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.
Setting
• County health department primary care department:
  • 34% of population is under 18
  • 65% Medicaid
  • 19% uninsured
  • 7% homeless
• Wanted to meet PCPCH criteria for Risk Stratification and identifying patients for care coordination

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
The diagram presents an analysis of various factors related to readiness and usefulness, divided into three dimensions:

- **Readiness**:
  - Self-Efficacy: NIH Toolbox (10 Q)
  - Race/Ethnicity: OMB (2 Q)
  - Optimism: LOT-R (8 Q)
  - Dietary Pattern: Fruit and Vegetable Consumption (2 Q)
  - Sex Orientation: Self identity (1 Q)
  - Health Literacy: Chew et al. (2008) (3 Q)
  - Depression: PROMIS-8b (8 Q)

- **Usefulness**:
  - 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)
  - Country of Origin: U.S. Census (2 Q)
  - Financial Strain: Housing Insecurity (1 Q)
  - Physical Activity: Accelerometer

- **Committee Judgment**:
  - Exposure to Violence: Intimate Partner Violence: HARK (4 Q)
  - Tobacco Use: NHIS (2 Q)
  - Social Connection and Isolation: NHANES III (4 Q)
  - Neighborhood and Community Compositional Characteristic: Residential address (1 Q)
  - Education: Educational Attainment (2 Q)
  - Physical Activity: Exercise Vital Sign (2 Q)
  - Depression: PHQ-2 (2 Q)
  - Alcohol Use: AUDIT-C (3 Q)
  - Stress: Elo et al. (2003) (1 Q)

Each factor is categorized based on its level of usefulness and readiness, with different symbols indicating the judgment of the committee.
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

- 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

Percent

Health care  Social care

FR  SWE  SWIZ  GER  NETH  US  NOR  UK  NZ  CAN  AUS

12  12  11  11  12  16  9  8  9  10  9

Notes: GDP refers to gross domestic product.
Resources:

- Charlson, M., Wells, M. T., Ullman, R., King, F., & Shmukler, C. (2014). The Charlson Comorbidity Index can be used prospectively to identify patients who will incur high future costs, PLOS One, 9(12), e112479. doi: 10.1371/journal.pone.0112479
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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)
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...
Know Thy Population

Central City Concern's population segmentation strategy
Snapshot of Central City Concern

- **1,126** job seekers assisted
- **3,504** residents housed
- **8,937** patients served

**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

**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

**2017**
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
Younger, healthier, less complex needs

Older, sicker, complex needs
Younger, healthier, less complex needs

Older, sicker, complex needs
Some subgroups have high hospital utilization.
Ambulatory ICU

• Most complex, high utilizers
• Focused intervention requires targeting the right patients
• Generate referral suggestions based on segment
**High Risk Patient Selector**

5605

**Patient Count**

- OTC Status: All
- HMIS Program: All
- Care Team: All
- Housing Status: All

**Risk Scores**

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<th>Health Subgroup</th>
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**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

**High Risk Outreach List**

<table>
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<th>Birth Date</th>
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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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