Care of the Complex Patient

Ronald A. Paulus, MD
EVP, Clinical Operations
Value-Driven Care for Complex Patients

• Value-based productivity measurement (Value-based RVUs??)
  – Care Gap Closure value per unit time
  – Low-value utilization ratio
    • Regular care “failures” (e.g., heart failure exacerbations)
    • Low-value resource consumption (e.g., low-utility imaging)
• Reengineered care processes
  – Use of EHRs, analytics and decision support (Eliminate Automate, Delegate, Activate)
• Health Care Teams, Accountable Collaboration
  – Medical Home, Primary care – specialist collaboration
• Cross-spectrum concerns
  – End-of-Life and Palliative Care
  – Medication management
• Fundamentally realigned reimbursement incentives
Care of the Complex Patient

Care Gap Management
Care Gaps

- Patients, based upon their age, gender, chronic conditions, etc., have predictable, evidence-based lab, imaging, medication and referral care needs
- Patients who fail to have their evidence-based care needs met have a “Care Gap”
- Complex, chronically ill patients are at high-risk for unclosed Care Gaps
- Traditional health care workflows are inefficient and unreliable at closing Care Gaps
- It is possible to reengineer care to increase both reliability and efficiency with which Care Gaps are closed
  - Requires IT and analytic infrastructure...
Geisinger Transformation Architecture

Other Inputs
- EBM Guidelines
- Patient Preferences
- Formulary/Economics

Real-time Clinical Status

Decision Support

Effectors
- Feedback Reports
- Prompts/Reminders
- Care Gap Order Sets
- Integrated Care plans
- Patient messages
- Information Rx

EHR
- Clinical, Schedule

Clinical Decision Intelligence System

Normalization, Transformation,
Analytic Application

Finance

Ops
# Care Gaps and Action Arms

<table>
<thead>
<tr>
<th>Populations</th>
<th>Goals – Endpoints</th>
<th>Action Arms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevention</td>
<td>Mammo every year</td>
<td>Office-Based Decision Support</td>
</tr>
<tr>
<td>Chronic Diseases</td>
<td>HgA1c less than 8</td>
<td>Care Plans</td>
</tr>
<tr>
<td>Unclosed Loops</td>
<td>Abnormal Pap Follow up</td>
<td>Lab and Imaging “Gap” Management</td>
</tr>
<tr>
<td>Medication Safety</td>
<td>Methotrexate monitoring</td>
<td>Referral “Gap” Management</td>
</tr>
<tr>
<td>Regular care “failures”</td>
<td>HF exacerbation</td>
<td></td>
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**Care Gaps**

**Goals – Endpoints**
- Mammo every year
- HgA1c less than 8
- Abnormal Pap Follow up
- Methotrexate monitoring
- HF exacerbation
Medication Management

Therapeutic Goal → Medication Regimen

- Therapeutic Response monitoring (e.g., labs, symptoms, adherence)
- Adverse effects monitoring (e.g., labs, imaging, symptoms)

Provider and Patient Feedback
Integrated Care Gap Order Sets

- Clinical Care Gaps that require medical decision making
  - Medication management
  - Chronic condition not at goal
Care of the Complex Patient
Primary Care – Specialty Collaboration
Primary Care, Primary Specialist and Collaborative Care

• Certain severely chronically ill patients require ongoing collaborative care by both a primary care and specialist provider

• In order to successfully co-manage care, expectations and roles need to be clarified including identifying the specific involved specialist and who is accountable (Primary Care vs. Specialty Care) for what aspects of care

• Ultimately, the goal of collaborative is to ensure that all care needs are managed and care gaps closed

• Patients needing ongoing co-management feel that the health care team is coordinated and collaborative
## Conditions, Care Gaps and Potential Specialty Engagement

<table>
<thead>
<tr>
<th>Condition or Care Gap</th>
<th>Specialty</th>
</tr>
</thead>
<tbody>
<tr>
<td>CKD Stage 4</td>
<td>Nephrology</td>
</tr>
<tr>
<td>HTN &gt; 140/90, 3 or more meds</td>
<td>Nephrology</td>
</tr>
<tr>
<td>AAA &gt; 4 cm</td>
<td>Vascular</td>
</tr>
<tr>
<td>Carotid stenosis &gt; 60%</td>
<td>Vascular</td>
</tr>
<tr>
<td>Persistent HgA1c &gt; 9</td>
<td>Endocrine</td>
</tr>
<tr>
<td>Recurrent Asthma exacerbation</td>
<td>Allergy/Pulmonology</td>
</tr>
<tr>
<td>LDL &gt; goal, statin allergy</td>
<td>Cardiology</td>
</tr>
<tr>
<td>Afib, &gt; 2 CHADS no anticoag</td>
<td>Cardiology</td>
</tr>
<tr>
<td>Recurrent HF exacerbation</td>
<td>Cardiology</td>
</tr>
<tr>
<td>50 and over w fx of hip and spine</td>
<td>Rheumatology/HiROC</td>
</tr>
<tr>
<td>Melanoma</td>
<td>Dermatology</td>
</tr>
<tr>
<td>Rheumatoid Arthritis</td>
<td>Rheumatology</td>
</tr>
</tbody>
</table>
Heart Failure “Care Path”

Stage A  Stage B  Stage C  Stage D

Risk Factor Modification
Patient Education

Medication Management
Reversible Causes

TOC Management
Daily monitoring

Transition to transplant
End of Life Care

Primary Cardiologist

Primary Care Provider
Geisinger Examples
Creating Real Value: Geisinger’s Core Care Transformation Initiatives

• Population Health Optimization
  – Geisinger Medical Home
  – ProvenHealth Navigator
• Chronic Disease Care Optimization
  – ProvenCare -Chronic
• Acute Episodic Care Optimization
  – ProvenCare -Acute® (aka the “surgical warranty”)
• Transitions of Care Optimization
  – ProvenTransitions
• Patient engagement and activation throughout all initiatives
  – ProvenEngagement

- Get consumers into a system of care, focused on the right things…

- Optimize the delivery of high-cost, high capital care

- Minimize hand-off errors, reduce wasteful end-of-life spending and degradation

- Get consumers and families involved, with personal responsibility

...
ProvenHealth Navigator®

Geisinger’s Value-based Patient-Centered Medical Home
Functional Components

1. Team-based, patient-centered primary care (including embedded care management nurse)
2. Joint payor-provider population management
3. High quality, efficient specialist identification and referral
4. Quality Outcomes Program
5. Value-based Reimbursement Program
   1. Baseline FFS
   2. Practice transformation stipends
   3. Quality-gated gain sharing
Inpatient Admission Reduction

Risk Adjusted Acute Admits/1000

---|---|---
250 | 270 | 290
290 | 270 | 250

- Red: Empl Phase 1 Sites
- Blue: Empl Phase 2 Sites
- Green: Medicare Comparison Group
Impact: COPD Admissions

COPD acute admits/1000

2005 2006 2007 2008

PHN  Non-PHN
Impact: Diabetes Admissions

DM acute admits/1000

2005 2006 2007 2008

PHN  Non-PHN
Impact: CHF Admissions

HF acute admits/1000

- 2005
- 2006
- 2007
- 2008

- PHN
- Non-PHN
ProvenCare - Chronic®
Chronic Disease Optimization
Diabetes Intermediate Outcomes

Diabetes Trending

R^2 = 0.8865
R^2 = 0.8206
R^2 = 0.8012

% W/ A1C < 7.0
% W/ LDL < 100
% BP < 130/80
Linear (% W/ LDL < 100)
Linear (% BP < 130/80)
Linear (% W/ A1C < 7.0)
Diabetes: Resistant Control Group

- Despite the success of the Diabetes Bundle, **8% of the 21,667 known diabetic patients continue to have HgbA1C levels over 9%**
- Intervention target: Knapper Clinic
  - 1,074 diabetic patients
  - 10% had HgbA1C levels over 9%
  - This group of patients at highest risk for diabetic complication was targeted for our program
High Risk Diabetes Outreach Program Invitation Process

Invitation Process:

- PCP invitation letter
- Up to 3 phone calls from Scheduling Office
- Phone call from Knapper Clinic staff
## Results: Change in HgbA1C% (Cases vs. Baseline)

<table>
<thead>
<tr>
<th>Time to F/u HgbA1C%</th>
<th>Change in HgbA1C%</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 weeks (n=39)</td>
<td>-1.57</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>15 weeks (n=23)</td>
<td>-1.83</td>
<td>&lt;0.001</td>
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</table>
High Risk Diabetes Outreach Program Provider Survey

Provider Surveys: Pre & Post

<table>
<thead>
<tr>
<th></th>
<th>Pre Intervention (n=8)</th>
<th>Post Intervention (n=8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sat. of manage DM patients?</td>
<td>2.5</td>
<td>4</td>
</tr>
<tr>
<td>Difficulty w/ DM Bundle</td>
<td>4.4</td>
<td>4.5</td>
</tr>
<tr>
<td>Pt. medication compliance</td>
<td>2.4</td>
<td>2.3</td>
</tr>
<tr>
<td>Pt. dietary compliance</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Pt. record keeping</td>
<td>1.8</td>
<td>2.3</td>
</tr>
<tr>
<td>Pt. knowledge of DM</td>
<td>2.9</td>
<td>3</td>
</tr>
<tr>
<td>Sat. w/ Endo depart</td>
<td>3.3</td>
<td>4.8</td>
</tr>
<tr>
<td>Sat. other depart</td>
<td>3.9</td>
<td>4</td>
</tr>
<tr>
<td>Would DM outreach clinic helpful?</td>
<td>4.1</td>
<td>4.8</td>
</tr>
</tbody>
</table>
High Risk Diabetes Outreach Program: Patient Survey

Patient Surveys: Pre & Post

Questions from Diabetes Treatment Satisfaction Questionnaire (DTSQ) © 1993 Dr. Clare Bradley, Diabetes Research Group, England
End of Life Planning and Care
Chronic Disease Spectrum and End of Life Activities

Functional Status

Healthy

Advanced Directive Reviews

Advanced Directives Discussion and Planning

Palliative Care Discussions

Supportive Care Referral
Thank You.