OptumInsight Medical Quality, Access & Cost Solutions
Impact Pro

Lloyd Brodsky
Symmetry Suite: A Business Standard

- Universal language and business standard for health care analytics in the marketplace

- Only product suite in the market providing comprehensive health care analytic solutions through “component” engines on an integrated platform

Symmetry Suite

ETG  ERG  EBM
Clinical Resource Measurement  Risk Assessment and Predictive Modeling  Quality Measurement

A complete toolkit for health care management and analytics
Measuring Risk

Four Steps to Prediction:

1. Inputs
   - Demographics
   - Medical Claims
   - Rx Claims
   - Lab Results

2. Markers
   - Disease Prevalence, Severity
   - Condition Based Risk Markers
   - Service-Based Risk Markers
     - High Acuity Events
     - Moderate/ Lower Risk Markers
     - Rx Markers

3. Weights
   - Measures of Risk
   - Translating Markers to Predictive Risk
     - Apply weights measuring contribution of each Marker to Overall Risk
   - Member Clinical Risk Profile
     - Array of markers for each member

4. Risk
   - Combine profile and risk results to complete Member Profile
   - Patient-centered Risk Profile
     - Risk score for each model
     - Key drivers of risk
### Predicting Risk and Future Cost

#### Member Markers of Risk

<table>
<thead>
<tr>
<th>Member Markers of Risk</th>
<th>Relative Risk Score</th>
<th>Predicted Annual Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Base</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diabetes</td>
<td>0.420</td>
<td>$1,714</td>
</tr>
<tr>
<td><strong>Severity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diabetes, Added Severity II</td>
<td>0.681</td>
<td>$2,728</td>
</tr>
<tr>
<td><strong>Service</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inpatient stay, diabetes within recent 3 months</td>
<td>2.362</td>
<td>$9,637</td>
</tr>
<tr>
<td><strong>Base</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heart Failure</td>
<td>0.762</td>
<td>$3,109</td>
</tr>
<tr>
<td><strong>Severity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heart Failure, Added Severity I</td>
<td>0.205</td>
<td>$836</td>
</tr>
<tr>
<td><strong>Service</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High HF episode clusters, recent 3 months</td>
<td>1.366</td>
<td>$5,573</td>
</tr>
<tr>
<td><strong>Demographic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male, 55 – 64</td>
<td>0.616</td>
<td>$2,513</td>
</tr>
</tbody>
</table>

**6.412**  
**$26,161**

Patient-centered profile – Clinical Profile

Each member’s Clinical Profile is based upon the latest evidence-based medicine and rules which you can tailor to specific populations.

- Demographics
- Medical Claims
- Rx Claims
- Lab Results

Symmetry EBM Connect®

Disease Prevalence, Co-morbidities, Complications
- Grouping of inputs to support disease identification (40+ Condition)

Compliance Assessment
- Analysis of compliance with Evidence Based and nationally recognized treatment guidelines (e.g. NCQA, AQHC, NQF)

Disease Prevalence, Co-Morbidities Complication Utilization
- Identify in detail clinical conditions, complications, co-morbidities, services, and significant utilization events

Care Opportunity Assessment
- Identify departures from consensus-based clinical practice guidelines

Patient-centered Clinical Profile
Predictive Modeling – Case Example

Differentiating Between Members

<table>
<thead>
<tr>
<th>Patient A.</th>
<th>Patient B.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male, 52, Diabetic</td>
<td>Male, 60, Diabetic</td>
</tr>
</tbody>
</table>

- Type 2 Diabetic, non-insulin dependent
- Most recent HbA1c is 8.9; taken 2 months ago
- Hospitalization 6 months ago for AMI
- Multiple outpatient visits over last 12 months
- Prior year’s cost $21,700

- Type 2 Diabetic, non-insulin dependent
- Most recent HbA1c is 8.2; taken 9 months ago
- Multiple outpatient visits over last 12 months
- Prior year’s cost $25,400
### Impact Pro Case Example
#### Looking Deeper

<table>
<thead>
<tr>
<th></th>
<th>Patient A</th>
<th>Patient B</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prior Cost</strong></td>
<td>$21,700</td>
<td>$25,400</td>
</tr>
<tr>
<td><strong>Predicted Risk (Cost)</strong></td>
<td>9.0 ($34,020)</td>
<td>4.0 ($15,120)</td>
</tr>
<tr>
<td><strong>Predicted Risk (Inpatient)</strong></td>
<td>29.2% in next 3 months</td>
<td>6.9% in next 3 months</td>
</tr>
<tr>
<td><strong>Disease Prevalence</strong></td>
<td>Diabetes</td>
<td>Diabetes</td>
</tr>
<tr>
<td><strong>Co-morbidity and Complication Markers</strong></td>
<td>Coronary Artery Disease (CAD) , Hyperlipidemia (Rx-based)</td>
<td>Hypertension</td>
</tr>
<tr>
<td><strong>Management</strong></td>
<td>Hospitalization – AMI, Over 15 Outpatient Visits (Diabetes and CAD)</td>
<td>Over 15 Outpatient Visits – (Carpal Tunnel Syndrome)</td>
</tr>
<tr>
<td><strong>EBM-compliance</strong></td>
<td>Not refilling Beta-blockers for CAD</td>
<td>No eye exam for Diabetes, No recent HbA1c Test</td>
</tr>
<tr>
<td><strong>Care Team</strong></td>
<td>Dr. Sugar – Diabetes Manager, No Cardiac Care Manager</td>
<td>Dr. Pressure – Cardiac Care, No Primary Care Physician</td>
</tr>
<tr>
<td><strong>Care Alerts</strong></td>
<td>Poor CAD/Diabetes Management, Not Refilling Beta-blockers, No Cardiac Care Manager</td>
<td>Lack of Eye Exam, Lack of recent HbA1c Test, No Primary Care Physician</td>
</tr>
<tr>
<td><strong>Intervention Program</strong></td>
<td>Diabetes, Level 4 (High)</td>
<td>Diabetes, Level 2 (Medium)</td>
</tr>
</tbody>
</table>
What’s good

- Will get plausible explainable product-line cost accounting
  - A vast improvement if you haven’t had this before
- Will get a reasonable assessment of risk
  - Total population Rsquared around 30% in 70’s for chronically ill
- Useful for overall population health and quality assessment
- Useful for a patient-level overview of predictable problems
What’s less good

• Uses claims data, not clinical data
  – No vital signs, no clinical surveys etc.
  – Many clinical observations not recorded as diagnoses
    • Obesity, for example
  – Keep in mind clinical data isn’t very standardized and is hard to get

• Static model
  – Takes a year’s worth of data and generate a report

• Neither a workflow nor an alerting system
  – Although it’s easy enough to integrate if you have one because the output is flat files

• No intrinsic followup
  – Ideally, you’d want to know what happened to your high-risk patients the following year, compare actual to expected, and engage in continuous process improvement

• Uses standard prices, not actual
Design problems in using analysis (ANY analysis)

• Speaking of continuous process improvement, be clear that useful reporting is only one step in a larger process

• Who are you going to tell (and how)?
  – The PCP? One of the specialists? The patient? The patient’s caregiver?
  – If you don’t have secure email or a workflow system

• Who do you want to do what after you tell them?
  – Just telling the patient to lose weight isn’t that helpful

• Why are they going to pay attention and believe you? (and should they?)
  – In the absence of common expectations about outcomes and how to achieve them people tend to follow their instincts
  – Keep in mind most clinicians don’t have a background in lean processes or pop health info on their own patients

• What do you do if they don’t?