Clinical Leadership in System Change: The Geisinger Experience

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Glenn Steele, Jr., MD, PhD
President & CEO
Geisinger Health System
Geisinger Health System
An Integrated Health Service Organization

Provider Facilities

- Geisinger Medical Center and its Shamokin Hospital Campus
- Geisinger Wyoming Valley Medical and its South Wilkes-Barre Campus
- Geisinger Community Medical Center, Scranton, PA
- Geisinger-Bloomsburg Hospital
- Geisinger-Lewistown Hospital
- Holy Spirit Health System
- Marworth Alcohol & Chemical Dep Treatment Center
- 4 outpatient surgery centers
- 2 Nursing Homes
- Home health & hospice services covering 22 counties
- >100K admissions/OBS & SORUs
- 2,045 licensed inpatient beds
- Pending: AtlantiCare Health System

Managed Care Companies

- ~500,000 members (including ~100,000 Medicare Advantage members and ~132,000 Medicaid members)
- Diversified products
- ~50,000 contracted providers/facilities
- 43 PA counties
- Offered on public & private exchanges
- Members in 5 states

Physician Practice Group

- Multispecialty group
- ~1,220 physician FTEs
- ~750 advanced practitioners
- 113 primary & specialty clinic sites (60 community practice)
- 1 outpatient surgery center
- ~2.8 million outpatient visits
- ~430 resident & fellow FTEs
- ~335 medical students

Moody’s Aa2/Stable
Standard & Poor’s AA/Stable
Transforming Healthcare with Technology

- **> $200 M invested** (hardware, software, manpower, training)
- **Running costs:** ~4.0% of annual revenue of > $3.9 Billion annual revenue
- **Fully-integrated EHR:** 46 community practice sites; 7 hospitals; 7 EDs; 4 Surgical Centers; 17 (includes CareWorks retail-based and urgent care clinics, walk-in and after hours clinics)
  - Acute and chronic care management
  - Optimized transitions of care
- **Networked Patient Portal** - ~268,386 active users (41% of ongoing patients)
  - Patient self-service (self-scheduling, patient-entered data)
  - Home monitoring integrated with Medical Home
- **“Outreach Health IT”** – 10,221 users in 865 non-Geisinger practices
  - Remote support for regional ICUs
  - Telestroke services to regional EDs
- **Active Regional Health-Information Exchange (KeyHIE)**
  - 22 hospitals, 175 practices, ~1M patients consented, publish 700,000+ documents monthly, participants access ~89K patients monthly
- **e-health (eICU®) Programs**
- **Keystone Beacon Community**
  - HIT-enabled, Community-wide care coordination in 5 rural counties
- **CDIS (Clinical Decision Intelligence System)**
  - **Clinical EDW:** Clinical/Financial/Operational/Claims Data available to 3000+ Geisinger users running over 80M queries per month
  - **GHP:** Data since 2006 and forward of 40M Health Plan Medical Claims for about 1M members.
    The Health Plan has ~120 analytical users accessing the EDW.
- **Functional ‘Apps’ Portfolio**
Strategic Priorities

• **Quality and Innovation**
  – Patient centered focus
    • Patient activation (empowerment)
    • Culture of quality, safety and health
  – **Value Re-engineering**
    • Transformational changes – embedding innovations

• **Market Leadership**
  – Collaboration/partnerships
    (local, regional, national)
  – The GHS Brand
    • **Scaling and generalizing**

• **The Geisinger Family**
  – Personal and professional well being
The “Sweet Spot” for Partnership & Innovation

Aligned objectives between the health plan & clinical enterprise, with each organization contributing what it does best.

**Health Plan**
- (~500K members and ~50K providers)
- Population analysis
- Align reimbursement
- Finance care
- Engage member and employer
- Report population outcomes
- Take to market

**Clinical Enterprise**
- (585K unique MR#)
- Care delivery
- Identify best practice
- Design systems of care
- Interpret clinical reports
- Continually improve
- Activate patient & family

**Joint**
- Population Health
- Population Served
- EHR / Infrastructure
  (36% of GHS patients are GHP members)
The Beginning: ProvenCare® CABG

“ProvenCareSM”
A Provider-Driven Pay-for-Performance Program for Acute Episodic Cardiac Surgical Care

ProvenCare® CABG

% of Patients Receiving All ProvenCare Best Practice Elements

Current as of 4/9/13
## ProvenCare® CABG

### Clinical Outcomes: Pre vs. Post ProvenCare® protocols

<table>
<thead>
<tr>
<th></th>
<th>Before ProvenCare® N = 132</th>
<th>After ProvenCare® N = 715</th>
<th>% Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-hospital mortality</td>
<td>1.5 %</td>
<td>0.5%</td>
<td>67 %</td>
</tr>
<tr>
<td>Patients with any complication (STS)</td>
<td>38 %</td>
<td>34%</td>
<td>11 %</td>
</tr>
<tr>
<td>Atrial fibrillation</td>
<td>24 %</td>
<td>20%</td>
<td>17 %</td>
</tr>
<tr>
<td>Permanent stroke</td>
<td>1.5 %</td>
<td>1.3%</td>
<td>13 %</td>
</tr>
<tr>
<td>Prolonged ventilation</td>
<td>5.3 %</td>
<td>4.9%</td>
<td>8 %</td>
</tr>
<tr>
<td>Re-intubation</td>
<td>2.3 %</td>
<td>1.0%</td>
<td>57 %</td>
</tr>
<tr>
<td>Intra-op blood products used</td>
<td>24 %</td>
<td>12%</td>
<td>50 %</td>
</tr>
<tr>
<td>Re-operation for bleeding</td>
<td>3.8 %</td>
<td>2.4%</td>
<td>37 %</td>
</tr>
<tr>
<td>Deep sternal wound infection</td>
<td>0.8 %</td>
<td>0.18%</td>
<td>78 %</td>
</tr>
<tr>
<td>Post-op mean LOS</td>
<td>5.2 d</td>
<td>5.0d</td>
<td>4 %</td>
</tr>
</tbody>
</table>
ProvenCare® CABG: Reliability & Financial Outcomes

Reliability:
• 40 best practice elements x 715 patients = 28,600 opportunities
• 37 missed best practice elements in 24 patients
• 37 / 28,080 = 0.13% elements missed
• (715-24) / 715 = 96.6% of all patients had ALL elements delivered

Financial Outcomes – Hospital:
• Contribution margin increased 17.6%
• Total inpatient profit per case improved $1946

Financial Outcomes – Health Plan:
• Paid out 4.8% less per case for CAB with ProvenCare® than it would have without
• Paid out 28 to 36% less for CAB with GHS than with other providers
ProvenCare® CAB V2.0

- 42 ACC / AHA 2011 Class I and IIIh guidelines
- 25 additional Geisinger consensus-based guidelines
- 67 Total guidelines adopted and translated into 120 best practices
**Why**

Specialty drugs will account for nearly ½ of all drug sales in coming years

**Targets**

- Hepatitis C
- Inflammatory Bowl Disease
- Multiple Sclerosis
- Rheumatoid Arthritis
- Oncology
- Psoriasis

**Scope**

- GHS projected 2014 expense avoidance of $58M
- GHP expected to avoid expenses of $172M

**Approach**

- Process Redesign
- Channel Redesign
- Formulary Management & Contracting
- Total Cost of Care
ProvenCare® Portfolio

ProvenCare®:

- ProvenCare® Autism
- ProvenCare® Bariatric Surgery
- ProvenCare® Cellulitis
- ProvenCare® COPD
- ProvenCare® Coronary Artery Bypass Graft (CABG)
- ProvenCare® CNS Mets
- ProvenCare® Epilepsy
- ProvenCare® Fragility Hip Fracture
- ProvenCare® Heart Failure
- ProvenCare® Hepatitis C
- ProvenCare® Hysterectomy
- ProvenCare® Inflammatory Bowel

- ProvenCare® Lung Cancer (CoC Collaborative)
- ProvenCare® Lumbar Spine
- ProvenCare® Migraine
- ProvenCare® Multiple Sclerosis
- ProvenCare® Percutaneous Coronary Intervention (PCI)
- ProvenCare® Perinatal
- ProvenCare® Psoriasis
- ProvenCare® Rectal Cancer
- ProvenCare® Rheumatoid Arthritis
- ProvenCare® Total Hip
- ProvenCare® Total Knee

ProvenCare® Evidence-Based Guidelines (EBG) (in conjunction with PRIDE):

- Chest Pain – R/O MI (ED)
- Kidney Stone (ED)
- Newborn Protocols
- Pediatric Abdominal Pain (R/O Appendicitis (ED))

- Pediatric Head Injury (ED)
- Pediatric Pulmonary Embolism (ED)
- Sepsis (ED) & Sepsis (Med/Surg)
- Vent Management

Portfolio as of: 01/23/15
ProvenCare® Chronic Disease Programs

- Diabetes
- Congestive Heart Failure
- Coronary Artery Disease
- Hypertension
- COPD
- Prevention Bundle
## Improving Diabetes Care for 30,165 Patients

<table>
<thead>
<tr>
<th></th>
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<th>3/14</th>
<th>2/15</th>
<th>3/15</th>
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</thead>
<tbody>
<tr>
<td><strong>Number of Patients</strong></td>
<td>20,178</td>
<td>27,905</td>
<td>29,977</td>
<td>30,165</td>
</tr>
<tr>
<td><strong>Diabetes Bundle Percentage</strong></td>
<td>2.4%</td>
<td>13.9%</td>
<td>18.2%</td>
<td>17.7%</td>
</tr>
<tr>
<td>% Pneumococcal Vaccination</td>
<td>59%</td>
<td>79%</td>
<td>80%</td>
<td>80%</td>
</tr>
<tr>
<td>% Microalbumin Result</td>
<td>58%</td>
<td>78%</td>
<td>77%</td>
<td>77%</td>
</tr>
<tr>
<td>% HgbA1c at Goal</td>
<td>33%</td>
<td>46%</td>
<td>48%</td>
<td>47%</td>
</tr>
<tr>
<td>% LDL at Goal</td>
<td>50%</td>
<td>60%</td>
<td>65%</td>
<td>65%</td>
</tr>
<tr>
<td><em>Change to @ Goal on patient list July 2014</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% BP at Goal</td>
<td>39%</td>
<td>79%</td>
<td>76%</td>
<td>76%</td>
</tr>
<tr>
<td><em>Change to @ Goal on patient list July 2014</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Documented Non-Smokers</td>
<td>74%</td>
<td>85%</td>
<td>85%</td>
<td>85%</td>
</tr>
</tbody>
</table>
ProvenCare® Type 2 Diabetes Value Driven Care Outcome Improvements

Heart Attack
- Less than 3 years
- 306 prevented with estimated savings of $27,111/case = $8.3M!

Stroke
- Less than 3 years
- 141 prevented with estimated savings of $2,921/case = $412K!

Retinopathy
- Less than 3 years
- 166 cases prevented!
- Quality of life maintained
- Savings...priceless!

Primary Care Diabetes Bundle Management: Three-Year Outcomes for Microvascular and Macrovascular Events (FBloom; T Graf; W Stewart; G Steele, et. al., June 2014 (20(6); 175-182)
## Improving CAD Care for 18,448 Patients

<table>
<thead>
<tr>
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<th>3/15</th>
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</thead>
<tbody>
<tr>
<td><strong>Number of Patients</strong></td>
<td>13,688</td>
<td>17,187</td>
<td>18,502</td>
<td>18,448</td>
</tr>
<tr>
<td><strong>CAD Bundle Percentage</strong></td>
<td>8%</td>
<td>26%</td>
<td>30%</td>
<td>30%</td>
</tr>
<tr>
<td>% LDL &lt;100 or &lt;70 if High Risk</td>
<td>38%</td>
<td>62%</td>
<td>70%</td>
<td>70%</td>
</tr>
<tr>
<td>% ACE/ARB in LVSD, DM, HTN</td>
<td>65%</td>
<td>79%</td>
<td>78%</td>
<td>78%</td>
</tr>
<tr>
<td>% BMI measured</td>
<td>79%</td>
<td>99%</td>
<td>99%</td>
<td>99%</td>
</tr>
<tr>
<td>% BP &lt; 140/90</td>
<td>74%</td>
<td>79%</td>
<td>79%</td>
<td>79%</td>
</tr>
<tr>
<td>% Antiplatelet Therapy</td>
<td>89%</td>
<td>95%</td>
<td>94%</td>
<td>94%</td>
</tr>
<tr>
<td>% Beta Blocker use S/P MI</td>
<td>97%</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>
<td>86%</td>
</tr>
<tr>
<td>% Influenza Vaccination</td>
<td>60%</td>
<td>79%</td>
<td>75%</td>
<td>75%</td>
</tr>
</tbody>
</table>
## Improving Preventive Care for 263,917 Patients

<table>
<thead>
<tr>
<th></th>
<th>11/07</th>
<th>3/14</th>
<th>2/15</th>
<th>3/15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Patients</td>
<td>203,074</td>
<td>245,228</td>
<td>263,582</td>
<td>263,917</td>
</tr>
<tr>
<td><strong>Adult Preventive Bundle</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breast Cancer Screening (q 2 yrs 50-74) (discuss q 2 yrs 40-49)</td>
<td>9.2%</td>
<td>19%</td>
<td>20%</td>
<td>20%</td>
</tr>
<tr>
<td>Cervical Cancer Screening (q 3 yr Age 21-29) (q 5 yr Age 30-64)</td>
<td>46%</td>
<td>73%</td>
<td>74%</td>
<td>74%</td>
</tr>
<tr>
<td>Colon Cancer Screening (Colonoscopy q 10 yrs Age 50-74 or FOBT yearly)</td>
<td>64%</td>
<td>75%</td>
<td>73%</td>
<td>73%</td>
</tr>
<tr>
<td>Lipid Screening (Every 5 yr M &gt; 35, F &gt; 45)</td>
<td>44%</td>
<td>65%</td>
<td>65%</td>
<td>65%</td>
</tr>
<tr>
<td>Diabetes Screening (Every 3 yr &gt; 45)</td>
<td>75%</td>
<td>87%</td>
<td>87%</td>
<td>87%</td>
</tr>
<tr>
<td>Documented Non-Smokers</td>
<td>75%</td>
<td>79%</td>
<td>79%</td>
<td>79%</td>
</tr>
<tr>
<td>Tetanus Diphtheria Immunization (every 10 yr)</td>
<td>35%</td>
<td>76%</td>
<td>77%</td>
<td>77%</td>
</tr>
<tr>
<td>Pneumococcal Immunization (Once Age &gt;65)</td>
<td>84%</td>
<td>84%</td>
<td>84%</td>
<td>84%</td>
</tr>
<tr>
<td>Influenza Immunization (Yearly Age &gt;18) <strong>Change in age from Age&gt;50 to Age&gt;18 February 2013</strong></td>
<td>47%</td>
<td>46%</td>
<td>45%</td>
<td>45%</td>
</tr>
<tr>
<td>Chlamydia Screening (Yearly Age 18-25)</td>
<td>22%</td>
<td>40%</td>
<td>40%</td>
<td>40%</td>
</tr>
<tr>
<td>Osteoporosis Screening (every 7 yr Age &gt;65)</td>
<td>52%</td>
<td>78%</td>
<td>77%</td>
<td>77%</td>
</tr>
<tr>
<td>Zoster Vaccine (Age &gt;60) <strong>New Measure February 2013</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
\[ \therefore \quad \uparrow \quad \text{QUALITY} \quad + \quad \downarrow \quad \text{COST} \quad = \quad \uparrow \uparrow \quad \text{VALUE} \]
Where We Are Now (Geisinger)

- Consolidation of Providers
- Payer-Provider “Integration” Model Expansion
- Value Re-engineering
- Medical Tourism (i.e., Walmart ProvenCare®)
- Reference Pricing
- Bundling Episodic Care / ACOs
- Population Health (aka, $\downarrow$ Total Cost of Care)
Where Do We Want to Be? (Geisinger)

- Distributed Data
  - Personalized Medicine/Genetics
  - Healthcare in the cloud
- “Activated” Patients/People
- Transparency and availability of standardized data on cost and quality
- New Provider Surrogates/Locations
- Social Network Enabling
- Behavior Change Analytics
- Generalizing Value Re-engineering
From Fee-for-Service to Total Cost of Care

( + Residual “Piece Rate”)
\[ \therefore \text{# of Units of Work} \downarrow + \text{Price} \downarrow / \text{Unit} \]
Enabling Behavior Change:

➢ Providers

➢ Patients
PROFESSIONALISM

×

HEALTH CARE REFORM