CHT-Innovation Pilot Summary

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VISION
To make health and healthcare a competitive advantage for Greater Cincinnati and the communities we serve.
Goals

• Produce clinical data reporting with cost; specifically:
  • CCD and/or QRDA
  • Which measures could be produced
  • Simple data collection
  • Scalable & automated solution
  • Patient matching
  • Benefits and limitations
Goals - continued

• Providing information to consumers
  • Identify how to best display value – quality and cost together
  • Vet this proof of concept with key advisors
Current Environment

- Public Reporting
  - Yourhealthmatters.org
  - Manual process
- Health Information Exchange (HIE)
  - Robust technology stack but no eCQM solution
# Clinical Data Format Analysis

<table>
<thead>
<tr>
<th>Function</th>
<th>QRDA Cat I</th>
<th>CCD</th>
</tr>
</thead>
<tbody>
<tr>
<td>MU Requirement for EHR to generate</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Simple for EHR to configure</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Less Privacy Issues</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Ability to generate multiple measures per document type</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Ability to use document for many other uses</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Clinical Data – “Digital Exhaust”

- Source: Health System utilizing Epic
- DIRECT method utilizing existing MirthMail
- Approximately 6,000 CCD’s daily
- CCD’s extracted, processed against MPI and stored for later use
Cost Data – Custom Work

- Source: Self insured health system
- Custom flat files for
  - Member file
  - Claims files
- sFTP collection
- Files processed against MPI and stored for later use
eCQM Processing

• Open Source / Freely Available Tools
  • **Measure Authoring Tool** – author eCQM to produce HQMF
  • **Value Set Authority Center** – official vocabulary sets
  • **BONNIE** – eCQM testing tool
  • **Cypress** – MU testing tool
  • **popHealth** – eCQM engine
eCQM + Cost Combining Process

1. Generate the measure
2. Locate the Enterprise Patient ID in numerator and denominator
3. Locate EID from Cost data set
4. Include cost in measure
## Measure Summary by Practice

<table>
<thead>
<tr>
<th>Location</th>
<th>% of Patients with HBA1C &gt; 9</th>
<th>Average Cost Per Patient with HBA1C &gt; 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outpatient Clinic</td>
<td>2%</td>
<td>$1,346.68</td>
</tr>
<tr>
<td>Family Practice Clinic</td>
<td>4%</td>
<td>$1,031.97</td>
</tr>
<tr>
<td>Primary Care Clinic</td>
<td>10%</td>
<td>$5,526.19</td>
</tr>
<tr>
<td>ALL CLINICS</td>
<td>5%</td>
<td>$3,645.05</td>
</tr>
</tbody>
</table>
### Consumer Display - MONAHRQ

<table>
<thead>
<tr>
<th>Practice</th>
<th>Health Topic</th>
<th>Quality of Care</th>
<th>Cost of Care (least = $)</th>
<th>Patient Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practice A</td>
<td>Diabetes Care</td>
<td>AVERAGE</td>
<td>$</td>
<td>BELOW AVERAGE</td>
</tr>
<tr>
<td>Practice B</td>
<td>Diabetes Care</td>
<td>BETTER THAN AVERAGE</td>
<td>$$$$</td>
<td>AVERAGE</td>
</tr>
<tr>
<td>Practice C</td>
<td>Diabetes Care</td>
<td>BETTER THAN AVERAGE</td>
<td>$$</td>
<td>NOT ENOUGH DATA TO REPORT</td>
</tr>
</tbody>
</table>
Claims Data Warehouse

Claims Data (sFTP)

Integration Engine

EHR

CCD (XDR)

DIRECT Solution

Master Patient, Provider & Organization Index

eCQM Measure Engine and Tools

CMS eCQM Tools:
- Complete set of open source tools to test, generate and validate CMS based quality measures.
- All code, tools and data sets approved by CMS.
- TOOLS: Cypress, BONNIE, popHealth, NLM VSAC, mongoDB

Website Display Tools

MONAHRQ
Web display of pre-computed healthcare measure data

THE HEALTH COLLABORATIVE
Findings – the good

- CCD is a very good, multi-use source to generate quality measures. We were able to generate 93 CMS measures with this data set.
- Freely available software DOES exist for critical components eCQM processing & display
Findings – room for improvement

• Obtaining legal agreement for this reporting is challenging
• Some commercially available software was required
  • MPI
  • Data normalization
  • DIRECT
• While freely available software is available, there is risk of lack of future development