Facilitating the Transition from Volume to Value by Maximal Leverage of Data

State of Reform
Sept. 24, 2014
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Chief Medical Officer
Geisinger Health System
Geisinger Health System Components

1 Provider Facilities

- **Geisinger Medical Center** Danville Campus: Hospital for Advanced Medicine, Janet Weis Children’s Hospital, Women’s Health Pavilion, Level I Trauma Center, ASC
- **Geisinger Shamokin Community Hospital**
- **Geisinger-Bloomsburg Hospital**
- **Geisinger Wyoming Valley Medical Center** with Heart Hospital, Henry Cancer Center, and Level II Trauma Center
- **Geisinger South Wilkes-Barre** campus with Urgent Care, Ambulatory Surgery Center and Inpatient Rehabilitation
- **Geisinger Community Medical Center** with specialized medical & surgical services, Level II Trauma and comprehensive cardiac & orthopedic services
- **Geisinger Lewistown Hospital**
- **Marworth Alcohol & Chemical Trtmt Center**
- **Mountain View Care Center**
- **Bloomsburg Health Care Center**
  - 1,746 licensed inpatient beds
  - 87K admissions/OBS & SORUs

2 Physician Practice Group

Multispecialty group

- ~1,100 physicians
- ~710 advanced practitioners
- ~410 residents & fellows
- ~270 medical students
- 83 primary & specialty clinic sites
- 49 Community Practice Sites all using ProvenHealth Navigator® model of advanced medical home
- 2 ambulatory surgery centers
- 2.5 million outpatient visits/yr

3 Managed Care Companies

- ~470K members (including ~77K Medicare Advantage members, ~120K Medicaid members)
- All LOB; spectrum of products
- ~37,000 contracted providers/facilities
- Operate in 43 PA counties with 2.6M population
- Out of state TPA contracts and MA plan across 5 states
xG = ex (Latin: “out of”) Geisinger Health System

1995-1999
- Condition Management
- EHR Installation

2000-2006
- Data Warehouse
- Patient Portal
- ProvenCare®
- PGP Demo
- All-or-none Bundles

2007-2010
- ProvenHealth Navigator®
- Practice-based CM
- Clinical decision support

2011-2012
- Robust Care Gap Program
- TOC Bundle
- Specialty integration
- NLP
- Proof of generalizability beyond Central PA

2013
- Launch of xG Health

2013+
- Perpetual license to:
  - Geisinger existing IP
  - Geisinger new and improved IP developed until 2023
Challenges & Opportunities Providers Are Facing

- The U.S. is in the **early stages** of health care transformation
- Forces for change **vary markedly** market by market
- Providers are aware of waste, but their current business model **depends on volume**
- Most providers **lack the capabilities** needed to succeed under risk- and/or performance-based payment
- Most providers **don’t know how/when to move** from volume to value orientation without undermining financials
- Some are already **making risky decisions** on best pathway
  - Building vs. partnering
  - Confusing tools with competencies
  - “We’ll worry about getting the needed data later…”
  - Assuming reports turn data directly into behavior change
  - Failing to integrate multi-payer data with available clinical data
**Value Chain Elements for Transformation**

**Goal:** Superior Triple Aim outcomes, ability to thrive in value-based care & with risk-sharing contracts

- **Improved Health Outcomes**
- **Complete Population Health Data**
- **Data Integration & Advanced Analytics**
- **Embedded Health Decision Support**
- **Shared Care Plans w/ Extra Resources for High Risk Pts.**
- **Delivery System Design for High Reliability**
- **Engage Pts. for Better Health Behaviors**

**Sophisticated abilities to integrate claims, EHR, lab, self-reported data for 360° view of population needs**

**EDW, clinical rule sets, quality bundles, gaps in care, predictive models, leading to deep insights**

**Use of systems and redesigned workflows to provide near real-time health decision support**

**Evidence-based pathways, advanced medical homes, bundle scores, incentives applied across continuum of care for all care teams**

**Physician-Admin dyad collaboration, AMH care team coordination, patient activation, use of portal for engagement**

**Embedded Care Mgrs using risk segmentation, care gaps, TOC, to drive health outcomes for highest risk patient cohorts**

**Goal:** Superior Triple Aim outcomes, ability to thrive in value-based care & with risk-sharing contracts
Clinical and analytical teams partner to drive insights and action

REQUIRED ANALYTICS SERVICES

Value Based Reimbursement success through transformational decision support

Cost and utilization analytics
Provide insights into financial performance and target areas for improvement

Clinical quality analytics
Monitor care quality and drive patient interventions

Provider performance analytics
Understand variations in provider quality and efficiency and enable improvement

Bundled payment analytics
Encourage care coordination, reduce costs, and drive financial success

Multi-payer analytics
Simplify provider operations and strengthen insights for payer negotiations

Data integration and business intelligence tools

Data → Analytics → Insights → Actions → Results
Overwhelming Complexity of Claims Data

**Complexity for Providers**

**Data Sources**

**Blue Cross** – Blue Card multiple sources: 29 single state and 7 multi-state options

22 HMOs, more TPAs, 40+ Benefit Administrators create connectivity challenges for carriers and providers

Carriers/TPAs have multiple claims systems, data warehouses – legacy from M+A, lines of business adding data complexity for providers

Single Patient - multiple sources including Rx, Behavioral Health and patients changing carriers

**State of Washington:**
- 98 hospitals
- 17,796 physicians
- 100’s of Groups, groups of groups and affiliations
Reducing Complexity Through Partnering

Neutral data integrator

- Standard reports
- Clean, compatible raw data
- Standard measurements
- 1 set of rules

+ Committed Analytic Support Services

“Virtual single payer view” for consistent decision making for each patient

Dr. Jones
Dr. Smith
Dr. Martin
Other Providers

Local market insurance carriers

First Choice Health
Don Berwick, JAMA, 2006

- 3 alternative QI methods
  - Item-by-item measurement
  - Composite measurement
  - All-or-None measurement

- Benefits of All-or-None
  - More closely reflect the interests and desires of patients
  - Foster a system approach to achieving all goals
  - Provide a more sensitive scale for assessing improvements

- Geisinger committed to All-or-None Bundles for care outcomes measures where feasible

Nolan T, Berwick DM. All-or-none measurement raises the bar on performance. JAMA 2006;295:1168-70
## Six-fold Increase For Diabetes Bundle Score

<table>
<thead>
<tr>
<th>Diabetes Bundle Score (All or Nothing)</th>
<th>3/06</th>
<th>3/07</th>
<th>4/14</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Influenza Vaccination</td>
<td>57%</td>
<td>73%</td>
<td>76%</td>
</tr>
<tr>
<td>% Pneumococcal Vaccination</td>
<td>59%</td>
<td>83%</td>
<td>79%</td>
</tr>
<tr>
<td>% Microalbumin Result</td>
<td>58%</td>
<td>87%</td>
<td>78%</td>
</tr>
<tr>
<td>% HgbA1C at Goal</td>
<td>33%</td>
<td>37%</td>
<td>47%</td>
</tr>
<tr>
<td>% LDL at Goal</td>
<td>50%</td>
<td>52%</td>
<td>60%</td>
</tr>
<tr>
<td>% BP &lt; 140/80</td>
<td>39%</td>
<td>44%</td>
<td>65%</td>
</tr>
<tr>
<td>% Documented Non-Smokers</td>
<td>74%</td>
<td>84%</td>
<td>85%</td>
</tr>
</tbody>
</table>
Proven 3 Year Results for 25,000 Diabetes Patients

- 305 MI’s Prevented
  - NNT to prevent 1 MI
  - 82 patients

- 140 Strokes Prevented
  - NNT to prevent 1 Stroke
  - 170 patients

- 166 Cases of Retinopathy Prevented
  - NNT to prevent 1 Retinopathy case
  - 152 patients

# Tripling CAD Bundle Score

<table>
<thead>
<tr>
<th>CAD Bundle Score</th>
<th>9/06</th>
<th>3/07</th>
<th>8/13</th>
</tr>
</thead>
<tbody>
<tr>
<td>% LDL &lt;100 or &lt;70 if High Risk</td>
<td>38%</td>
<td>37%</td>
<td>60%</td>
</tr>
<tr>
<td>% ACE/ARB in LVSD,DM, HTN</td>
<td>65%</td>
<td>66%</td>
<td>78%</td>
</tr>
<tr>
<td>% BMI measured</td>
<td>79%</td>
<td>86%</td>
<td>99%</td>
</tr>
<tr>
<td>% BP &lt; 140/90</td>
<td>74%</td>
<td>74%</td>
<td>81%</td>
</tr>
<tr>
<td>% Antiplatelet Therapy</td>
<td>89%</td>
<td>91%</td>
<td>95%</td>
</tr>
<tr>
<td>% Beta Blocker use S/P MI</td>
<td>97%</td>
<td>97%</td>
<td>97%</td>
</tr>
<tr>
<td>% Documented Non-Smokers</td>
<td>86%</td>
<td>86%</td>
<td>86%</td>
</tr>
<tr>
<td>% Pneumococcal Vaccination</td>
<td>80%</td>
<td>80%</td>
<td>80%</td>
</tr>
<tr>
<td>% Influenza Vaccination</td>
<td>60%</td>
<td>74%</td>
<td>76%</td>
</tr>
<tr>
<td>Adult Preventive Bundle Score</td>
<td>11/07</td>
<td>11/12</td>
<td>8/13</td>
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<tr>
<td>------------------------------</td>
<td>-------</td>
<td>-------</td>
<td>------</td>
</tr>
<tr>
<td>Breast Cancer Screening (q 2 40-49, q 1 50-74)</td>
<td>46%</td>
<td>64%</td>
<td>61%</td>
</tr>
<tr>
<td>Cervical Cancer Screening (q 3 yr Age 21-64)</td>
<td>64%</td>
<td>68%</td>
<td>76%</td>
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<tr>
<td>Colon Cancer Screening (Age 50-79)</td>
<td>44%</td>
<td>67%</td>
<td>66%</td>
</tr>
<tr>
<td>Lipid Screening (Every 5 yr M &gt; 35, F &gt; 45)</td>
<td>75%</td>
<td>88%</td>
<td>87%</td>
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<tr>
<td>Diabetes Screening (Every 3 yr &gt; 45)</td>
<td>85%</td>
<td>91%</td>
<td>91%</td>
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<tr>
<td>Obesity Screening (BMI in Epic)</td>
<td>77%</td>
<td>98%</td>
<td>98%</td>
</tr>
<tr>
<td>Documented Non-Smokers</td>
<td>75%</td>
<td>79%</td>
<td>79%</td>
</tr>
<tr>
<td>Tetanus Diphtheria Immunization (every 10 yr)</td>
<td>35%</td>
<td>75%</td>
<td>76%</td>
</tr>
<tr>
<td>Pneumococcal Immunization (Once Age &gt;65)</td>
<td>84%</td>
<td>86%</td>
<td>84%</td>
</tr>
<tr>
<td>Influenza Immunization (Yearly Age &gt;18)</td>
<td>47%</td>
<td>59%</td>
<td>45%</td>
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<tr>
<td>Chlamydia Screening (Yearly Age 18-25)</td>
<td>22%</td>
<td>35%</td>
<td>39%</td>
</tr>
<tr>
<td>Osteoporosis Screening (every 3 yr Age &gt;65)</td>
<td>52%</td>
<td>70%</td>
<td>79%</td>
</tr>
<tr>
<td>Alcohol Intake Assessment</td>
<td>84%</td>
<td>95%</td>
<td>96%</td>
</tr>
<tr>
<td>Zoster Vaccine (Age &gt;60)</td>
<td></td>
<td></td>
<td>33%</td>
</tr>
</tbody>
</table>
Learnings from Geisinger’s 18 Year Transition

• **Improving patients’ health/experience while reducing costs is possible**
  – Must understand, build, & refine value chain for accountable care

• **Requires significant change in primary care delivery model**
  – Needs active, engaged providers working in empowered teams with embedded case managers who leverage healing relationship, trust, engagement

• **Transitions of care create specific gaps and opportunities**
  – Advanced Medical Homes are foundational, but an integrated, connected Medical Neighborhood also needed to optimize care across the continuum

• **System-driven pathways assure consistent best practice**
  – Financial incentives can focus attention, but connected HIT-enabled systems of care support consistent behavior over time for high reliability care

• **Robust data analyses drives innovation, supports incremental progress**
  – Administrative and clinical data required for 360° view of population; payer claims data must be integrated with EHR data for “virtual single payer” view

• **Transformation to value-based care is not a project**
  – It’s a continuous process, requiring culture change and long-term commitment