The Geisinger Model:

Successful Implementation Strategies

October 21, 2010
Massachusetts Medical Society

Howard R. Grant, JD, MD
Executive Vice President, Chief Medical Officer
Geisinger Health System

The NEW ENGLAND JOURNAL of MEDICINE

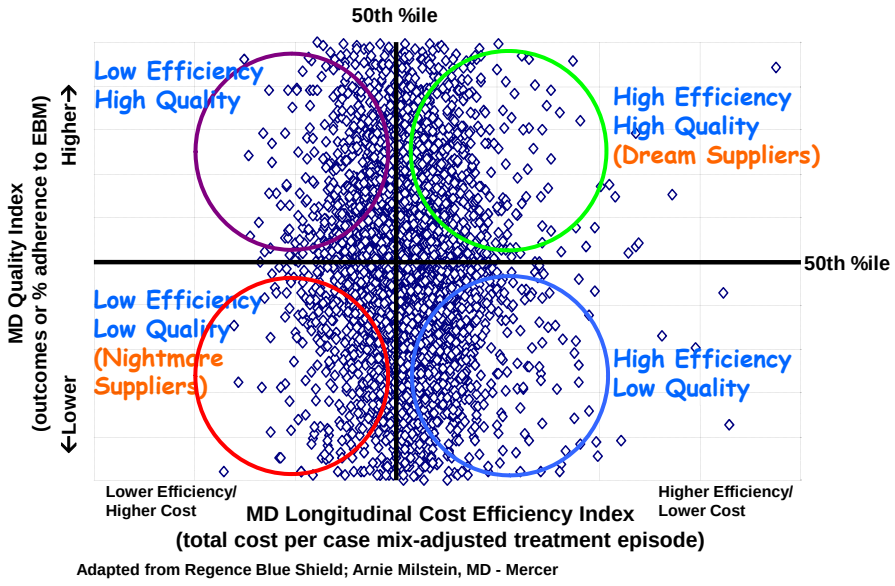
Volume 348(26) 26 June 2003 pp 2635-2645

The Quality of Health Care Delivered To Adults In the United States

McGlynn, Elizabeth A.: Asch, Steven M.: Adams, John: Jeesey, Joan: Hicks, Jennifer: DeCristofaro, Alison: Kerr, Eve A.

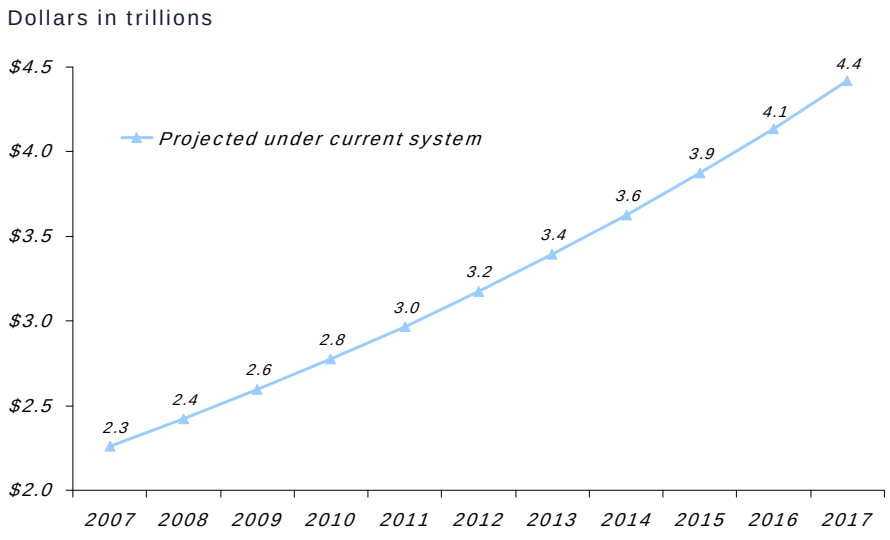
BACKGROUND
We have little systematic information about the extent to which standard processes involved in healthcare—a key element of quality—are delivered in the United States.
METHODS
We telephoned a random sample of adults living in 12 metropolitan areas in the United States and…received written consent to copy their medical records…to evaluate performance on 439 indicators of quality of care for 30 acute and chronic conditions as well as preventative care…
RESULTS
Participants received 54.9 percent of recommended care.
CONCLUSIONS
The deficits we have identified in adherence to recommended processes for basic care pose serious threats to the health of the American public. Strategies to reduce these deficits are warranted.

Cost/Quality "Correlation"



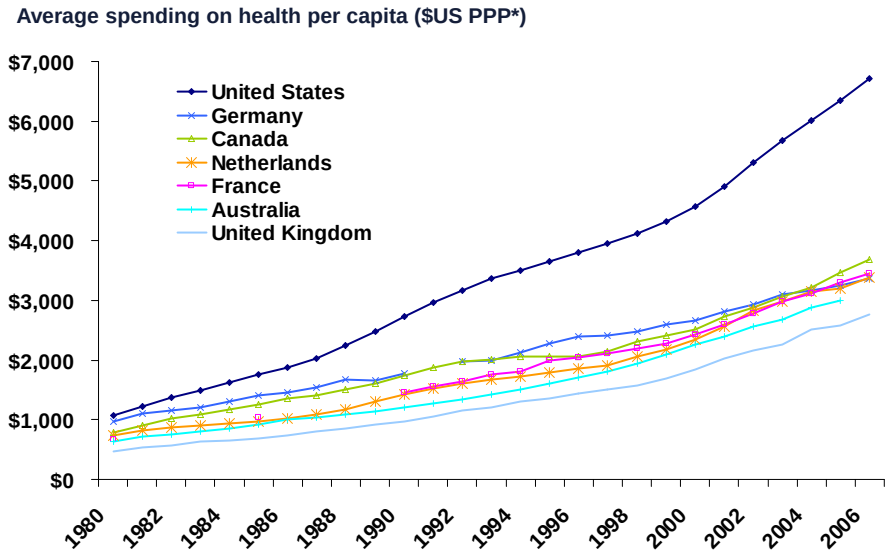
Adapted from Regence Blue Shield; Arnie Milstein, MD - Mercer

Total National Health Expenditures, 2008–2017 Projected and Various Scenarios



* Selected individual options include improved information, payment reform, and public health.
Source: Based on projected expenditures absent policy change and Lewin estimates.

International Comparison of Spending on Health, 1980–2006



* PPP = Purchasing Power Parity.
Data: OECD Health Data 2008, June 2008 version.

The Path to a High Performance US Health System "A 2020 Vision and the Policies to Pave the Way", pg. 16-21, The Commonwealth Fund

Where We Want to Be

1. Affordable coverage for all
2. Payment for value
3. Coordinated care
4. Continuous improvement/innovation
5. National health goals, leadership, accountability

The Path to a High Performance US Health System "A 2020 Vision and the Policies to Pave the Way", pg. 16-21, The Commonwealth Fund

ACO Lessons

- Reorganization of healthcare delivery to make it proactive
- Healthy relationship with a health plan to provide timely data and expertise is needed
- Use HIT to engage patient and provider

ACO Federal Program Highlights

- **Initial program in 2012 is "shared savings"—this model is first step toward risk taking and is "upside" only to providers if savings are achieved vs. fee for service — there is no 'downside" risk to providers if savings not achieved.**
- **Later models (first via pilot programs) are expected to put providers at downside risk on a service line (episode of care) basis, and potentially on a global fee or capitation basis.**

Accountable Care

*Most care provided by single ACO, but some care will be delivered by other ACOs or regional referral centers like tertiary or quaternary hospitals and their associated specialists, unless a strict beneficiary lock-in is utilized.

Our Must Do's Anyway…

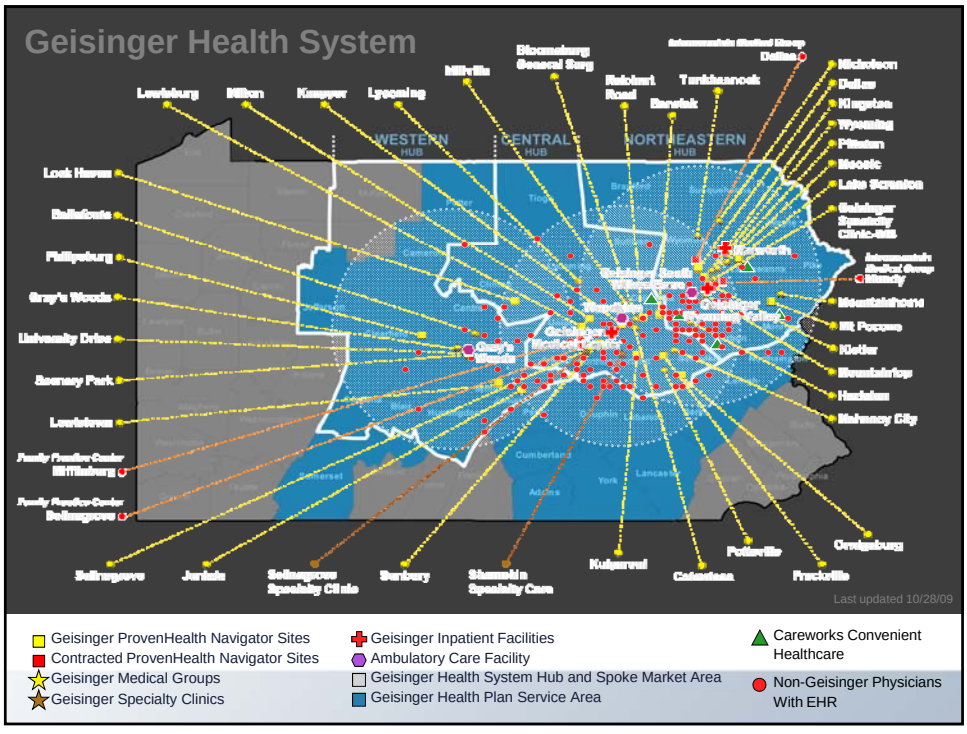
1. **Information Technology**
   You can't manage what you can't measure.
2. **Accelerate Clinical Transformation**
   Higher Quality Care is Cheaper.
3. **Primary Care Network Development**
   Underlying Framework the Future.
4. **Chronic Disease Management**
   Hospital Utilization of Chronic Care Patients must Shrink.
5. **Performance Management Agreements**
   Aligning Incentives Economically.
6. **Health Insurance**
   Picking the Right Partner is critical.

The Legacy

“Make my hospital right, make it the best.”

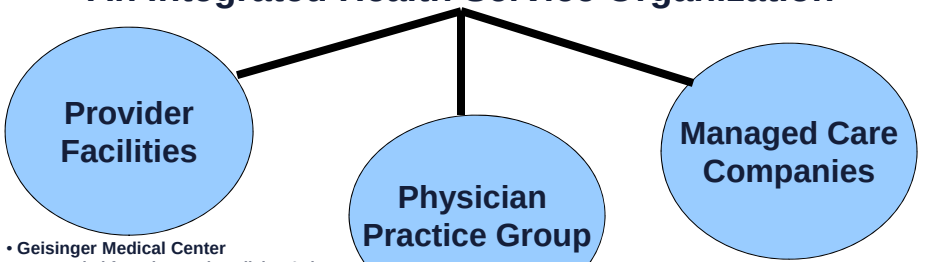
Abigail Geisinger
1827-1921

“Geisinger Quality – Striving for Perfection”*…2006 - 2011*



Geisinger Health System

An Integrated Health Service Organization



- Geisinger Medical Center
  - Hospital for Advanced Medicine & the Janet Weis Women's & Children's Hospital, Level I & II Trauma Center
- Geisinger Northeast (2 campuses)
  - Geisinger Wyoming Valley Medical Center with Heart Hospital, Henry Cancer Center, Level II Trauma Center
  - South Wilkes-Barre Ambulatory Surgery, Adult & Pediatric Urgent Care, Pain Medicine, Sleep Medicine
- Marworth Alcohol & Chemical Dependency Treatment Center
- 3 Ambulatory surgery centers
- >48K admissions/OBS & SORU
- ~820 licensed in-patient beds

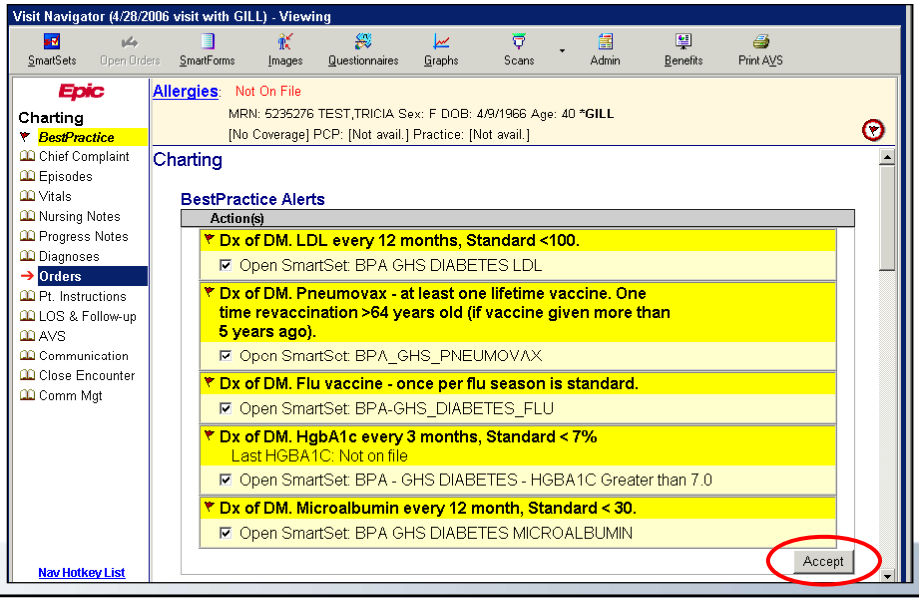
- Multispecialty group
- ~860 physicians
- ~460 advanced practitioners
- ~62 primary and specialty clinic sites (37 community practice sites)
- >2.0 million outpatient visits
- ~350 residents and fellows

- ~250,000 members (incl. ~49,000 Medicare Adv.)
- Diversified products
- >25,000 contracted physicians/ facilities (including 110 non-Geisinger hospitals)
- 42 PA counties

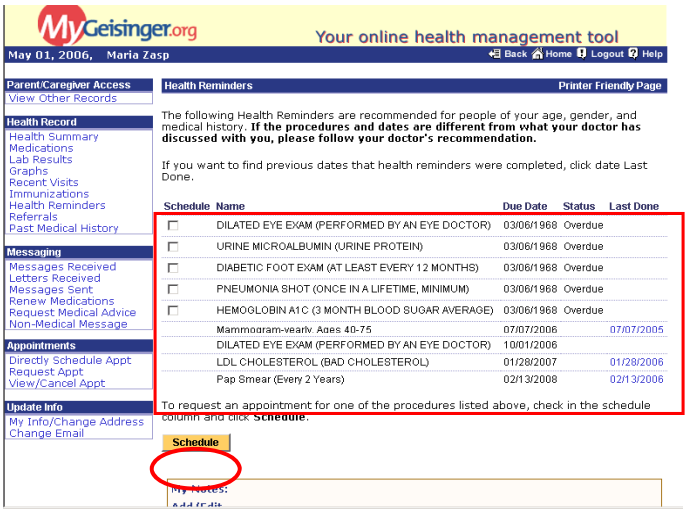
Electronic Health Record (EHR)

- > $130M invested (hardware, software, manpower, training)
- Running costs: ~4.4% of annual revenue of > $2.3B
- Fully-integrated EHR: 37 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 - ~155,000 active users (33% of ongoing patients)
  - Patient self-service (self-scheduling, kiosks)
  - Home monitoring integrated with Medical Home
- "Outreach EHR" - 2,600 non-Geisinger physician users
  - Regional image distribution
- Active Regional Health-Information Exchange (KeyHIE)
  - 11 hospitals, 90+ practices, 400,000 patients consented
- Keystone Beacon Community
  - HIT-enabled, Community-wide care coordination in 5 rural counties

DM Best Practice Alert/Order Set



MyGeisinger
Patient Reminder View



Innovation Initiatives

- **ProvenCare® for Acute Episodic Care (the "Warranty")**
- **ProvenCare® Chronic Disease**
- **ProvenHealth Navigator℠ (Advanced Medical Home)**
- **Transitions of Care**

The Geisinger Advantage

- Our physicians and professional staff
- Our market
- Vision and leadership
- Operational and professional integration
- Enterprise-wide clinical decision support (via the EHR)
- Accountability, transparency, incentives – all aligned
- Our insurance/provider "sweet spot"

ProvenCare® for Acute Episodic Care (the “Warranty”)

ProvenCare® for Acute Episodic Care

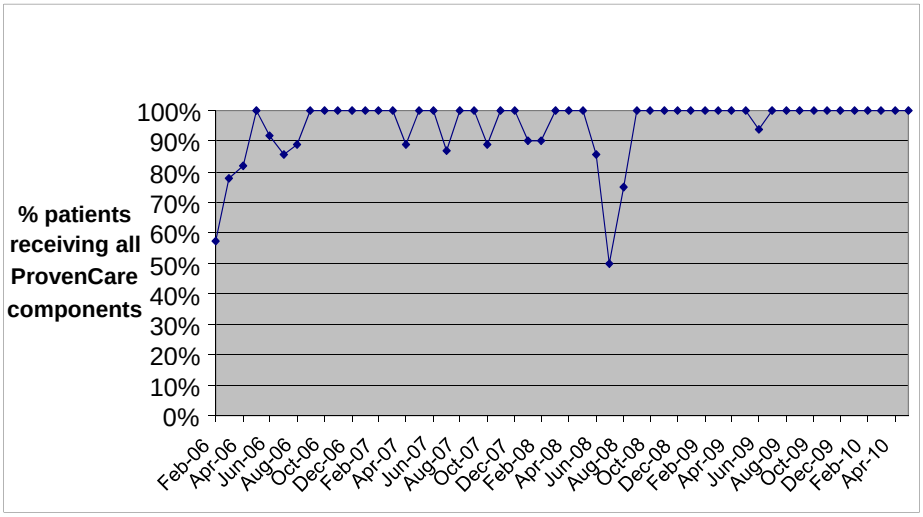
ProvenCare®

- Identify high-volume DRGs
- Determine best practice techniques
- Deliver evidence-based care
- GHP pays global fee
- No additional payment for complications

Quality/Value - Clinical Outcomes

	Before ProvenCare® (n=132)	*ProvenCare®* (n=321)	*% Improvement*
In-hospital mortality	1.5 %	0.3 %	**80 %**
Patients with <u>any</u> complication (STS)	38 %	33 %	**13 %**
Patients with >1 complication	8.4 %	5.9 %	**30 %**
Atrial fibrillation	24 %	21 %	**13 %**
Neurologic complication	1.5 %	0.9 %	**40 %**
Any pulmonary complication	7 %	5 %	**29 %**
Re-intubation	2.3 %	0.9 %	**61 %**
Blood products used	24 %	22 %	**8 %**
Re-operation for bleeding	3.8 %	2.8 %	**26 %**
Deep sternal wound infection	0.8 %	0.3 %	**63 %**
Readmission within 30 days	6.9 %	5.6 %	**20 %**

ProvenCare® CABG



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

Chronic Disease Portfolio

- Diabetes
- Congestive Heart Failure
- Coronary Artery Disease
- Hypertension
- Prevention Bundle

Improving Diabetes Care for 24,184 patients

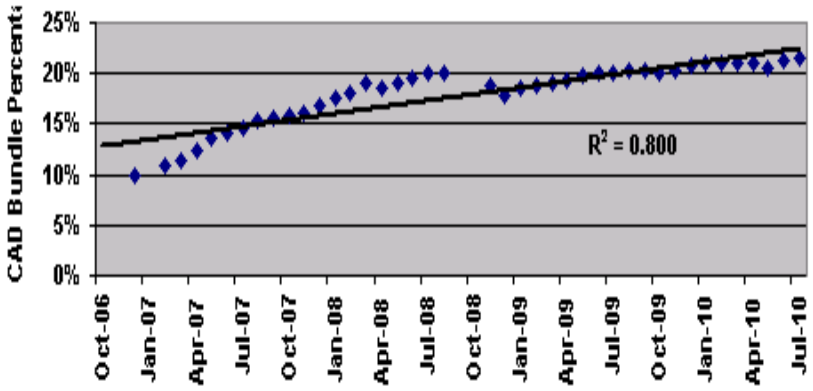
	3/06	3/07	7/09	7/10
Diabetes Bundle Percentage	**2.4%**	**7.2%**	**11.9%**	**12.9%**
% Influenza Vaccination	57%	73%	74%	75%
% Pneumococcal Vaccination	59%	83%	84%	84%
% Microalbumin Order	58%	87%	88%	88%
% HgbA1c at Goal	33%	37%	43%	52%
% LDL at Goal	50%	52%	61%	54%*
% BP < 130/80	39%	44%	52%	54%
% Documented Non-Smokers	74%	84%	85%	85%

*Measure change resulted in a 9% decrease February 2010

Improving CAD Care for 15,220 Patients

	9/06	3/07	7/09	7/10
CAD Bundle Percentage	8%	11%	20%	22%
% LDL <100 or <70 if High Risk	38%	37%	47%	49%
% ACE/ARB in LVSD,DM, HTN	65%	66%	76%	76%
% BMI measured	79%	86%	98%	99%
% BP < 140/90	74%	74%	79%	79%
% Antiplatelet Therapy	89%	91%	92%	92%
% Beta Blocker use S/P MI	97%	97%	97%	97%
% Documented Non-Smokers	86%	86%	87%	87%
% Pneumococcal Vaccination	80%	80%	86%	86%
% Influenza Vaccination	60%	74%	76%	78%

CAD Bundle Primary Care Average



Improving Preventive Care for 211,896 Patients

	11/07	7/10
Adult Preventive Bundle	9.2%	28%
Breast Cancer Screening (q 2 40-49, q 1 50-74)	46%	61%
Cervical Cancer Screening (q 3 yr Age 21-64)	64%	74%
Colon Cancer Screening (Age 50-84)	44%	63%
Prostate Cancer Discussion (Age 50-74)	72%	75%
Lipid Screening (Every 5 yr M > 35, F > 45)	75%	85%
Diabetes Screening (Every 3 yr > 45)	85%	88%
Obesity Screening (BMI in Epic)	77%	96%
Documented Non-Smokers	75%	78%
Tetanus Diphtheria Immunization (every 10 yr)	35%	68%
Pneumococcal Immunization (Once Age >65)	84%	86%
Influenza Immunization (Yearly Age >50)	47%	57%
Chlamydia Screening (Yearly Age 18-25)	22%	35%
Osteoporosis Screening (every 3 yr Age > 65)	52%	73%
Alcohol Intake Assessment	84%	89%

Ongoing Issues

- More individualized targets?
- Smaller cohorts?
- Specialist / PCP interactions

ProvenHealth Navigator℠ (Advanced Medical Home)

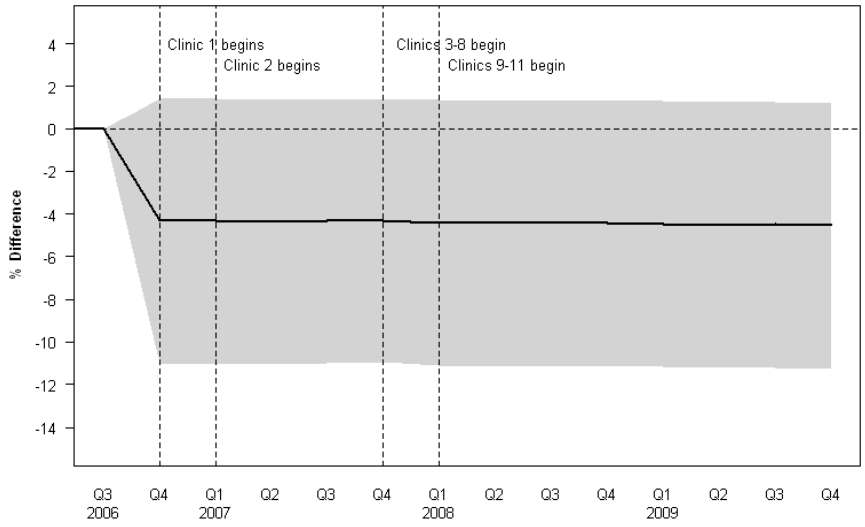
ProvenHealth Navigator℠ (Advanced Medical Home)

- Partnership between primary care physicians and GHP that provides 360-degree, 24/7 continuum of care
- “Embedded” nurses
- Assured easy phone access
- Follow-up calls post-discharge and post-ED visit
- Telephonic monitoring/case management
- Group visits/educational services
- Personalized tools (e.g., chronic disease report cards)

ProvenHealth Navigator℠ (Advanced Medical Home)

- Currently serves 40,000 Medicare recipients and 25,000 commercial patients
- Results from best primary care sites:
  - ↓ 25% patients' admissions
  - ↓ 23% days/1000
  - ↓ 53% readmissions following discharge
  - Significant benefit to patients and families, avoiding multiple hospital admissions

Cumulative Total Difference in Spending Attributable to PHN (%) vs. Predicted PMPM



Value Reimbursement Program

- Fee For Service
- P4P payments for quality outcomes
- Practice transformation stipends
  - PCP
  - Practice
- Value based incentive payments
  - Opportunity based on efficiency results
  - Payments distributed based on quality achievement

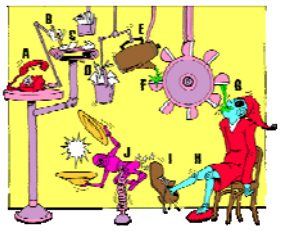
Improving Value

Redesigning Care Delivery by Integrating Specialists and the Patient Centered Medical Home

Every System is Perfectly Designed to Achieve the Results It Gets

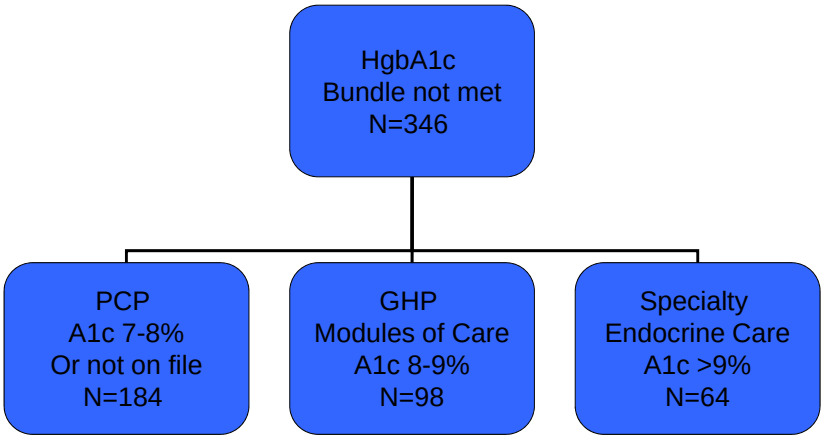
- Problem to solve
  - "how can we successfully integrate specialty care with the PCMH (Proven Health Navigator) to improve quality, improve efficiency, and reduce cost for the population we serve?"
- Solution
  - We need to move away from a "widget-care" model to a value-based model.
  - To create such a model, we need to understand what results we could achieve by redesigning our systems of care on a small scale first (pilots)

Caveat – why we are doing what we are doing the way we are doing it



- No one has been able to solve this – so we need to be careful and thoughtful
- We are playing in complex systems that need to be respected – small scale piloting is safest and best
- We cannot create a new care and financial model without first getting some real data

Endocrinology/PCMH (Selinsgrove) Pilot
High Risk Diabetes Program



Nephrology/PCMH (Knapper) Hypertension Pilot

- Principle Group – Systolic BP > 170
  - Initial Nephrology Evaluation for evaluation and therapy
  - Subsequent care through primary care site
  - Frequent reassessment, adjustment of therapy without direct practitioner/patient interaction
- Secondary Group – Systolic BP > Goal but < 170
  - Nephrology Department will develop guidelines/protocols for HTN for community practice site
  - Act as resource for clinical updates
  - Provide training of support staff in BP assessment
  - Act as consultant (w/o direct patient contact as requested)

Improvement in Quality Measure
DXA in Women >65

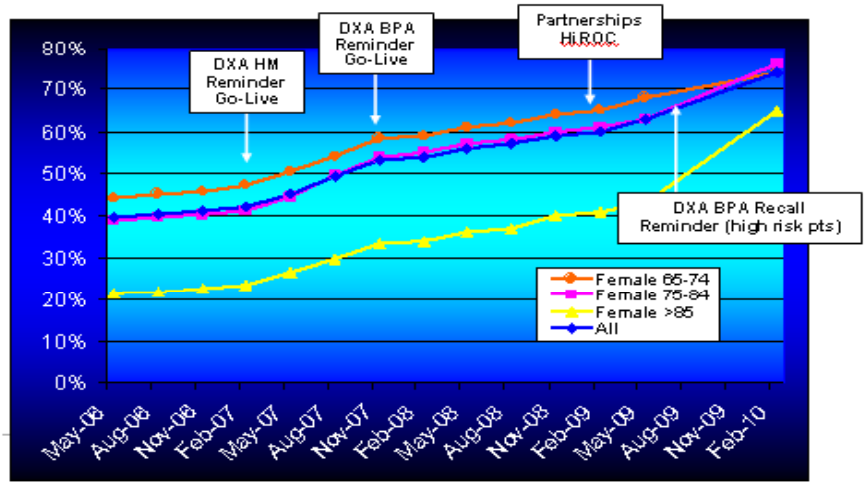
Drivers

- Health maintenance reminders (passive, point of service)
- Best practice alerts (active, point of service)
- Partnerships (proactively, population management – partnership between primary care and rheumatology)
- HiROC Program – inpatient and outpatient
- Testing access (mobile DXA)

Results

- N > 26,000 women
  - Baseline (May 2006) – 44%
  - Last data point (Feb 2010) – 75%

Nationally, this measure has been reported at about 20-30%. Using technology, process redesign, programmatic care, and testing access, we have improved this quality indicator over four years to levels not achieved elsewhere.



Anticoagulation Management Program
2009

Overview

- 7,057 Active Patients
- 25,792 Total Patients
- >1% per month growth rate
- ~11,000 Encounters per month
- 1.53 encounters per patient per month
- 70% of INR's within Therapeutic Range
- 175-250 new patients per month
- 14 FTE Pharmacists
- 7 support staff

Incidence of Adverse Events

Comparison of GHS Anticoagulation Management Service with Literature

Incidence of Adverse Events

	GHS Anticoagulation Clinics(1)	Reference Anticoag Clinics (2)	Usual Practice (non-GHS Patients)*	GHS **Non**-Anticoag Clinic Patients (3)
Rate of Bleeding	**8.67%**	15.30%	35.30%	17.10%
Rate of Thromboembolic Events	**1.54%**	3.60%	11.80%	20.60%

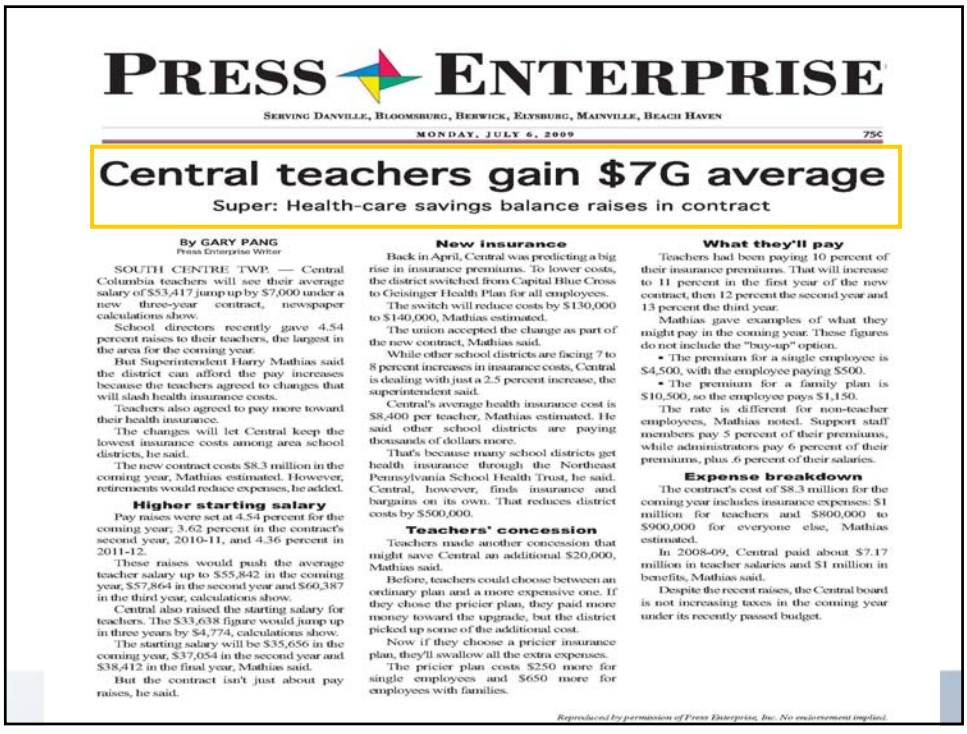
(1) Based on 2004-2009 GHS Anticoag data-total of 8847 patients on continuous therapy
(2)Bungard TJ, Gardner L, Archer SL; Evaluation of a pharmacist-managed anticoagulation
(3) Based on 2009 GHS data - total of 307 patients on continious therapy

Stroke Prevention

- 3,117 patients were actively managed on anticoagulation therapy during calendar year 2009, with a diagnosis of A-Fib
- For every 33 A-fib patients on anticoagulation therapy 1 stroke per year is avoided
- 94 potential strokes avoided during 2009

Summary

- Quality and efficiency are inextricably linked together
- Efficiency originates from the same place as quality – fundamental care model redesign
- At Geisinger, we are trying to reinvent many aspects of the care process
- Geisinger has many advantages due to our integrated delivery system and its “Sweet Spot”



PRESS ENTERPRISE

SERVING DANVILLE, BLOOMSBURG, BERWICK, ELYSBURG, MAINVILLE, BEACH HAVEN

MONDAY, JULY 6, 2009 75¢

Central teachers gain $7G average

Super: Health-care savings balance raises in contract

By GARY PANG
Press Enterprise Writer

SOUTH CENTRE TWP. — Central Columbia teachers will see their average salary of $53,417 jump up by $7,000 under a new three-year contract, newspaper calculations show.

School directors recently gave 4.54 percent raises to their teachers, the largest in the area for the coming year.

But Superintendent Harry Mathias said the district can afford the pay increases because the teachers agreed to changes that will slash health insurance costs.

Teachers also agreed to pay more toward their health insurance.

The changes will let Central keep the lowest insurance costs among area school districts, he said.

The new contract costs $8.3 million in the coming year, Mathias estimated. However, retirements would reduce expenses, he added.

Higher starting salary

Pay raises were set at 4.54 percent for the coming year; 3.62 percent in the contract's second year, 2010-11, and 4.36 percent in 2011-12.

These raises would push the average teacher salary up to $55,842 in the coming year, $57,864 in the second year and $60,387 in the third year, calculations show.

Central also raised the starting salary for teachers. The $33,638 figure would jump up in three years by $4,774, calculations show.

The starting salary will be $35,656 in the coming year, $37,054 in the second year and $38,412 in the final year, Mathias said.

But the contract isn't just about pay raises, he said.

New insurance

Back in April, Central was predicting a big rise in insurance premiums. To lower costs, the district switched from Capital Blue Cross to Geisinger Health Plan for all employees.

The switch will reduce costs by $130,000 to $140,000, Mathias estimated.

The union accepted the change as part of the new contract, Mathias said.

While other school districts are facing 7 to 8 percent increases in insurance costs, Central is dealing with just a 2.5 percent increase, the superintendent said.

Central's average health insurance cost is $8,400 per teacher, Mathias estimated. He said other school districts are paying thousands of dollars more.

That's because many school districts get health insurance through the Northeast Pennsylvania School Health Trust, he said. Central, however, finds insurance and bargains on its own. That reduces district costs by $500,000.

Teachers' concession

Teachers made another concession that might save Central an additional $20,000, Mathias said.

Before, teachers could choose between an ordinary plan and a more expensive one. If they chose the pricier plan, they paid more money toward the upgrade, but the district picked up some of the additional cost.

Now if they choose a pricier insurance plan, they'll swallow all the extra expenses.

The pricier plan costs $250 more for single employees and $650 more for employees with families.

What they'll pay

Teachers had been paying 10 percent of their insurance premiums. That will increase to 11 percent in the first year of the new contract, then 12 percent the second year and 13 percent the third year.

Mathias gave examples of what they might pay in the coming year. These figures do not include the "buy-up" option.

- The premium for a single employee is $4,500, with the employee paying $500.
- The premium for a family plan is $10,500, so the employee pays $1,150.

The rate is different for non-teacher employees, Mathias noted. Support staff members pay 5 percent of their premiums, while administrators pay 6 percent of their premiums, plus .6 percent of their salaries.

Expense breakdown

The contract's cost of $8.3 million for the coming year includes insurance expenses: $1 million for teachers and $800,000 to $900,000 for everyone else, Mathias estimated.

In 2008-09, Central paid about $7.17 million in teacher salaries and $1 million in benefits, Mathias said.

Despite the recent raises, the Central board is not increasing taxes in the coming year under its recently passed budget.

The Legacy

“Make my hospital right, make it the best.”

Abigail Geisinger
1827-1921

“Geisinger Quality – Striving for Perfection”*…2006 - 2011*