The Geisinger Innovation Model: Scaling and Generalizing

Brandeis University – The Health Industry Forum
Washington, DC
Thursday, April 5, 2012

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President & CEO
Geisinger Health System
Geisinger Health System
An Integrated Health Service Organization

**Provider Facilities**
- Geisinger Medical Center
  - Hospital for Advanced Medicine, Janet Weis Children’s Hospital, Women’s Health Pavilion, Level I Trauma Center
  - Geisinger Shamokin Community Hospital
  - Geisinger Northeast (3 campuses)
  - Geisinger Wyoming Valley Medical Center with Heart Hospital, Henry Cancer Center, Level II Trauma Center
  - South Wilkes-Barre Adult & Pediatric Urgent Care, inpatient rehab, pain mgmt, sleep center
  - Geisinger Community Medical Center
  - Marworth Alcohol & Chemical Dependency Treatment Center
  - Mountain View Care Center
  - >69K admissions/OBS & SORUs
  - 1,372 licensed inpatient beds

**Physician Practice Group**
- Multispecialty group
- ~1000 physician FTEs
- ~520 advanced practitioner FTEs
- 65 primary & specialty clinic sites (37 community practice sites)
- 3 Ambulatory/outpatient surgery centers
- >2.1 million clinic outpatient visits
- ~360 resident & fellow FTEs

**Managed Care Companies**
- ~298,000 members (including ~63,000 Medicare Advantage members)
- Diversified products
- ~30,000 contracted providers/facilities
- 43 PA counties
Electronic Health Infrastructure

- **>$135M invested** (hardware, software, manpower, training)
- **Running costs:** ~4.4% of annual revenue of >$3B
- **Fully-integrated EHR:** 39 community practice sites; 2 hospitals; 2 EDs; 6 Careworks retail-based and worksite clinics
  - Acute and chronic care management
  - Optimized transitions of care
- **Networked PHR** - ~178,000 active users (34% of ongoing patients)
  - Patient self-service (self-scheduling, kiosks)
  - Home monitoring integrated with Medical Home
- **“Outreach Health IT”** – 3,159 users in 612 non-Geisinger practices
  - Remote support for regional ICUs
  - Telestroke services to regional EDs
- **Active Regional Health-Information Exchange (KeyHIE)**
  - 18 hospitals, 100+ practices, 500,000 patients consented
- **e-Health (eICU®) Programs**
- **Keystone Beacon Community** - 5 rural counties “wired”
- **Corporate Data Store** - integrating clinical, utilization, cost, and quality data to drive real-time patient care improvements
The Key Issues

- Unjustified variation
- Fragmentation of care-giving
- Adversarial payor-provider relationship
- Perverse payment incentives
- Patients as passive recipients of care
Geisinger Innovation

- ProvenCare® for Acute Episodic Care (the “Warranty”)
- ProvenCare® Chronic Disease
- ProvenHealth Navigator® (Advanced Medical Home)
- Beacon
- Physician Group Practice Demonstration
- PGP Transitions Demonstration
- GAPP (Geisinger Accelerated Performance Program)
ProvenCare® for Acute Episodic Care (the “Warranty”)

Heal • Teach • Discover • Serve
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ProvenCare® CABG: Clinical Outcomes
(Comparison of before (n=132) and after (n=321) ProvenCare®)

- 80% improvement in In-hospital mortality
- 61% reduction in re-intubations
- 63% reduction in deep sternal wound infection rate
- 40% reduction in neurologic complications
- 29% reduction in pulmonary complications
- 20% reduction in 30 day readmissions w/ 8% reduction in ALOS
ProvenCare® CABG: Financial Outcomes

Hospital:
- Contribution margin increased 17.6%
- Total inpatient profit per case improved $1946

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® Chronic Disease
## Value Driven Care for 25,250 Patients with Diabetes

<table>
<thead>
<tr>
<th></th>
<th>3/06</th>
<th>3/07</th>
<th>1/11</th>
<th>1/12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes Bundle Percentage</td>
<td>2.4%</td>
<td>7.2%</td>
<td>11.8%</td>
<td>14.8%</td>
</tr>
<tr>
<td>% Influenza Vaccination</td>
<td>57%</td>
<td>73%</td>
<td>76%</td>
<td>74%</td>
</tr>
<tr>
<td>% Pneumococcal Vaccination</td>
<td>59%</td>
<td>83%</td>
<td>84%</td>
<td>78%</td>
</tr>
<tr>
<td>% Microalbumin Result</td>
<td>58%</td>
<td>87%</td>
<td>78%</td>
<td>81%</td>
</tr>
<tr>
<td>% HgbA1c at Goal</td>
<td>33%</td>
<td>37%</td>
<td>50%</td>
<td>52%</td>
</tr>
<tr>
<td>% LDL at Goal</td>
<td>50%</td>
<td>52%</td>
<td>55%</td>
<td>53%</td>
</tr>
<tr>
<td>% BP &lt; 140/80</td>
<td>39%</td>
<td>44%</td>
<td>53%</td>
<td>67%</td>
</tr>
<tr>
<td>% Documented Non-Smokers</td>
<td>74%</td>
<td>84%</td>
<td>85%</td>
<td>85%</td>
</tr>
</tbody>
</table>

Measure change resulted in a 9% decrease February 2010
BP changed from 130/80 to 140/80 November 2011
## Value Driven Care
### Patient Centered Outcome Improvements

<table>
<thead>
<tr>
<th>Microvascular</th>
<th>Macrovascular</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Retinopathy</strong></td>
<td></td>
</tr>
<tr>
<td>- Less than 3 years</td>
<td></td>
</tr>
<tr>
<td>- Number needed to treat to prevent 1 case is 151</td>
<td></td>
</tr>
<tr>
<td>- 331 cases prevented</td>
<td></td>
</tr>
</tbody>
</table>

| **Heart Attack** |
| - Less than 3 years |
| - Number needed to treat to prevent 1 case is 82 |
| - 610 prevented |

| **Stroke** |
| - Less than 3 years |
| - Number needed to treat to prevent 1 case is 178 |
| - 281 prevented |
A Health Insurer Pays More to Save
By Reed Abelson June 2010

Extra Nurses Help Doctors Keep Patients Out of the Hospital

Value and the Medical Home: Effects of Transformed Primary Care

Richard J. Giffinan, MD; Janet Tomcavage, RN, MSN; Meredith B. Rosenthal, PhD;
Duane E. Davis, MD; Jove Graham, PhD; Jason A. Roy, PhD; Steven B. Pierdon, MD;
Frederick J. Bloom Jr, MD, MMM; Thomas R. Graf, MD; Roy Goldman, PhD, FSA; Karona M. Weikel, BA;
Bruce H. Hamory, MD; Ronald A. Paulus, MD, MBA; and Glenn D. Steele Jr, MD, PhD

August 2010

How Geisinger’s Advanced Medical Home Model Argues The Case For Rapid-Cycle Innovation

By Glenn D. Steele, Jean A. Haynes, Duane E. Davis, Janet Tomcavage, Walter F. Stewart,
Tom R. Graf, Ronald A. Paulus, Karona Weikel, and Janet Shikles

November 2010
## ProvenHealth Navigator® Expansion since 2007 update

<table>
<thead>
<tr>
<th>Phase</th>
<th>Sites</th>
<th>MA members</th>
<th>Commercial Members</th>
<th>Medicare members</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1 (2007)</td>
<td>3</td>
<td>2,950</td>
<td>650</td>
<td>1,950</td>
<td></td>
</tr>
<tr>
<td>Phase 2 (2008)</td>
<td>10</td>
<td>8,000</td>
<td>8,350</td>
<td>10,950</td>
<td></td>
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<tr>
<td>Phase 3 (2009)</td>
<td>12</td>
<td>5,650</td>
<td>6,950</td>
<td>7,400</td>
<td></td>
</tr>
<tr>
<td>Phase 4 (2010)</td>
<td>12</td>
<td>2,750</td>
<td>6,900</td>
<td>4,900</td>
<td></td>
</tr>
<tr>
<td>Phase 5 (2011)</td>
<td>7</td>
<td>1,650</td>
<td>4,950</td>
<td>2,950</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>44</strong>*</td>
<td><strong>21,000</strong></td>
<td><strong>27,800</strong></td>
<td><strong>28,150</strong></td>
<td><strong>76,950</strong></td>
</tr>
</tbody>
</table>

37 Geisinger primary care practices & 7 non-Geisinger primary care practices

Full Cost data available for the 76,950 patients, over 360,000 patients are receiving care in the new model

Implementation dates are approximate / Membership as of April 2011
Cumulative percent difference in spending (Pre-Rx Allowed PMPM $) attributable to PHN in the first 21 PHN clinics for calendar years 2005-2009. Dotted lines represent 95% confidence interval. \( P = < 0.003 \)

Physician Group Practice (PGP) Demonstration Project
April 1, 2005 – March 30, 2010

Do large multispecialty group practices deliver higher quality care at lower cost than surrounding physicians and hospitals?

<table>
<thead>
<tr>
<th>NAME</th>
<th>STATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Billings Clinic</td>
<td>MT</td>
</tr>
<tr>
<td>Dartmouth-Hitchcock Clinic</td>
<td>NH</td>
</tr>
<tr>
<td>Everett Clinic</td>
<td>WA</td>
</tr>
<tr>
<td>Forsyth Medical Group</td>
<td>NC</td>
</tr>
<tr>
<td>Geisinger Clinic</td>
<td>PA</td>
</tr>
<tr>
<td>Marshfield Clinic</td>
<td>WI</td>
</tr>
<tr>
<td>Middlesex Health System</td>
<td>CT</td>
</tr>
<tr>
<td>Park Nicollet Health Services</td>
<td>MN</td>
</tr>
<tr>
<td>St. John’s Health System</td>
<td>MO</td>
</tr>
<tr>
<td>University of Michigan</td>
<td>MI</td>
</tr>
</tbody>
</table>
Physician Group Practice (PGP)  
Year 5 – GHS Results

TCC – 1.4% vs. 5.8% National  
All quality metrics achieved  
No shared Savings
Keystone Beacon Community
Patient-focused, evidence-based, community-wide care coordination supported by health IT

HF and COPD in 5 counties in rural Pennsylvania
23 organizations over 60 locations across the care continuum

Care Coordination
Health IT
Improve Patient Outcomes

Cost
Performance Feedback
Keystone Beacon Community
Progress to Date

• Care Coordination
  – Hospital care management – started December 2010
    • 4 hospitals, 5 nurses, 1043 patients enrolled
  – Care Coordination Call Center implemented April 2011
    • 3 nurses, ensures safe transition
  – Ambulatory care management
    • 4.5 nurses at 6 primary care offices and 1 nursing home; 18 primary care sites planned

• Care Improvement Opportunities
  – Unsafe Discharge Disposition/Treatment Plan Revision - 428
  – Medication Error (Duplicate, missed, dosage) - 33
  – Timely follow-up - 336
  – Inadequate Psychosocial Support/Inadequate Living Arrangements - 51

• Preventive Services
  – Flu prevention, vaccination reminders, patient activation
  – Pneumococcal vaccination reminders, patient activation

• IT Adoption
  – 19 of 23 participating organizations are KeyHIE members
  – Community Data Warehouse established to support analytics
  – Support provider EHR adoption & MU

• Patient/Provider Satisfaction being measured
You Don’t Have To Be Geisinger To Innovate Like Geisinger
Scaling and Generalizing

➢ GHS Consulting
  • ProvenCare® Acute: CMMI Bundled Payment 35 systems
  • PHN: Taconic IPA, North Florida Hospital
  • Physician Practice Redesign: Wellstar, Singapore Health Ministry
  • Population Management Case Manager Training: U Michigan
  • ProvenCare® Acute: Lifebridge Health System

➢ GHS Collaboratives
  • Integrated System Development: Singapore Health Ministry, HSHS, Bon Secours, Boston
  • Single National Patient Identifier: Care Connectivity Consortium (Mayo/Intermountain/Kaiser/Group Health)
  • Premier/Geisinger Integrated Care Collaborative
  • Clinical Enterprise Development in Academic Medicine: U Central Florida
  • ProvenCare® Acute: ACS Commission on Cancer Collaboration
  • Insurance Risk Products Provider-Payer Partnership: New Jersey
  • Insurance TPA Plus/Population Management: West Virginia, Maine, Delaware, NY
Geisinger Strategies

Existing
• Consulting – ProvenKnowledge™
• National Partnerships
  – PGP TD
  – CMMI Bundled Payment
• ACO Development

In Development ‘National Innovation Center’
• “Geisinger in the Cloud”
• Geisinger “Apps”
• NE US Regional Delivery “Influencer”
• NewCo
Are we moving fast enough...
- Regional Innovation Engines
- Expanded Medicare Advantage
- Partial Population Payments (moving ACOs away from Fee-for-Service)
- Using Social Media to Bring Greater/Faster and National Transparency to Cost/Quality Problems in Medicare
- Setting Spending Targets for Medicare
- Uniform and Transparent Cost/Quality Outcome Metrics