Moving From Big Data To Smart Data: How To Integrate Clinical & Financial Data To Manage Performance

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Joseph P. Naughton-Travers, EdM, Senior Associate, OPEN MINDS

www.openminds.com
15 Lincoln Square, Gettysburg, Pennsylvania 17325
Phone: 717-334-1329 - Email: info@openminds.com
Agenda

I. Big Data & Smart Data

II. Minky Kernacs, Enterprise Architect, Philadelphia Department of Behavioral Health and Intellectual disAbility Services

III. Kate Sanders, Quality Outcomes & Data Manager, Porter-Starke Services

IV. Questions & Discussion
Big Data & Smart Data

What Providers Need For Success In A Changing Health Care Environment
What Is Big Data?

- Big data is a term for data sets that are so large or complex that traditional data processing application software is inadequate to deal with them. Big data challenges include capturing data, data storage, data analysis, search, sharing, transfer, visualization, querying, updating and information privacy.

- Lately, the term "big data" tends to refer to the use of predictive analytics, user behavior analytics, or certain other advanced data analytics methods that extract value from data, and seldom to a particular size of data set.
What Is Smart Data?

- Smart data is information that can be acted upon by your staff to improve performance.
- Smart data requires your organization to integrate key clinical and financial information.
- For provider organizations, key smart data sources are typically your organization’s electronic health record system (fully implemented, including outcome measures) and your financial management and accounting systems.
Why Do We Need Smart Data?

- Collecting the data is only the first step... you need a way to combine and organize that data into actionable information that will help manage clinical and financial performance.

- Your organization need to have actionable, integrated information in order to be nimble in clinical service delivery and cost management.

- Your organization needs smart data to make data-driven decisions and manage with metrics.

The shift to value-based care demands new competencies to manage populations.
Key Data Management Competencies For Population Health Management

- Aggregation of health data on a population of consumers
- Analysis and risk stratification of the health data
- Identification of high-risk consumers
- Identification of optimal interventions for high-risk consumers
- Care management and follow-up
How Do You Turn Big Data Into Smart Data?

1. “Integrate” clinical and financial data in some form of data warehouse

2. Understand what information is needed to manage performance

3. Use the data warehouse to produce real-time actionable performance reports
Use Smart Data To Build A Value-Based Data Dashboard

Data Warehouse (EHR, HR, Fiscal) + Analytics Engine

Value-Based Metrics Data Dashboard
- Longitudinal Goal Progress
- Case Prioritization
- Workforce management
- Risk Evaluation
- Cap Rate Monitoring
Use Smart Data For Real-Time Monitoring & Decision Support

- Assign Treatment Goals
- Measure Progress
- Monitor Risk
- Track Treatment Changes
- Achieve Outcomes

- Resource Allocation
- Case Prioritization
- Program Evaluation
- Establish Practice-based Evidence
- Fidelity to Best Practices
Top Leadership Tasks For Creating & Leveraging Smart Data

- Establishing new mind-sets
- Defining a data-analytics strategy
- Determining what to build, purchase, borrow, or rent
- Securing analytics expertise
- Mobilizing resources
- Building frontline capabilities
The Biggest Problem? Lack Of Data Management Infrastructure

- **4 in 5** organizations surveyed do not have an integrated strategy for using analytics.
- **1 in 3** health systems report that they do not know their organization’s total spending on analytics.
- **1 in 4** health systems report that they do not have a data governance model in place.
Can Your Leadership Team Handle Smart Data?

“Today, as the power of data and analytics profoundly alters the business landscape, companies once again may need more top-management muscle. Capturing data-related opportunities to improve revenues, boost productivity, and create entirely new businesses puts new demands on companies—requiring not only new talent and investments in information infrastructure, but also significant changes in mind-sets and frontline training. “

Smart Data = Proactive Effectiveness
Big Data

- Terabytes daily
- Social Websites
- Omni Channel Marketing
Big Data – DBHIDS Style

20 + years of data - connect the dots

26 source systems

3 Major Organizations
• County Funded/City
• Community Behavioral Health
• Behavioral Health Special Initiative

Providers
Services
Service Recipients
Effective Key Performance Indicators

- Recidivism
- Service Level Agreement
- Service Recipient Success Path

- Real-time
- Repeatable
- Auditable
- Trending
Holistic Approach + Predictive Analysis

- Finite
- Segmenting
  - Demographic
  - Success Roadmap
- Program Roadmap
  - Drop-out
  - Completion Time
- Provider Pathway
Holistic Approach + Predictive Analytics

- Lease Arrangement secured
- Decrease in Outreach Encounters
- Decrease in Crisis Response Centers
- Decreased Incarcerations
- Decrease in 302s
- Increase in Services adherence
Components

- Sources
  - Data Governance
    - Data Modeling
  - Data Integration
    - Data Science
      - Data Visualization
  - Predictive Analysis
Data Governance

- Security
- Usage
- Manage
- Terminology
Data Modeling

• Data view of organization
• Integration
• Storage
• Availability
Data Visualization

• Inspire
• Inform
• Decide
Data Science

also known as data-driven science, is an interdisciplinary field about scientific methods, processes, and systems to extract knowledge or insights from data in various forms
Porter-Starke Services

Kate Sanders, Quality Outcomes & Data Manager, Porter-Starke Services
From Big Data to Smart Data: Case Study from a CMHC

Kate Sanders, MA
Quality Outcomes & Data Manager
Who Am I?

• I manage our quality improvement processes, data collection & analyses, & reporting
• Previous experience: cognitive psychology research & marketing & development
Porter-Starke Services

- Community mental health centers + FQHC
- ~16,000 clients served/year
- Services include: outpatient, inpatient, methadone clinic, substance use treatment, case management, & primary healthcare
Three Examples

- Patient Report Card
- Uniform Data System (UDS) Reporting
- Behavioral Health Quality Incentive Program (BHQIP) Participation
Patient Report Card

• Developed for studying SAMHSA grant cohort
• Needed a way to track screening results over the 4-year grant period
• Goals:
  – Creating a way to connect results over time to the same individual, and by subgroups
  – Showing a positive impact on patients’ health
• iCentrix created a dashboard to check results by subgroups and individual patients
Patient Report Card

• Impact on performance:
  – Providers could provide patients with referrals and tailor treatment as indicated by screening results
  – We identified poorer outcomes that required more attention

• Successful performance management:
  – Improved health of patients
  – Met grant requirements
  – Learned our impact on any of these health metrics
UDS Reporting

• Annual report required for FQHCs
  – Report & measures established by the Health Resources & Services Administration (HRSA)

• Need to track clinical, fiscal, & staffing data
  – Clinical health measures
  – Billing revenues & costs
  – Staffing FTEs & types of personnel
UDS Reporting

• Performance management:
  – Focus on specific measures
  – Compare to thresholds we developed
  – Review established reports regularly

<table>
<thead>
<tr>
<th>Quality Indicator Goals (always YTD)</th>
<th>Total YTD</th>
<th>ANNUAL TARGET</th>
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</thead>
<tbody>
<tr>
<td>12 Tobacco use screening and cessation intervention</td>
<td>76%</td>
<td>40%</td>
</tr>
<tr>
<td>13 Appropriate pharmacologic asthma therapy</td>
<td>93%</td>
<td>50%</td>
</tr>
<tr>
<td>14 Coronary artery disease and lipid lowering therapy</td>
<td>57%</td>
<td>50%</td>
</tr>
<tr>
<td>15 Ischemic vascular disease and antithrombotic therapy</td>
<td>75%</td>
<td>40%</td>
</tr>
<tr>
<td>16 Colorectal cancer screening</td>
<td>12%</td>
<td>50%</td>
</tr>
<tr>
<td>18 Adults with hypertension with most recent blood pressure &lt;=140/90</td>
<td>45%</td>
<td>50%</td>
</tr>
</tbody>
</table>
UDS Reporting

• Integrating data:
  – Performance clinically compared with performance financially

• Results:
  – Generate a cost per patient
  – Determine productivity per provider type
  – Compare performance to other FQHCs
UDS Reporting

• Successful performance management:
  – Improved health of patients
  – Meet grant requirements
  – Demonstrate value of services to patients:
    • How effectively we “moved the needle” on specific HRSA-determined measures of health
    • How cost-efficiently we addressed those measures
  – Describe the “state of the FQHC” regularly
Managed Care

• Currently work on incentive projects with Managed Care Entities
• Payment is provided for meeting certain measures (only upside risk to us: no hits)
• One such project: Anthem Blue Cross & Blue Shield’s BHQIP
Managed Care: BHQIP

• Financial benefits directly tied to quality

• Quarterly claims data used to determine performance on measures
  – We also use a separate database updated monthly with state Medicaid claims

• Goals:
  – Determine strategies for improving outcomes
  – Surpass target thresholds for eight measures
Managed Care: BHQIP

• How can we improve our outcomes?
  – Change/tighten current processes
  – Use our patient data to target patients

• Results:
  – Better clinical care provided: the claims data show how well our processes are working
  – Gaps in care are highlighted and closed
Managed Care: BHQIP

• Demonstrate benefits of targeted interventions:
  – Improve processes
  – Improve standard of care for all

• Incentive programs build relationships
  – Help us understand what payors value
  – Prepare us for direction payors are going in
  – Provide opportunity for partnerships on other programs (like MOMentum)
Summary

• Project learnings:
  – How to describe patient populations & the care we provide
  – Using patient data to inform individual care
  – Using fiscal and clinical data to determine the value of care provided
  – Using new data, establishing collaborations, & utilizing incentive structures to inform change
Thanks!

Kate Sanders

Porter-Starke Services
Questions & Discussion
Turning market intelligence into business advantage

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