California Advancing & Innovating Medi-Cal

Population Health Risk Assessment and Risk Stratification Examples: CareOregon and Johns Hopkins HealthCare

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CareOregon: Background

• Oregon Medicaid Population Health requirements:
  – Individual health risk screens of all members
  – Share risk stratification and member characteristic data with providers in VBP arrangements

• CareOregon background:
  – Managed Care Organization serving 250,000 Medicaid and Medicare beneficiaries across urban and rural Oregon
CareOregon Health Risk Screening

• Approach:
  – 10 question screening tool that focuses on physical, behavioral and oral health needs; food insecurity; ADLs; housing stability; and interest in/connections to care coordination services.
  – Administer via mail, phone, patient portal, community events, etc.

• Successes:
  – Appropriate number of questions
  – Driving important conversations around standardized intervention protocols.

• Challenges:
  – Incorrect or incomplete submissions
  – Data entry burden
  – Data architecture/interoperability barriers
CareOregon Risk Stratification Approach

<table>
<thead>
<tr>
<th>Data Source</th>
<th>Input Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Claims</td>
<td>Age, ED Visits, Inpatient Admissions, Outpatient Other Visits</td>
</tr>
<tr>
<td>Pharmacy Claims</td>
<td>Pharmacy Cost, Other Derived Variables</td>
</tr>
<tr>
<td>ACG</td>
<td>Chronic Condition Count, Hospital Dominant Count, Major ADG Count, Diagnoses Used, Active Ingredient Count, Total Providers Seen</td>
</tr>
</tbody>
</table>

Cluster Analysis

Algorithm Output

Human assigned Labels
Total CareOregon Population

*Utilization patterns of members/patients

*Provides framework for how to communicate and match the correct intervention with the need
Johns Hopkins HealthCare: Background

- Maryland Medicaid Population Health requirements:
  - No requirements around conducting health risk screenings
  - Requirements to identify special needs populations and populations who require care management

- Johns Hopkins HealthCare background:
  - Managed care organization with Medicaid, Medicare Advantage, and commercial lines
  - 300,000 beneficiaries across Maryland
  - NCQA accredited
Johns Hopkins Screening and Risk Stratification Approach

• **Screening:**
  – Administered for certain health education programs and specific populations (e.g. pregnant women)

• **Risk Stratification Approach:**
  – Used to identify patients for Complex Care Management and disease management programs
  – Id’d based on ACGs, authorizations, lab data, pharmacy data, and EHR data
  – Also look to state-wide health exchange and disease registries for additional information
## ACG Fields Used for Risk Stratification

<table>
<thead>
<tr>
<th>ACG field</th>
<th>Definition</th>
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</thead>
<tbody>
<tr>
<td>Probability of High Total Cost</td>
<td>Predicted probability (from 0 to 1) that the patient will be high cost in the following year, based on risk factors (i.e., age, gender, disease burden, disease markers, resource use, medication patterns, and special population markers)</td>
</tr>
<tr>
<td>Probability of Inpatient Admission</td>
<td>Predicted probability (from 0 to 1) that the patient will be hospitalized in the following year, based on risk factors (i.e., age, gender, disease burden, disease markers, resource use, medication patterns, and special population markers)</td>
</tr>
<tr>
<td>Resource Utilization Band (RUB)</td>
<td>Concurrent relative resource use categorized from 0 to 5, where 0 = non-user and 5 = high resource user</td>
</tr>
<tr>
<td>Coordination Risk</td>
<td>Indicates whether a person has an unlikely (U), possible (P), or likely (L) coordination issue (CI). Based on 5 coordination markers, including number of management visits, level of provider participation in care, and provider, specialist, and generalist counts. LCI indicates 7+ unique providers, and PCI includes 2-6 unique providers plus other coordination risk markers.</td>
</tr>
<tr>
<td>Medication Possession Ratio (MPR)</td>
<td>MPR represents the average supply days over the prescribing period. An MPR &lt; .80 indicates low medication adherence for any of the following conditions: asthma, diabetes, CHF, HTN, IHD, disorders of lipid metabolism, depression, bipolar, schizophrenia</td>
</tr>
<tr>
<td>Frailty</td>
<td>Yes/No field indicating whether a patient has a diagnosis representing a medical problem associated with frailty (i.e., dementia, malnutrition, incontinence, vision impairment, fall risk, difficulty walking, decubitus ulcer, social support needs)</td>
</tr>
</tbody>
</table>
Johns Hopkins Risk Stratification

• **Successes:**
  – NCQA requirements
  – Using ACG system as backbone
  – Focusing risk assessment efforts on specific subpopulations in need of care management and/or with high needs

• **Challenges:**
  – Lack of BH data
  – Difficult to risk stratify if don’t have claims data
Questions?