Changing a Culture and Leveraging Lean Processes for Revenue Cycle Improvements

Presented by Dan Angel, FHFMA
Penn State Health
Overview of Penn State Health

• Two hospital system (Academic Medical Center and Faith Based Hospital)

• Owned by the Pennsylvania State University

• Locations in Hershey and Reading, Pennsylvania

• 730 Staffed Beds
Overview of Penn State Health

- 1,398 provider Medical Group (includes mid-levels)
- $2.0+ billion annual net patient service revenue
- System also includes a Clinically Integrated Network, For profit Management company, MSO
The mission of the Penn State Health Revenue Cycle is to provide an *exceptional patient experience* through transparency, accurate transaction processing, financial solutions and *exceeding the customers expectation in every transaction*.

We contribute to the *financial health* of the organization by providing *best in class revenue cycle operations* and fostering positive relationships with our customers, both internal and external, *through a highly motivated and skilled workforce*. 
The “Revenue Cycle”

- START: Scheduling & Pre-Registration
- Point of Service: Registration, Financial Counseling, Collections
- Payment Posting, Appeals & Collections
- Remittance Processing & Rejections
- Third Party Follow Up
- Claim Submission
- Charge Capture, Coding & CDI
- Encounter Utilization Review
- Customer Service
- Contract Management
- Compliance

Front
Middle
Back
PSH Revenue Cycle | Opportunities Identified

**People**
- Eliminate communication silos – ONE Revenue Cycle
- Enhanced training for staff
- Fill Key Leadership Positions

**Process**
- Specialization of operational policies and processes (PFS, Utilization Management)
- Creating a culture of accountability (GOALS)
- Improved Customer Focus
- Establish and communicating deliverables

**Technology**
- Intelligent investments in technology solutions
  - Clinically Driven Revenue Cycle
  - Denials Management
  - Contract Management
  - Online Patient Payment Portal
  - Insurance & Benefit Eligibility
Three Realization Facts:

• **We’ve enjoyed several years of success**
  - Strong financial margins, record research funding, excellent medical school classes, improved patient satisfaction

• **But.......Our world is changing... rapidly**
  - Market consolidation, less funding for research and education, declining reimbursement, population health, etc.

• **We can choose our change or have it chosen for us**
  - Competitors, consumers and government aren’t waiting for us
# Program Health Scorecard - Overall

<table>
<thead>
<tr>
<th>Overall Project Status</th>
<th>69%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issues Requiring Executive Intervention</td>
<td>2</td>
</tr>
<tr>
<td>Issues Requiring Executive Oversight</td>
<td>0</td>
</tr>
</tbody>
</table>

## Program Guiding Principles & Critical Success Factors

<table>
<thead>
<tr>
<th>Factor</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient Safety, End User Focused-CONE Patient Record</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>Commit to Model and Industry Evidence</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>Best and Timely Communication</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>LEAN - Simple, Standardized, Collaborative</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>Best Data, Integration and Business Success</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>Make decisions quickly (LEAN governance)</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>Transparency and accountability</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>Stay on schedule</td>
<td>Watch</td>
</tr>
<tr>
<td>Measure before and after</td>
<td>Watch</td>
</tr>
<tr>
<td>Operational ownership</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>Adequate financing and resources</td>
<td>Satisfactory</td>
</tr>
</tbody>
</table>

## Scope

<table>
<thead>
<tr>
<th>Item</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scope defined, approved, and being followed</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>Effective Change Control Process</td>
<td>-</td>
</tr>
</tbody>
</table>

## Financials

<table>
<thead>
<tr>
<th>Item</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Committed budget</td>
<td>N/A</td>
</tr>
<tr>
<td>Estimated Required Budget</td>
<td>N/A</td>
</tr>
<tr>
<td>Performance to budget</td>
<td>N/A</td>
</tr>
</tbody>
</table>

## Operations - Status/Readiness

<table>
<thead>
<tr>
<th>Item</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workflow Inventory Management (Rev Cycle)</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>Workflow Inventory Management (Clinical)</td>
<td>Satisfactory</td>
</tr>
</tbody>
</table>

## Staffing

<table>
<thead>
<tr>
<th>Item</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resource Plan (100+ FTEs) Approved/Followed</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>Project teams</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>Operational SMEs</td>
<td>Watch</td>
</tr>
<tr>
<td>e4 Skillset &amp; Staffed</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>Grant Thornton Skillset &amp; Staffed</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>10% Staffed-Project Teams</td>
<td>0%</td>
</tr>
<tr>
<td>10% Staffed-Operational SMEs</td>
<td>0%</td>
</tr>
<tr>
<td>90% Staffed-Vendor</td>
<td>0%</td>
</tr>
<tr>
<td>90% Staffed-Consultants</td>
<td>0%</td>
</tr>
<tr>
<td>Partner Collaboration Score</td>
<td>Satisfactory</td>
</tr>
</tbody>
</table>

## Timeline

<table>
<thead>
<tr>
<th>Item</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Level Timeline Approved and being followed</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>Weekly Roadmap Approved and being followed</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>Workplans reflect approved roadmap dates</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>Program Calendar Current and Published</td>
<td>Satisfactory</td>
</tr>
<tr>
<td># of total projects in red (late start or finish)</td>
<td>Satisfactory</td>
</tr>
</tbody>
</table>

## Technology - Status/Readiness

<table>
<thead>
<tr>
<th>Item</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interfaces</td>
<td>Watch</td>
</tr>
<tr>
<td>Core Foundation</td>
<td>Watch</td>
</tr>
<tr>
<td>Reporting/Analytics</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>3rd Party Transitions</td>
<td>Satisfactory</td>
</tr>
</tbody>
</table>

## Other - Status/Readiness

<table>
<thead>
<tr>
<th>Item</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Space &amp; Logistics</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>Education Program approved and being followed</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>Testing Program approved and being followed</td>
<td>Satisfactory</td>
</tr>
</tbody>
</table>
Major Milestones
## PSH Revenue Cycle | FY16-17 Objectives & Projects

<table>
<thead>
<tr>
<th>Created an “ALL IN” Revenue Cycle Approach</th>
<th>Revenue Cycle Operational Projects</th>
<th>Technology Projects</th>
</tr>
</thead>
</table>
| • Identified opportunities for Cash Acceleration and Revenue Protection (Reduce write-offs) | • Compliance with Government Initiatives  
  • ICD-10  
  • 501(R) – Financial Assistance Regulations  
  • Financial Counseling Outreach  
  • Cancer Institute  
  • Emergency Department  
  • Virtual Ambulatory Clinics  
  • Vendor Partnerships  
  • Insurance EBO Vendor – small balance collections (Parallon) | • Online Payment Portal (HealthPay 24)  
  • Automated Insurance Eligibility (Optum – PayNav)  
  • Coding assistance purchased services |
| • Improved PFS & Revenue Integrity Workflows  
  • Focus on unbilled – reduce pay timeline  
  • Exception based account processing  
  • CDM Committee  
  • Denials Management Committee  
  • Coding & Documentation Improvement  
  • Dedicated Hospital & Professional PFS teams  
  • Transparency – CDM assessment | | |
Penn State Health Value Improvement System

- **What**
  - A disciplined approach that drives and enables us to meet and exceed customer and employee expectations in a competitive and sustainable manner

- **Why**
  - To achieve our strategic imperatives and to be Inspired Together.
Penn State Health Value Improvement System

How:

- Drive culture of continuous improvement and disciplined processes into all areas of the business using Lean Six Sigma tools;
- Embody our Customers’ point of view
- Develop people with the skills and mindset to continually seek higher performance levels;
- Instill the expectation of sustained performance using consistent performance metrics;
Lean Principles

1. Specify value in the eyes of the customer

2. Identify the value stream and eliminate waste

3. Make value flow at the pull of the customer

4. Involve and empower employees

5. Continuously improve in pursuit of perfection
## Project Types

<table>
<thead>
<tr>
<th></th>
<th>Black Belt</th>
<th>Rapid Improvement Event</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Project Leader</strong></td>
<td>LSS Black Belt</td>
<td>Black Belt or RIE Leader</td>
</tr>
<tr>
<td><strong>Project Duration</strong></td>
<td>6 months</td>
<td>3 -Prep Time, 3-5 day, 30 follow-up</td>
</tr>
<tr>
<td><strong>Scope</strong></td>
<td>Best for complex projects where root cause of problem is not understood, process that crosses functions</td>
<td>Best for low complexity projects where known solution(s) can be applied, usually within department or process.</td>
</tr>
<tr>
<td><strong>Team</strong></td>
<td>Members work on the project part-time, work on the project is integrated with regular work</td>
<td>Members are pulled out of regular work for 3-5 day, focusing only on the project</td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td>Thorough measurement and analysis prior to implementation</td>
<td>High bias towards immediate action and implementation</td>
</tr>
</tbody>
</table>
Lean

• **Goal** – Reduce waste and increase process speed

• **Focus** – Identify non-value-add steps and cause of delay

• **Method** – Identify and remove all tasks not customer valued/driven

Six Sigma

• **Goal** – Improve performance on customer Critical-to-Quality (CTQ) requirements

• **Focus** – Eliminate variation

• **Method** – Align process performance to customer requirements

Lean Speed enables Six Sigma quality (Faster cycles of experimentation/learning)

Six Sigma quality enables Lean Speed (Fewer defects means less time spent on rework)

PennState Health
DMAIC Improvement Process

Define
Define the opportunity from both business and customer perspectives

Measure
Understand the process and its performance

Analyze
Search for the key factors (critical X’s) that have the biggest impact on process performance and determine the root causes

Improve
Develop improvement solutions for the critical X’s

Control
Sustain improvement successes

Critical Enablers
- Opportunity Identification & Project Selection
- Project Sponsorship
- Tollgate Reviews
Case Study 1 – Customer Service Unit

- 21 FTE Unit
- 205,000 inbound calls annually
- Re-work and no-value added workflows
- Less than optimal Customer Service Key performance Benchmarks
  - Average Speed of Answer
  - Average Talk time
  - Patient abandonment rate
  - Service level
Case Study 1 – Customer Service Findings

• Agents perform redundant work in multiple systems;

• One call can easily turn into several inquiries (multiple family members, etc.) so the metric for measuring productivity is varied

• Payment processing is a batched process and batching is bad
Process Flow Diagram

55 Pain Points!!
Future State Map

51% Reduction In Pain
## Action Items List

<table>
<thead>
<tr>
<th>ACTION ITEM</th>
<th>WHO is Responsible</th>
<th>WHAT is currently going on</th>
<th>Due Date</th>
<th>Estimated / COMPLETION</th>
<th>STATUS</th>
<th>DELIVERABLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 communication plan; request email address; determine name</td>
<td>Eric</td>
<td>Email account request submitted</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 build folder structure for forms, etc.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 draft an email to communicate to mgrs about new email address</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 draft a communication to the team for the use of the email and janine</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 can distribute</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>whole message for phone tree; have acct number ready and online</td>
<td>Eric</td>
<td>Jen to send to Jennie</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 payments at psb.org; review existing phone tree to determine changes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>call logs-use phone number in memo; follow up with janine regard</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 comment code in SMS and HVI report</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Why This Works

- Engages staff on the front lines to find solutions (eliminates the “band aid” effect and gains buy-in);

- Provides sponsor and process owner a plan to monitor implementation and improvement;

- Teaches staff at all levels a set of tools they can use;

- Rapid improvement
Customer Service Results

• 20% reduction in Abandonment Rate

• 4 minute average reduction in “wrap up” time for agents

• Improved customer service – fewer complaints
Case Study 2 - Computer Assisted Coding Implementation

• Uses Natural Language Processing (NLP) technology to search medical record documentation – OPTUM is the Vendor

• Based upon a proprietary algorithm a recommendation is made to the user as to what is likely to be coded for that encounter

• Coder still determines the final ICD-10 / CPT-4 Code
Computer Assisted Coding Overview

• Software tracks changes and uses this data to routinely update the algorithm
  – It is intuitive and learns from its mistakes
  – Ability to create standard provider templates

• Coder agrees the encounter is coded appropriately and it is released for billing
  – Interface eliminates the need for charge entry
Benefits of CAC

• Efficiency and Quality
  – More *timely* coding (cost savings)
  – More *accurate* coding (compliance/revenue)
  – *Automated* charge entry and reconciliation (cost savings / revenue)
  – *Productivity* tracking (cost savings)
  – *Identification of quality measures related terminology* (cost savings / revenue / compliance)
ICD-10 CAC Example

CAC read this

Noted blurred vision in right side today.

CAC recommended this

Unspecified injury of head, initial encounter

PennState Health
inspired together
## PSH Revenue Cycle | FY16 Results

<table>
<thead>
<tr>
<th>Target</th>
<th>FY-15</th>
<th>FY-16</th>
<th>FY-17 (March)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Cash Collected as % of NPSR</td>
<td>95%</td>
<td>100%</td>
<td>102%</td>
</tr>
<tr>
<td>Gross Days in Accounts Receivable (AR) – Hospital</td>
<td>50.0</td>
<td>38.4</td>
<td>34.6</td>
</tr>
<tr>
<td>Gross Days in Accounts Receivable (AR) – Professional</td>
<td>38.6</td>
<td>33.5</td>
<td>28.8</td>
</tr>
</tbody>
</table>
• Develop an “ALL IN” culture

Year 1

• Technology Implementations
  ✓ Clinically Drive Revenue Cycle System
  ✓ Computer Assisted Coding
  ✓ Contract Management
  ✓ Denials Management

• Increase Patient Transparency
  ✓ Certified Application Counselors for Marketplace Assistance
  ✓ Automated / Online Price Estimates
  ✓ Pre-financial Clearance Team
  ✓ Automated Referral & Authorizations

Year 2

• Coding & Documentation Enhancements

• Continue to Improve KPIs

Cash Acceleration (Point of Service Collection, Unbilled, Payer Engagement, Coding)

Foster culture of accountability by instituting department wide KPIs

Develop Revenue Cycle Organizational Structure
Hire Leadership Team
Year 3

- Continue Reduction in Transaction Related Expenses (Cost to Collect)
- Create Managed Care Payer Scorecards for Increased Payer Accountability
- Strive for a Paperless Revenue Cycle
- Nationally Recognized Top Performing Revenue Cycle

Enhance inpatient and outpatient CDI programs
QUESTIONS