Driving Enterprise ROI by Eliminating Data Silos

Session #45, March 6, 2018
Soyal Momin, VP, Data and Analytics,
Presbyterian Healthcare Services
Conflict of Interest

Soyal Momin

Has no real or apparent conflicts of interest to report
Agenda

- Data and Analytics - Vision
- Data and Analytics - Operating Model
- Data and Analytics – Technology
- Value Realization
- What Keeps Me Up at Night?
- What is Next?
Learning Objectives

• Assemble an infrastructure around people, process and technology to drive a data-driven culture

• Create business value from enterprise wide data and analytics strategy and execution

• Discuss stakeholder buy-in and organizational-wide support by leveraging change management tools and creating a culture of inclusion across the enterprise
### Presbyterian Healthcare Services

#### At A Glance

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2,800</strong></td>
<td>employed NURSES</td>
</tr>
<tr>
<td><strong>1.84+ million</strong></td>
<td>VISITS to Presbyterian Medical Group</td>
</tr>
<tr>
<td><strong>456,626</strong></td>
<td>Presbyterian Health Plan MEMBERS</td>
</tr>
<tr>
<td><strong>More than $120 million annually</strong></td>
<td>in COMMUNITY BENEFIT (including financial assistance)</td>
</tr>
<tr>
<td><strong>734,960</strong></td>
<td>INDIVIDUAL CUSTOMERS served</td>
</tr>
<tr>
<td><strong>10,750+</strong></td>
<td>EMPLOYEES statewide</td>
</tr>
<tr>
<td><strong>824</strong></td>
<td>employed PROVIDERS in Presbyterian Medical Group</td>
</tr>
<tr>
<td><strong>134,725</strong></td>
<td>PATIENTS REGISTERED to use MyChart, Presbyterian’s patient portal</td>
</tr>
<tr>
<td><strong>117,383</strong></td>
<td>emergency and non-emergency CALLS TO ALBUQUERQUE AMBULANCE SERVICE</td>
</tr>
<tr>
<td><strong>1,002</strong></td>
<td>VOLUNTEERS statewide</td>
</tr>
<tr>
<td><strong>18,843</strong></td>
<td>PROVIDERS in the Presbyterian Health Plan network</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>HOME HEALTHCARE programs</td>
</tr>
<tr>
<td>4</td>
<td>HOSPICE programs: Albuquerque metropolitan area, Clovis, Socorro, Tucumcari</td>
</tr>
<tr>
<td>981</td>
<td>HOSPITAL BEDS</td>
</tr>
<tr>
<td>8</td>
<td>HOSPITALS</td>
</tr>
<tr>
<td>30+</td>
<td>Presbyterian Medical Group multi-specialty or primary care CLINICS</td>
</tr>
<tr>
<td>10</td>
<td>clinics certified as PATIENT-CENTERED MEDICAL HOMEs</td>
</tr>
<tr>
<td>9</td>
<td>URGENT CARE CLINICS, including pediatric urgent care in the Albuquerque Metropolitan area</td>
</tr>
</tbody>
</table>
Data Overload and Increased Focus on Health Outcomes

Presbyterian Healthcare Services had made several strategic technology investments

Proliferation of data and new applications

Strategic need to differentiate

The solution? A data and analytics strategy that would achieve the Triple Aim and serve a philosophy of One Presbyterian
### What is the Vision for Analytics at PHS?

**Macro View**

<table>
<thead>
<tr>
<th>Enterprise Focus</th>
<th>Leadership Driven</th>
<th>Analytics Culture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comprehensive analytics approach</td>
<td>Data and Analytics Board/Advisory Committee Analytics Program Steering Committee Spoke Steering Committees</td>
<td>Promote analyst collaboration via Communities of Practice (CoP)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analytical Talent</th>
<th>Experimentation</th>
<th>Long Term Vision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop top notch analytical skills in house</td>
<td>Create a “test-and-learn” culture by leveraging data</td>
<td>Commit to competing on analytics for the long haul</td>
</tr>
</tbody>
</table>
What is the Vision for Analytics at PHS?

Micro View

- Reporting ➔ Analysis ➔ Analytics
  - Data to Insights

- Ad-hoc ➔ Strategic Standard Deliverables
  - 80/20 to 20/80

- Data and Report ➔ Collaborative Problem Solving
  - Partnership

- Reactive ➔ Proactive
  - Data Driven Culture

- Operationalization of Analytics
  - Leverage insights in operations/workflow

- ETL ➔ Insights
  - Efficiency and Work-Life Balance
The “7-fold Path”: A Unique Data and Analytics Operating Model to Guide the Way
PHS Innovation Factory

- Care Management Analytics Tool
- Customer Experience Analytics Tool
- Provider Practice Pattern Analytics Tool
- Business Intelligence Tools
- Enterprise Decision Support Tool

Data Governance

Future External Data Sources (e.g. MSO)

Claims/Member/Provider
EHR/Clinical
Satisfaction
Other

EDW

MDM/RDM
Care Management Analytics

Assess
Use multiple data sources to analyze and understand the health of a defined population

Focus
Identify cost drivers and health improvement opportunities

Predict
Utilize predictive analytics to determine risk of future adverse outcomes

Develop
Evidence-based programs and services and plan for evaluation

Identify, Stratify
Implement programs and services

Monitor
KPIs and use QI processes to ensure intervention success

Evaluate
Longer term outcomes
Analytics – Identification & Stratification

**Member data, including:**
- Demographics
- Medical Claims/Encounters
  - Diagnoses
  - Procedures
- Pharmaceutical Data
- EMR / HIE

**Other Data Sources**
- Social Determinants of Health
- ADT data
- Laboratory Results

**ID / Strat / Prioritization Engine**

**Health Education / Coaching**
- Currently well patients
- Focus on prevention

**Chronic Condition Management**
- Patients with ≥1 chronic condition
- Aim for good condition maintenance

**Acute/Episodic Case Management**
- Time-limited event
- Focus on readmission prevention

**Complex Case Management**
- At risk for deterioration or frequent admissions
- More intensive support needed

**Catastrophic Case Management**
- Severe condition and / or end of life care and support required

**Identifies both:**
- Members with current care needs
- Members at-risk of future care needs
Social Determinants of Health

Sample SDH Drivers

Actionable Categories

- Affordability
  - Income Range
  - Discretionary Income Status
  - Heavy Credit Card Use
  - Economic Stability
  - Employment Status
  - Insurance Status
  - Property Value
  - Recent Divorce
  - More...

- Transportation
  - Number of Owned Vehicles
  - Presence of Vehicle Insurance
  - Likelihood to Be in the Market to Buy a Vehicle
  - Age of Vehicle Owned
  - Type of Vehicle Owned
  - More...

- Caregiver Support
  - Martial Status
  - Single Parent
  - Type of Home
  - Number of Generations in the Home
  - Presence of Children, Young Adults, Adults, and/or Seniors in the Home
  - More...

- Health Behaviors
  - Smokes Tobacco
  - Alcohol Interest
  - Exercise Interest
  - Food and Beverage Interest
  - Dieting and Weight Loss Interest
  - Average Spend on Food and Beverages
  - Average Spend on Health Care
  - More...

- Physical Environment
  - Type of Exterior of the Residence
  - Heat Source of the Residence
  - Presence of Heating and/or Cooling in the Residence
  - Age of Home
  - Property Type
  - More...

Member Specific Guidance to Reduce the Risk

Action at the Point of Care

- Patient may need transportation assistance to the hospital or pharmacy.
- Patient seems to have issues with caregiver support.
- Patient may have financial difficulty and may need assistance paying for PCP visit and medications.
- Patient may need behavioral health coaching.
## Provider Practice Pattern Analytics

<table>
<thead>
<tr>
<th>Problem Statement</th>
<th>Solution</th>
<th>Levers – Root cause</th>
<th>Application</th>
</tr>
</thead>
</table>
| How can we understand a provider or group’s variation in practice pattern?       | Practice pattern impact report outlines the maximum theoretical opportunity by identifying excessive utilization and quantifying the savings by reducing those excessive utilization to pre-defined benchmark | This report can identify the top opportunity providers to target for:  
  - Medical policy opportunities  
  - Contractual opportunities  
  - Managing underlying population  
  - Cost-benefit to improve access  
  - Changing provider practice behavior | Helps the business stakeholders to pilot and realize the savings, based on various root causes associated with the inefficiencies & savings |

<table>
<thead>
<tr>
<th>Examine</th>
<th>Estimate Opportunity</th>
<th>Evaluate the levers for changing</th>
<th>Act</th>
<th>Assess the savings &amp; efficiency</th>
</tr>
</thead>
</table>
| Provider Group average MedMarkers utilization                                             | Provider Group excessive MedMarker Utilization                                       | Root-causes (Savings attributed to):  
  - Medical policy opportunities  
  - Contractual opportunities  
  - Managing underlying population  
  - Cost-benefit to improve access  
  - Changing provider practice behavior                                                   | Provider Intervention                                                              |                                                                            |
| Benchmark average MedMarkers Utilization                                                 |                                                                                     |                                                         |                                                                       |                               |

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Customer Experience Analytics

1. TRANSCRIPTION

2. CATEGORIZATION

3. SENTIMENT

4. INSIGHT
Value Realization

2016 & 2017
Analytics Maturity

Information Management is the enabling foundation
## Seeing is Believing - 2016

**PHS has recognized tangible benefits: Financial, organizational, infrastructural**

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Savings</th>
</tr>
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<tbody>
<tr>
<td>Contract modeling tools decommissioning</td>
<td>savings $600k in 2016 &amp; projected $1.3m in 2017</td>
</tr>
<tr>
<td>Sun-downed data and analytics tool savings</td>
<td>$724,000</td>
</tr>
<tr>
<td>Potential $20m/year in new business development revenue</td>
<td></td>
</tr>
<tr>
<td>$10 Million reduction in rejected/ outstanding Medicaid Encounters</td>
<td></td>
</tr>
<tr>
<td>Analytics to measure adoption of evidence-based care alerts with estimated savings of $431,000</td>
<td></td>
</tr>
<tr>
<td>Developed disease registries identified additional 40,000 patients with asthma, heart failure, or complex needs</td>
<td></td>
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<tr>
<td>Created Centers of Excellence/ Knowledge Centers</td>
<td></td>
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<tr>
<td>Developed Data Sharing/Access Guidelines</td>
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Seeing is Believing - 2017

The measure of our success is analytics that drive insights that deliver value

- Delivery System planning support
  - $750K savings from not hiring external vendor
  - Pilots designed by data-driven decision making
  - Methodology for program evaluation built

- Analyzed pharmacy claims for 340B and maximum allowable cost
  - Savings $20M+

- Analyzed dermatology utilization to identify revenue opportunities in primary care—potential for several hundred thousands in revenue per year

- Analyzed inclusion in measures to demonstrate that PHS meets CMS pharmacy adherence enabling 4 star rating
  - ~$20M savings

- Leveraged encounter dashboards and data to recapture an additional $12M

- Analysis to understand cost of authorizations vs. cost of procedures—eliminated 1/3 of authorizations

- Built Medicare acquisitions predictive model
  - Potential savings of $12 per acquired member

- Revenue cycle denial optimization—return of $8M
Seeing is Believing - 2017

Clinical/Quality/Customer Experience

- Deployed ACG registry in EpicCare so case managers can better stratify and understand patient risk and care coordination needs.
- Clinical targeting model built for substance use disorder.
- Unstructured data analytics insights guided a clinic to move from 3rd quartile performance to 1st.
- Measurement tools to improve patient satisfaction supported the Stroke Center of Excellence designation.
IM Governance Value Realization

IM Governance is foundation for the data driven culture

- Improved Universal Customer Identifier (UCI) consistency in EMR from 91.5% to 98.6%, Claims Processing System from 92.5% to 98.7%
- Improved Accuracy of Employed Providers in EMR vs. HR System from 89.1% to 98.1%
- Improved completeness of department specialty and place of service from 91% to 100%

- Decision Support Tool implemented to ensure repeatable and reliable processes for phased approach to implementation of solutions
- Implemented data ownership and data quality policies
- Created Report Catalog containing 1700 reports, and metadata in IM Governance Tool
- Documented and created data lineage for 36 Business Objects universes
People: Opportunities
Partnership & Operations Knowledge
## Processes: Opportunities

<table>
<thead>
<tr>
<th>Stakeholder Groups</th>
<th>Awareness</th>
<th>Understanding</th>
<th>Adoption</th>
<th>Commitment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive Leadership</td>
<td>&quot;What is all this change about?&quot;</td>
<td>&quot;What will it be like after the change is implemented?&quot;</td>
<td>&quot;What could I do to make the change more successful?&quot;</td>
<td>&quot;How can I ensure that the whole organization benefits from this?&quot;</td>
</tr>
<tr>
<td>PHS Board</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Business Directors</td>
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<tr>
<td>Business Managers</td>
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<tr>
<td>Business Analysts</td>
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<tr>
<td>Health Plan</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Delivery System</td>
<td></td>
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</tbody>
</table>

- **Awareness**: Stakeholder has knowledge, but is unclear of scope, impact and rationale of change
- **Understanding**: Stakeholder comprehends nature, scope and intent of change
- **Adoption**: Stakeholder welcomes the change and articulates commitment to the goals of the change
- **Commitment**: Stakeholder articulates the change as an accepted norm

Current state of the stakeholder group on the commitment curve
Target state for the stakeholder group on the commitment curve
Technology: Opportunities
Execution - How Do We Accelerate?

Building blocks and the optimal path to get us there while simultaneously delivering the value

Timeline

Where we were (2016)
Building Blocks
2017-18
Building Structures
2018-19
What will it look like
Progression of Change/Data-Driven Culture Adoption

All parts of the organization proactively seek out data to identify options for solving business problems and to make critical decisions.
Potential Barriers to Adoption

Data Analytics is complicated, scary, and not my job!

• Lack of awareness
• Burden - one additional thing on the top of an already overflowing list of things to do
• Steep learning curve
• Business stakeholder - a data analyst assumption
• Fear of change
• Surveillance anxiety
• Distrust of data/results
Data-Driven Culture

Data Analysts

Data Literacy

Data Democratization
Essential Ingredients

Insights Search – User Experience

**Role-Based Authentication**
Users login using existing role-based credentials.

**Amazon-like Search and Filter Experience**
Users land on a screen offering a simple, search-based experience along with ways to filter and refine their search based on relevant categories.

**Links to Reports**
Direct access to desired report via links in search results.

**Centralized Report Catalogue**
Leverage IM Governance tool as the centralized reporting catalogue tagged with appropriate report name, short description, and problem the report is trying to solve.

**BI & Reporting Platforms**
- BusinessObjects
- Medealytics
- Tableau
- Epic Cogito
Essential Ingredients

Data and Analytics Apps
- Personalized User Experience/Interface

Partnership and Handoff

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Essential Ingredients

Data Archeologist vs. Data Analyst

Establish Enterprise-wide Data-Driven Culture and Derive Value-based Insights

Where we were (2016):

1. Understanding the Customer “Need”
2. Data Search and Identification
3. Assembling and Pulling Together
4. Analysis and Interpretation
5. Consultation/Provide Insights to Business Stakeholders

Data Archeologist

What we will look like (2017 and On):

1. Understanding the Customer “Need”
2. Data Search and Identification
3. Assembling and Pulling Together
4. Analysis and Interpretation
5. Consultation/Provide Insights to Business Stakeholders

Data Analyst

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Socialization, Engagement, and Adoption

Socialization
- Cognitive
- Aware and informed

Engagement
- Emotional
- Liking & Preference - Valuing

Adoption
- Behavioral
- Using and championing
Data-Driven Culture: Lessons Learned

1. Always remember that it is people that adopt new tools, not organizations
2. People are busy – so understand their workflow and integrate into their daily routine
3. Alleviate Customer pain by helping them solve their business problems
4. Build trust: Relationships, Give credit, Make your customers better at their job, Use results to teach not reprimand
5. Sell results
6. Nurture Evangelists
Data-Driven Culture: Lessons Learned

7. Follow Product Management Approach with Data and Analytics Tools
8. Information Management Governance is Key
9. Start Small and Show Value
10. Leverage Business Champion(s)
11. Consider Implementing Center of Excellence/Knowledge Center to Increase Operational Knowledge of Data and Analytics Staff
Questions

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