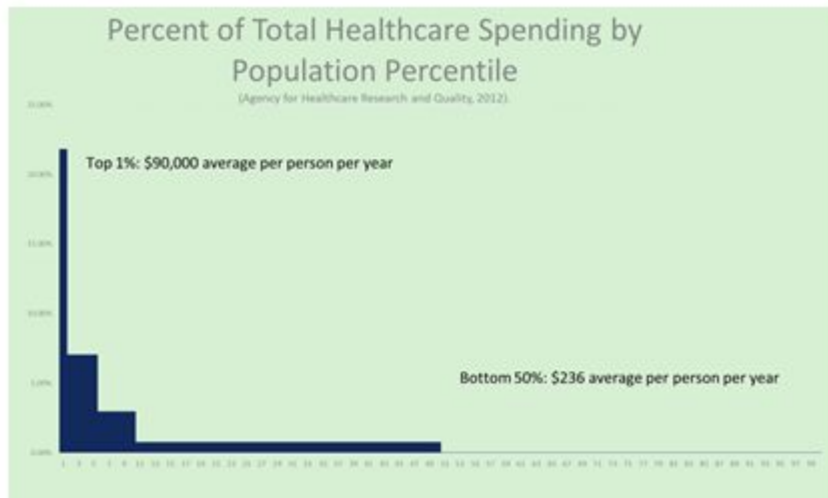
- Describe rationale for risk stratification
- Describe project performed at Clackamas County Health Centers
- Describe alternative tools
- Discuss how intent alters tool design
- Discuss resources needed for design and implementation

Complex Care Coordination

5.C.1: have a multi-disciplinary team with specific roles for care coordination

5.C.2: have a method to perform risk stratification for the entire patient population

5.C.3: provide customized care plans to patients with complex chronic conditions



Complex Care Coordination

- In many health systems, 20% of patients incur up to 80% of medical expense (Gregoire, 2014)
- In the Medicare program excess hospitalization in patients with insufficient information about warning signs of decompensation or exacerbation of their chronic illness (Piekes et al., 2009)
- Identifying patients in need of self-management information and more intensive care coordination allows for better allocation of resources (Joynt Maddox et al., 2017)

Setting

- Clackamas County Health Centers serves 17,000 patients.
  - 34% under 18 years old
  - 65% Medicaid patients
  - 19% uninsured
  - 7% homeless
- Poor access to community resources for homelessness and food programs
- Well developed teams with BHC, RN’s trained in case management

Question

- Are you able to describe the demographics of your population?
- Do you have a care coordination team or staff trained for the role?
- What patients are the most challenging or have poor outcomes?

Risk: Medical or Social

- Medical risk can be assessed through a validated tool OR by grouper for selected conditions
- Social risk can be assessed through demographics OR PRAPARE tool / SDH flowsheet

Medical-Social Risk Assessment Tool

Charlson Comorbidity Index

- 1 point: history of heart attack, heart failure, peripheral vascular disease, cerebrovascular disease, dementia, COPD, connective tissue disease, peptic ulcers, mild liver disease, diabetes mellitus
- 2 points: hemiplegia, mod-severe renal disease, diabetes with complication, any cancer
- 3 points: mod-severe liver disease
- 6 points: metastatic cancer, AIDS
- 1-4 points: each decade >50 years

Selected Social Factors

- Race or Ethnicity NOT white
- Special population: homeless, migrant, veteran
- Language NOT English
- Unemployed
- Income <100% FPL
- Insurance status: Medicaid, Medicare, uninsured
- Food Insecurity
- Has MH or SUD diagnosis
- Children: foster care, low ASQ

Samaritan Health:

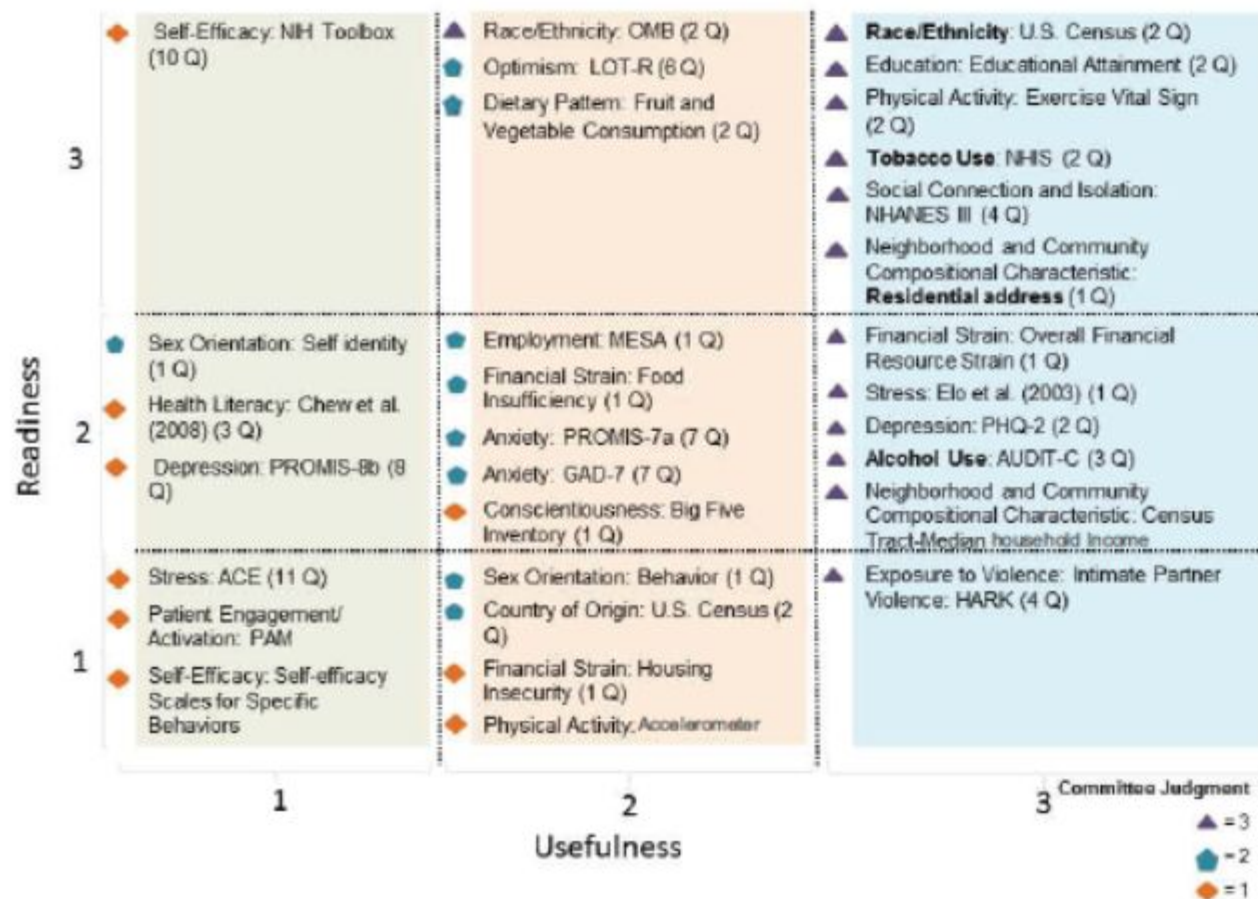
- General Adult Risk Score – they get a point for any of these topics (higher the number is higher risk) highest total is 15 points.
  - Patient age 18-64 get 0; age 65-84 get 1; age 85+ get 2.
  - Hospital admissions: patients get 1 point for each hospital admission in the time period (one year), up to 3 points maximum.
  - ED visits: patients get 1 point for each ED visit in the time period (one year), up to 3 points maximum.
  - Patients with COPD get 1 point.
  - Patients with Diabetes get 1 point.
  - Patients with CHF get 1 point.
  - Patients with chronic liver disease get 1 point.
  - Patients with depression get 1 point.
  - Patients without a current PCP get 1 point.
  - Patients with an effective Medicaid coverage get 1 point.

Atlanticare Referral Form

- 6 congestive heart failure
- 4 coronary artery disease/stroke
- 2 cardiovascular disease (incl arrhythmia)
- 2 hypertension (uncontrolled)
- 4 diabetes mellitus
- 4 kidney disease (Cr >2, GFR <60)
- 4 chronic obstructive pulmonary disease
- 2 asthma (persistent)

- 1 smoking
- 1 hypertension
- 1 high cholesterol
- 1 chronic anti-coagulant use
- 1 obesity
- 1 mental illness
- 2 > 2 hospitalizations/ED visits in past 12 months
- 2 Taking > 5 chronic prescription medis (other than for pain)
- 1 language barrier
- 2 no primary doctor

- **A patient with 6 points between the columns is eligible for care coordination**


Self-Efficacy: NIH Toolbox (10 Q)
Race/Ethnicity: OMB (2 Q)
Optimism: LOT-R (6 Q)
Dietary Pattern: Fruit and Vegetable Consumption (2 Q)
Race/Ethnicity: U.S. Census (2 Q)
Education: Educational Attainment (2 Q)
Physical Activity: Exercise Vital Sign (2 Q)
Tobacco Use: NHIS (2 Q)
Social Connection and Isolation: NHANES III (4 Q)
Neighborhood and Community Compositional Characteristic: Residential address (1 Q)
3
Sex Orientation: Self identity (1 Q)
Health Literacy: Chew et al. (2008) (3 Q)
Depression: PROMIS-8b (8 Q)
Employment: MESA (1 Q)
Financial Strain: Food Insufficiency (1 Q)
Anxiety: PROMIS-7a (7 Q)
Anxiety: GAD-7 (7 Q)
Conscientiousness: Big Five Inventory (1 Q)
Financial Strain: Overall Financial Resource Strain (1 Q)
Stress: Elo et al. (2003) (1 Q)
Depression: PHQ-2 (2 Q)
Alcohol Use: AUDIT-C (3 Q)
Neighborhood and Community Compositional Characteristic: Census Tract-Median household income
2
Stress: ACE (11 Q)
Patient Engagement/ Activation: PAM
Self-Efficacy: Self-efficacy Scales for Specific Behaviors
Sex Orientation: Behavior (1 Q)
Country of Origin: U.S. Census (2 Q)
Financial Strain: Housing Insecurity (1 Q)
Physical Activity: Accelerometer
Exposure to Violence: Intimate Partner Violence: HARK (4 Q)
1
Readiness
1
2
3
Usefulness
Committee Judgment
= 3
= 2
= 1

PRAPARE Tool / SDH Flowsheet:

- Race/ethnicity, language, migrant, veteran, housing security, employment, insurance status
- Level of education, material insecurity, social connectedness, stress
- Optional: incarceration, transportation, refugee, relationship safety

- Bonus: Z-code link to problem list coming soon

Question

- What is the purpose of the tool:
  - Provide improved health promotion information?
  - Adjust medical advice and care planning?
  - Resource referral?

Question

- Do you prefer an automated tool or a flowsheet questionnaire?
- Does your IT department have access to groupers and other EHR tools?
- How will the tool support or enhance existing clinical processes?

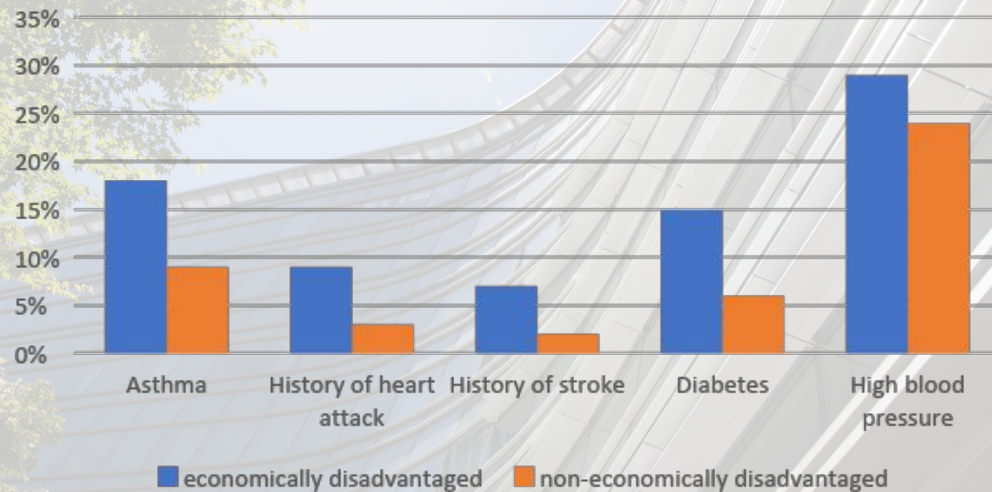
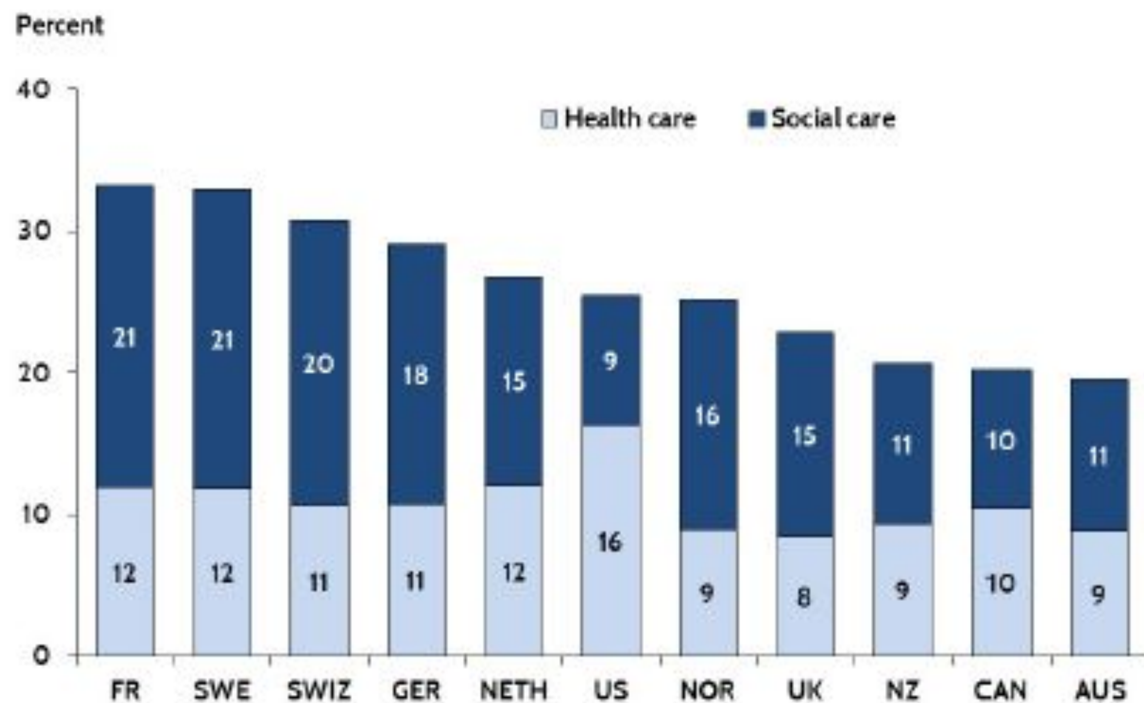

Rate of selected chronic illness by economic class
35%
30%
25%
20%
15%
10%
5%
0%
Asthma
History of heart attack
History of stroke
Diabetes
High blood pressure
economically disadvantaged
non-economically disadvantaged

Exhibit 8. Health and Social Care Spending as a Percentage of GDP



Notes: GDP refers to gross domestic product.
Source: E. H. Bradley and L. A. Taylor, *The American Health Care Paradox: Why Spending More is Getting Us Less*, Public Affairs, 2013.

Resources:

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Thank You

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Developing Risk Adjustment Models for Patient Care

Central City Concern's Population Segmentation Strategy

Miles Sledd, Associate Director of Primary Care
Matthew Mitchell, Data Strategist

APCM August Learning Session
August 16, 2018

Agenda

Context

- Where have we been?
- Where are we going?

Central City Concern's Strategy

- Population segmentation model
- Key takeaways

The Big Picture

How are social factors and population stratification valuable to health centers?

Where have we been?

Fee For Service

- Volume is king
- Quality is "bonus," not integral
- Poor coordination leads to disjointed care
- No incentive for long-term outcomes, or overall cost control

Where are we going?

Alternative Payments and Advanced Care Models

- Quality and coordination
- Work on upstream and root causes
- Broader impact (longitudinal, geographic, etc.)

Opportunity

- Attend to the experiences of patients who are complex (usually the most expensive)

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Paradigm Shift

Requires cultural shift, not just elaborate risk stratification models

- Change fundamental work habits
- Regular screenings
- Monitor population for emerging needs
- Co-evolve medical and social services
- Focus our attention…

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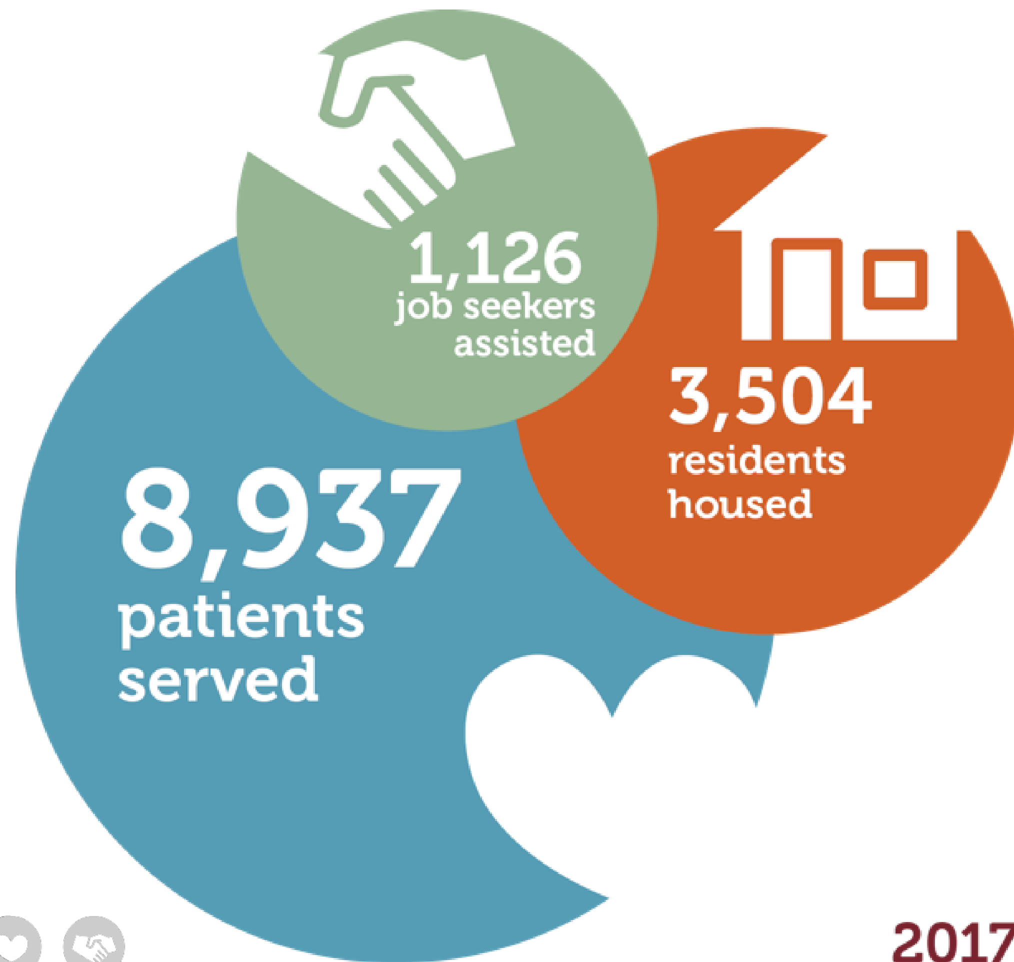
Know Thy Population

Central City Concern's population segmentation strategy

Snapshot of Central City Concern



2017

1700 APARTMENTS IN 24 BUILDINGS

- Transitional housing
- Permanent supportive housing
- Family housing
- Housing first and harm reduction programs

EMPLOYMENT SERVICES

- One-on-one supported employment services specific to individual and community needs
- Volunteer opportunities that build confidence and work skills
- Training through transitional
- jobs in social enterprises

13 FEDERALLY QUALIFIED HEALTH CENTER SITES

- Integrated primary & behavioral health care
- Community mental health services
- Subacute detoxification
- Inpatient and outpatient recovery services
- Acupuncture & naturopathic treatments
- Pharmacy

SOBERING SERVICES

- Transportation and stabilization services that protect the health and safety of the downtown community
- Harm reduction for individuals experiencing public intoxication

Why Population Segmentation?

- Population segmentation is the starting point for population health strategies
- Identifying meaningful segments within our population will help us target our resources more effectively
- Better targeted resources lead to better outcomes
- Need stratification, not risk stratification

Population Segmentation Design

Segmentation framework should be:

- Rigorous
- Clinically meaningful
- Operationally useful

Mixed methods design process

- Quantitative clustering model
- Qualitative refinement by clinical experts

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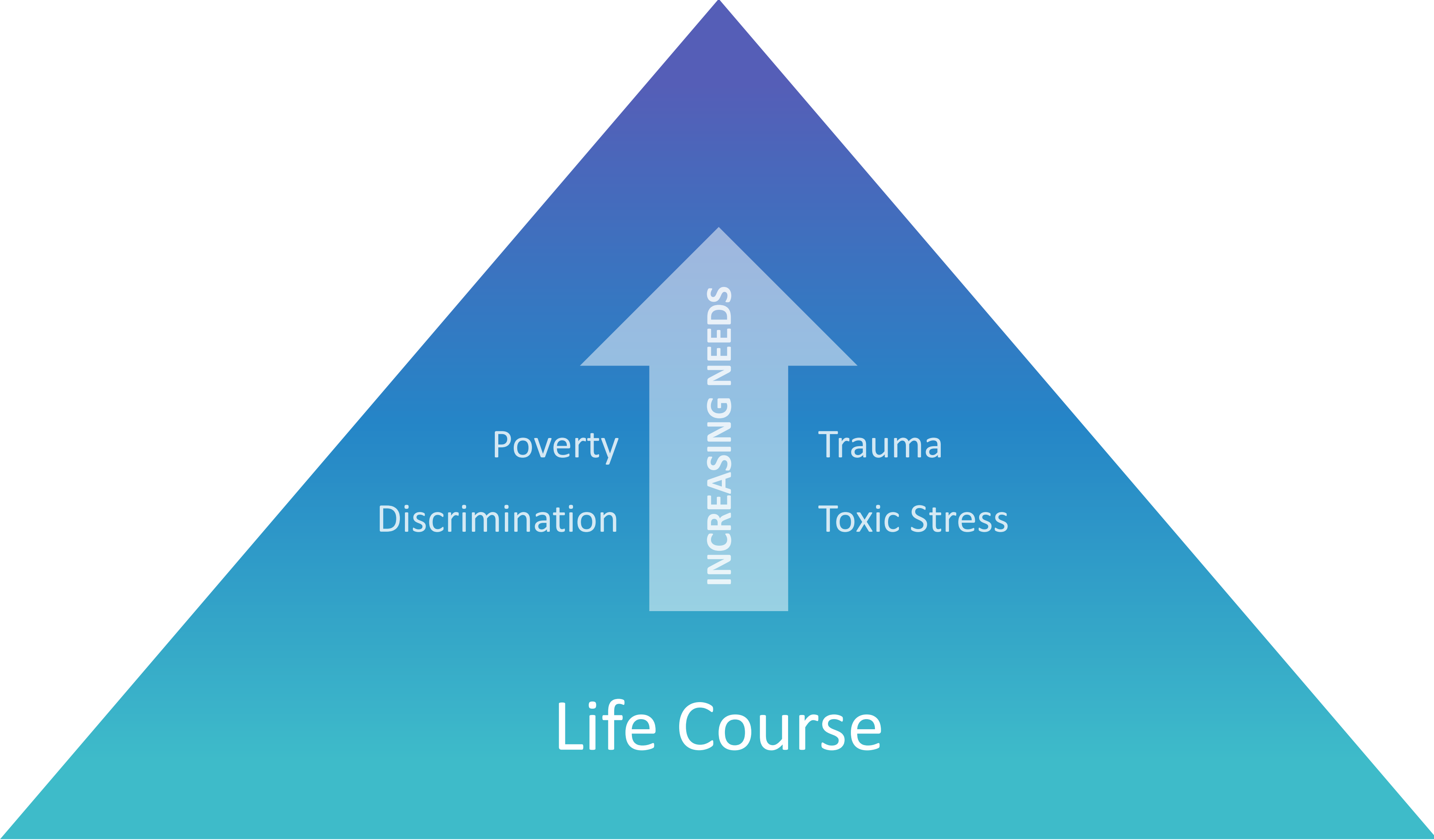

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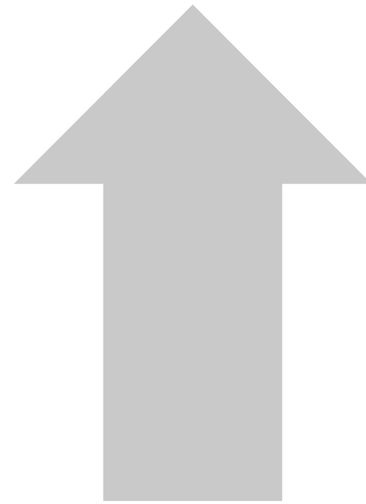
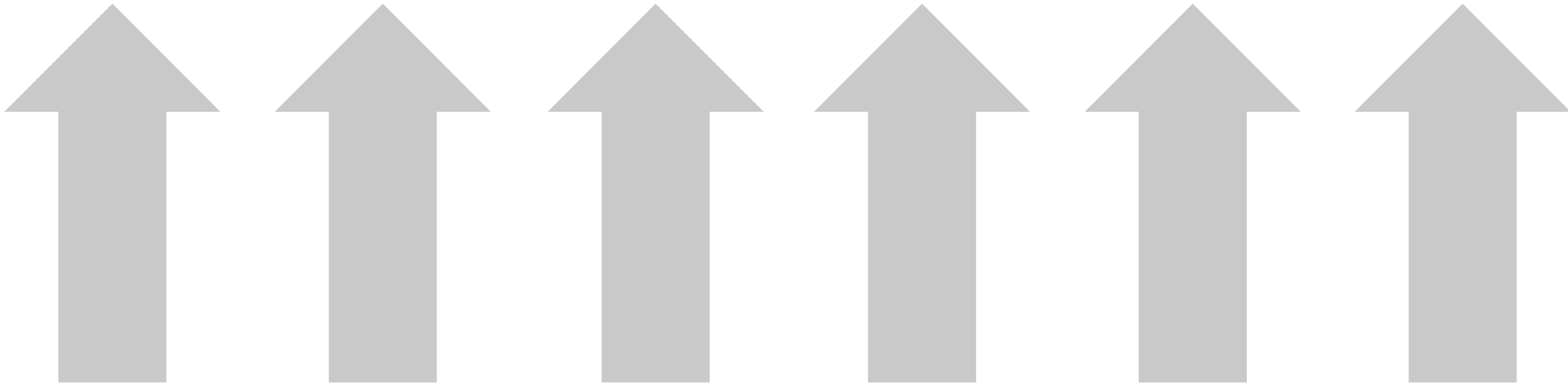
Older, sicker, complex needs



Younger, healthier, less complex needs

Older, sicker,
complex needs



Younger, healthier, less complex needs

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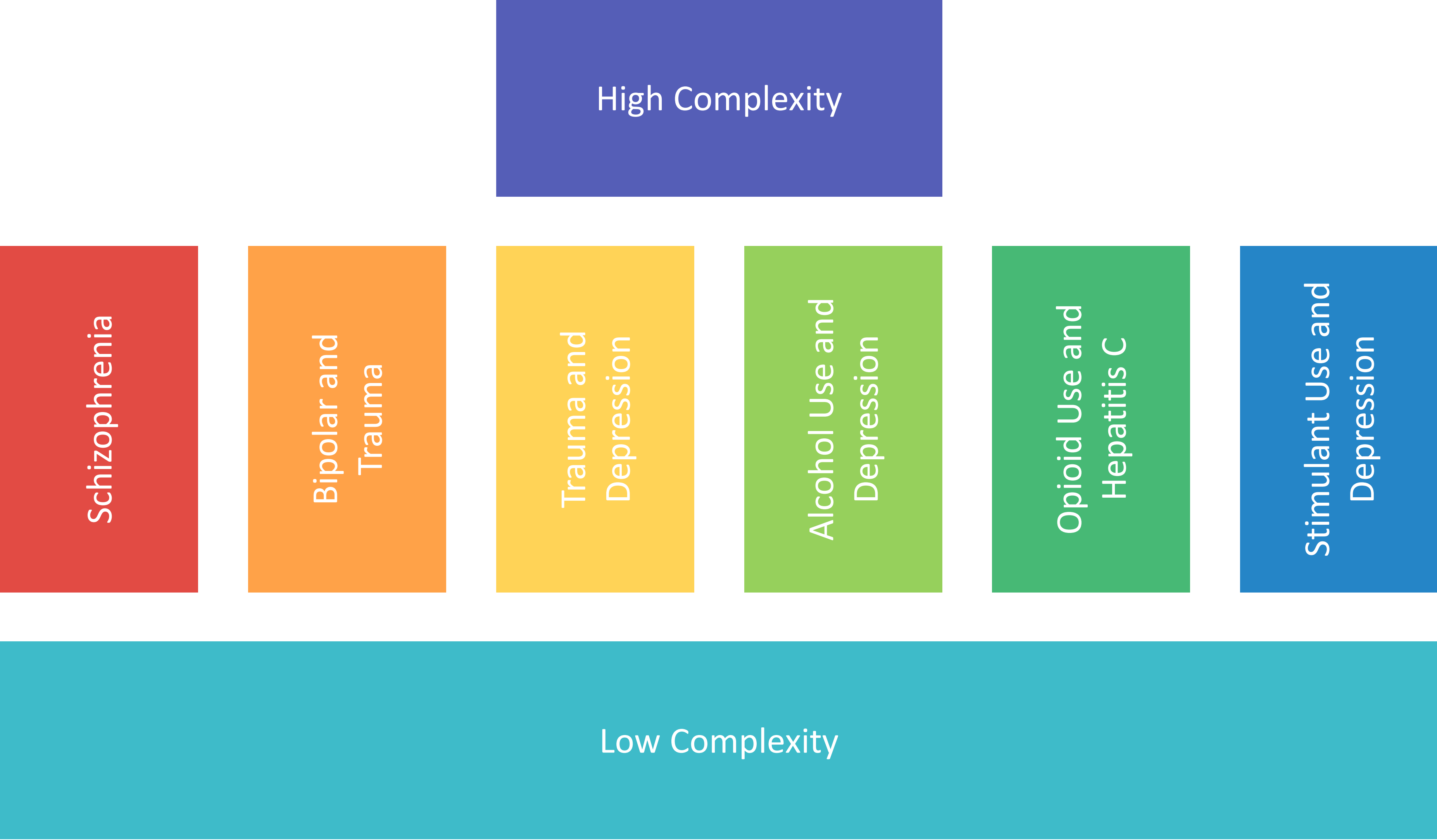

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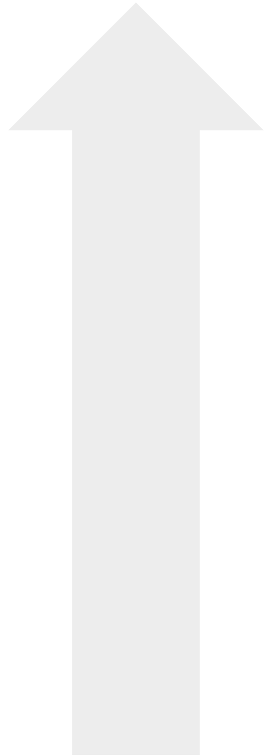

High Complexity

Schizophrenia
Medical

Bipolar
Trauma
Medical

Trauma
Depression
Medical

Depression
Alcohol
Medical

Opioid
Medical

Stimulant
Depression
Medical

Schizophrenia
Stimulant

Bipolar
Trauma

Trauma
Depression
SUD

Depression
Alcohol

Opioid
Hep C

Stimulant
Depression

Low Complexity

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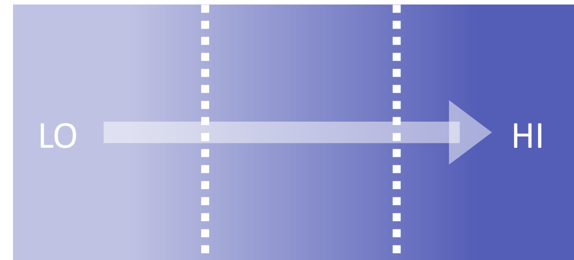
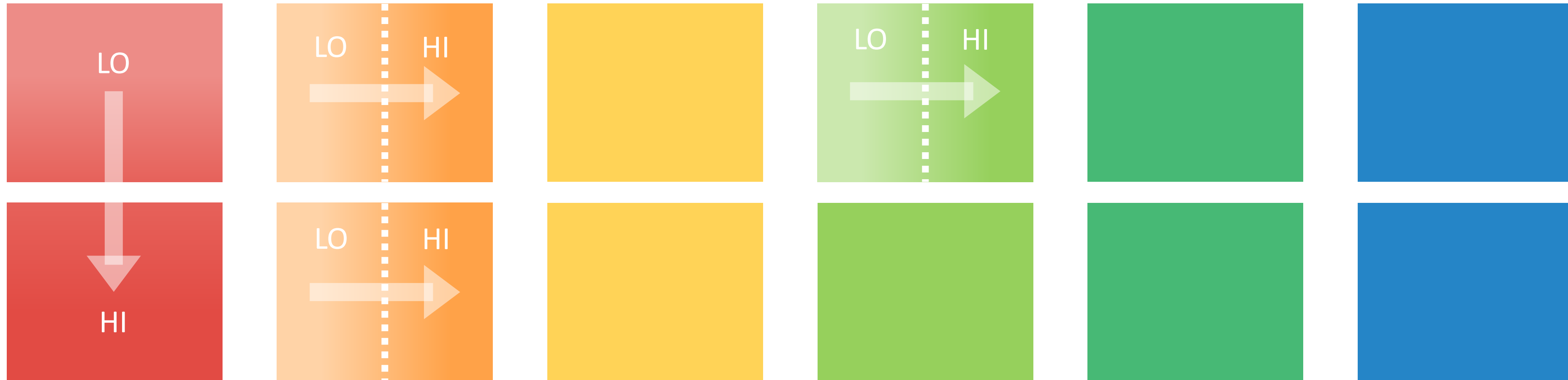
Some subgroups have high hospital utilization





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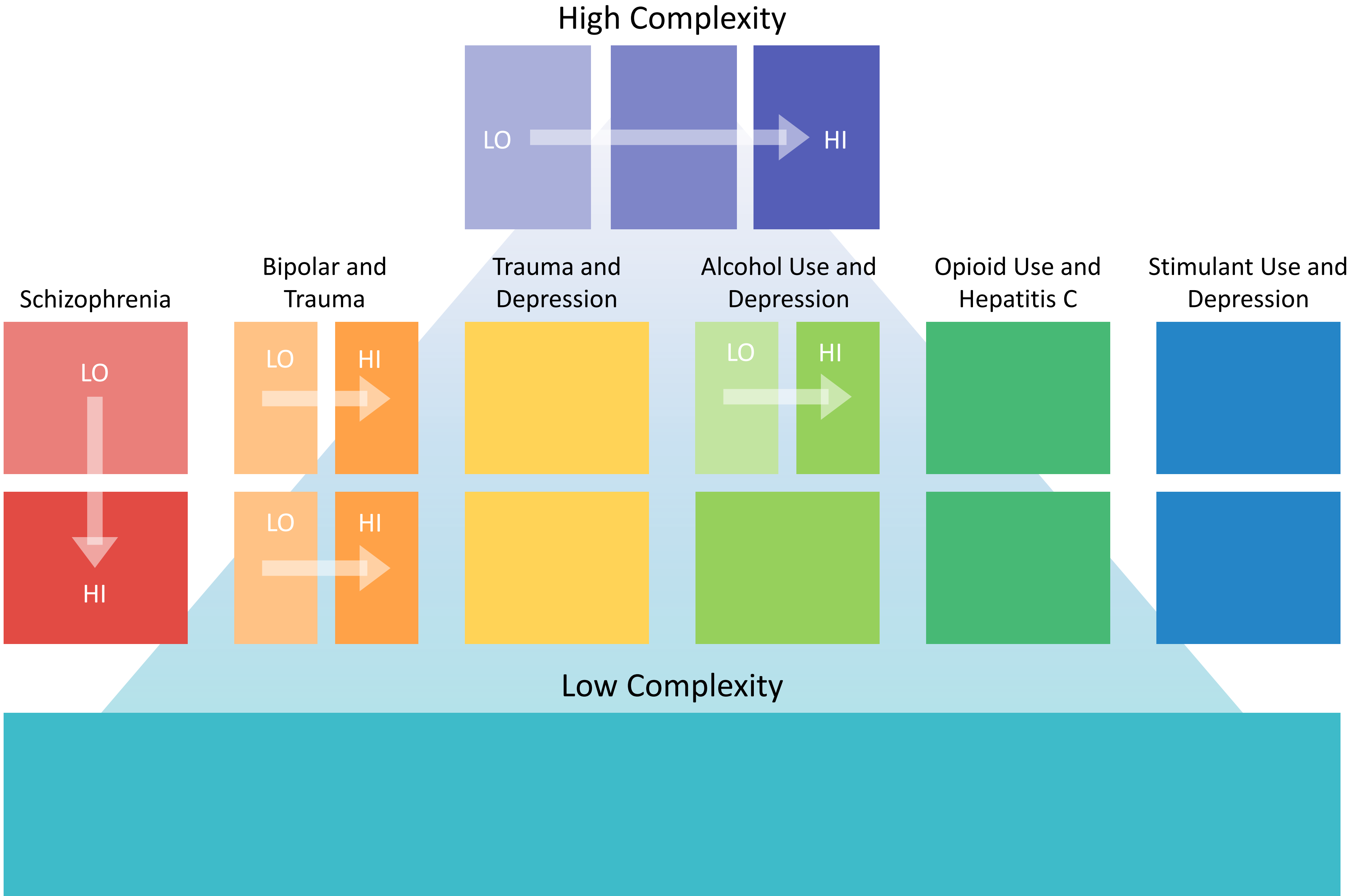
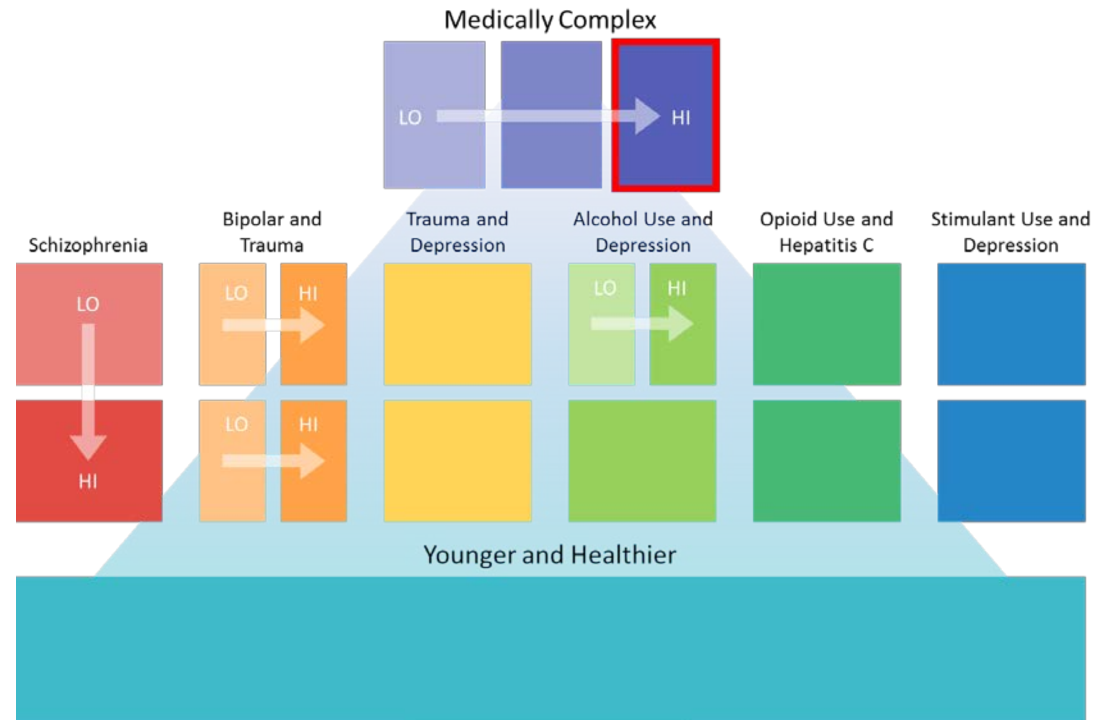

High Complexity
LO
HI
OLDER
Schizophrenia
LO
HI
Bipolar and Trauma
LO
HI
LO
HI
Trauma and Depression
Alcohol Use and Depression
LO
HI
Opioid Use and Hepatitis C
Stimulant Use and Depression
Low Complexity
YOUNGER
CENTRAL CITY CONCERN

From Theory to Practice

Ambulatory ICU

- Most complex, high utilizers
- Focused intervention requires targeting the right patients
- Generate referral suggestions based on segment



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High Risk Patient Selector

5605

Patient Count

OTC Status	HMIS Program
All	All

Care Team	Housing Status
All	All

Risk Scores

HCC Risk Score: 0.00 – 5.01

Hospitalization Risk: 0.1 % – 56.0 %

Health Subgroup: All

Utilization (6 Months)

Inpatient Admits: 0 – 12

ED Admits: 0 – 118

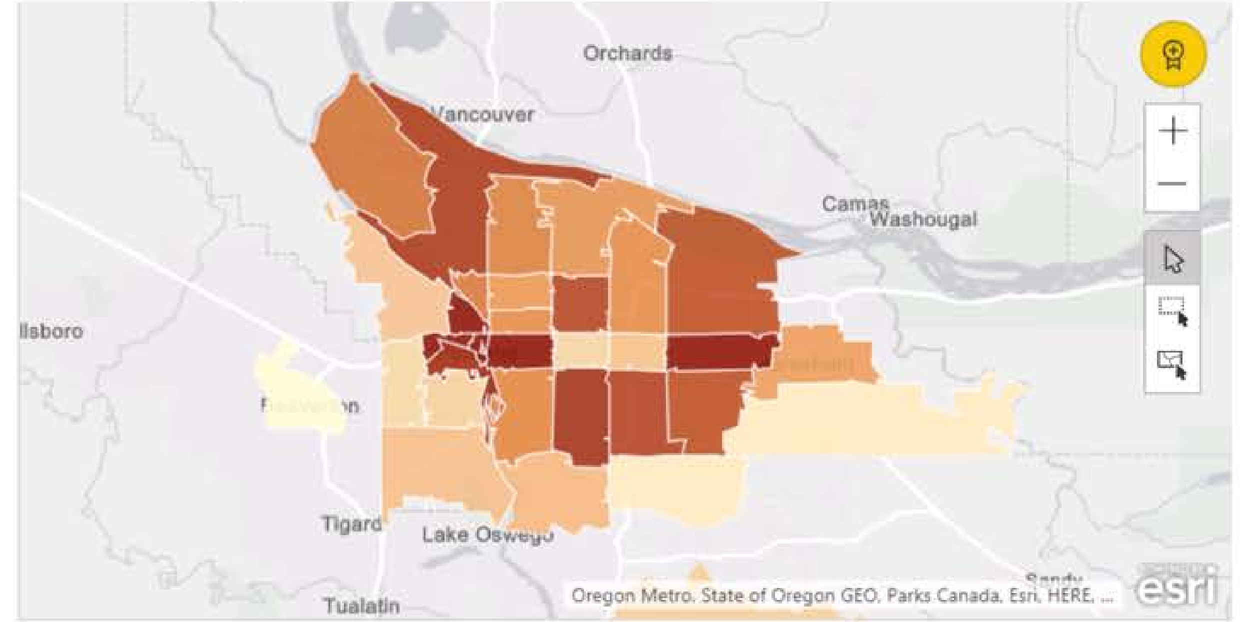
Completed PC Appts: 0 – 53

No Show PC Appts: 0 – 20

Selected Diagnoses

- ☐ Select All
- ☐ Alcohol Use
- ☐ Anxiety
- ☐ Bipolar Disorders
- ☐ Blood
- ☐ Cognitive Disorders/Head I...
- ☐ Depression
- ☐ Diabetes
- ☐ Heart
- ☐ Hypertension
- ☐ Infection
- ☐ Kidney
- ☐ Liver
- ☐ Lung
- ☐ Musculoskeletal
- ☐ Neurological
- ☐ Opioid Use
- ☐ Pain
- ☐ Schizophrenia and Psychosis

Patient Count by Zip Code



High Risk Outreach List

Client Name	Birth Date	PCP	Care Team	Hospitalization Risk
[illegible]	[illegible]	Gil MD, Richard	Summit	56.0 %
[illegible]	[illegible]	Herr, FNP, Jennifer N	Bridges	53.4 %
[illegible]	[illegible]	Bajaj ND LAc, Kipp R	Bridges	53.2 %
[illegible]	[illegible]	Kohn AGNP, Mary Anne	Fountains	52.1 %
[illegible]	[illegible]	Sustersic MD, Brianna L	Fountains	45.7 %
[illegible]	[illegible]	Martin PA-C, Barbara E	Pioneers	45.3 %
[illegible]	[illegible]	Bajaj ND LAc, Kipp R	Bridges	45.2 %
[illegible]	[illegible]	Devoe MD, Meg	Summit	45.0 %
[illegible]	[illegible]	Smith MD, Elijah T	Columns	43.8 %
[illegible]	[illegible]	Gil MD, Richard	Summit	42.9 %
[illegible]	[illegible]	Herr, FNP, Jennifer N	Bridges	42.5 %
[illegible]	[illegible]	Gil MD, Richard	Summit	41.5 %
[illegible]	[illegible]	Kohn AGNP, Mary Anne	Fountains	40.9 %
[illegible]	[illegible]	Gil MD, Richard	Summit	40.4 %

Risk Selector | Subgroup Explorer

Key Takeaways

- There will always be more patients than any team can keep track of
- Focus attention on what humans might overlook
- Focus on patient needs, not just risk scores
- Build tools and culture to focus attention on the right people at the right time

Questions?

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