



GEISINGER

REDEFINING BOUNDARIES

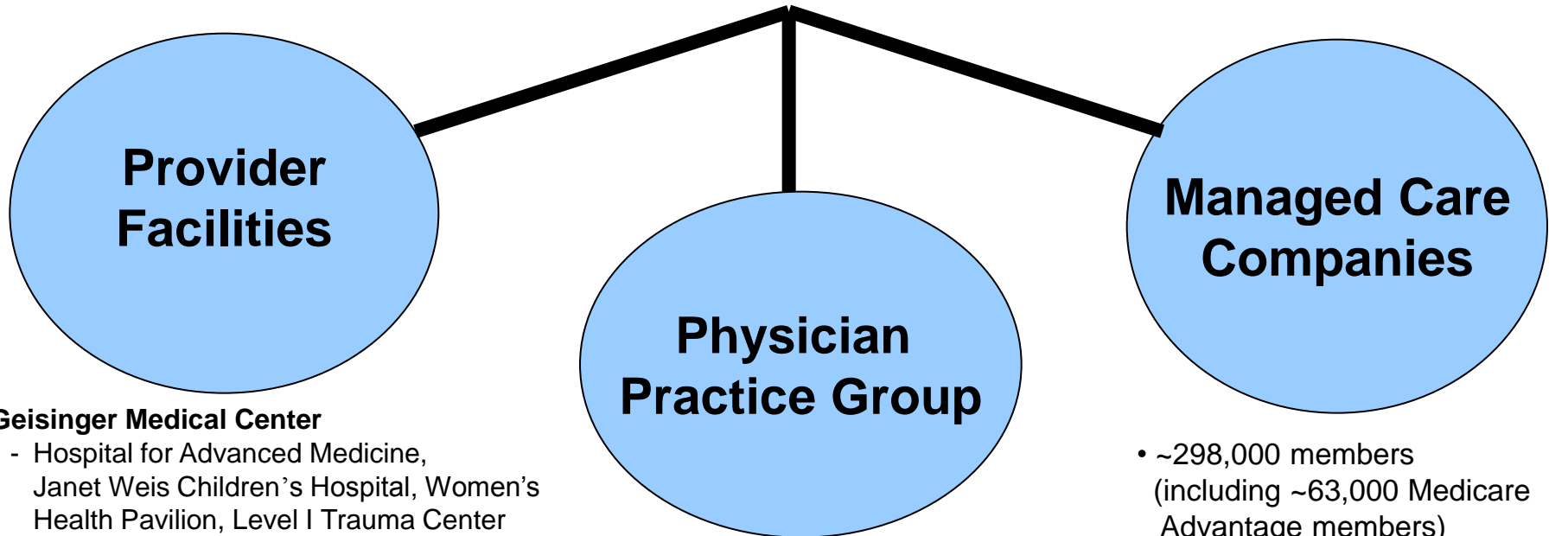
# The Geisinger Model: A Systematic Approach to Quality and Value

National Health Policy Forum  
Washington, DC  
October 14, 2011

**Glenn Steele, Jr., MD, PhD**  
**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 Ambulatory Surgery Center
- **Geisinger Northeast (2 campuses)**
  - Geisinger Wyoming Valley Medical Center with Heart Hospital, Henry Cancer Center, Level II Trauma Center
  - South Wilkes-Barre Adult & Pediatric Urgent Care, Ambulatory Surgery Center, inpatient rehabilitation, pain mgmt, sleep disorders
- **Marworth Alcohol & Chemical Dependency Treatment Center**
- >53K admissions/OBS & SORU
- ~820 licensed in-patient beds

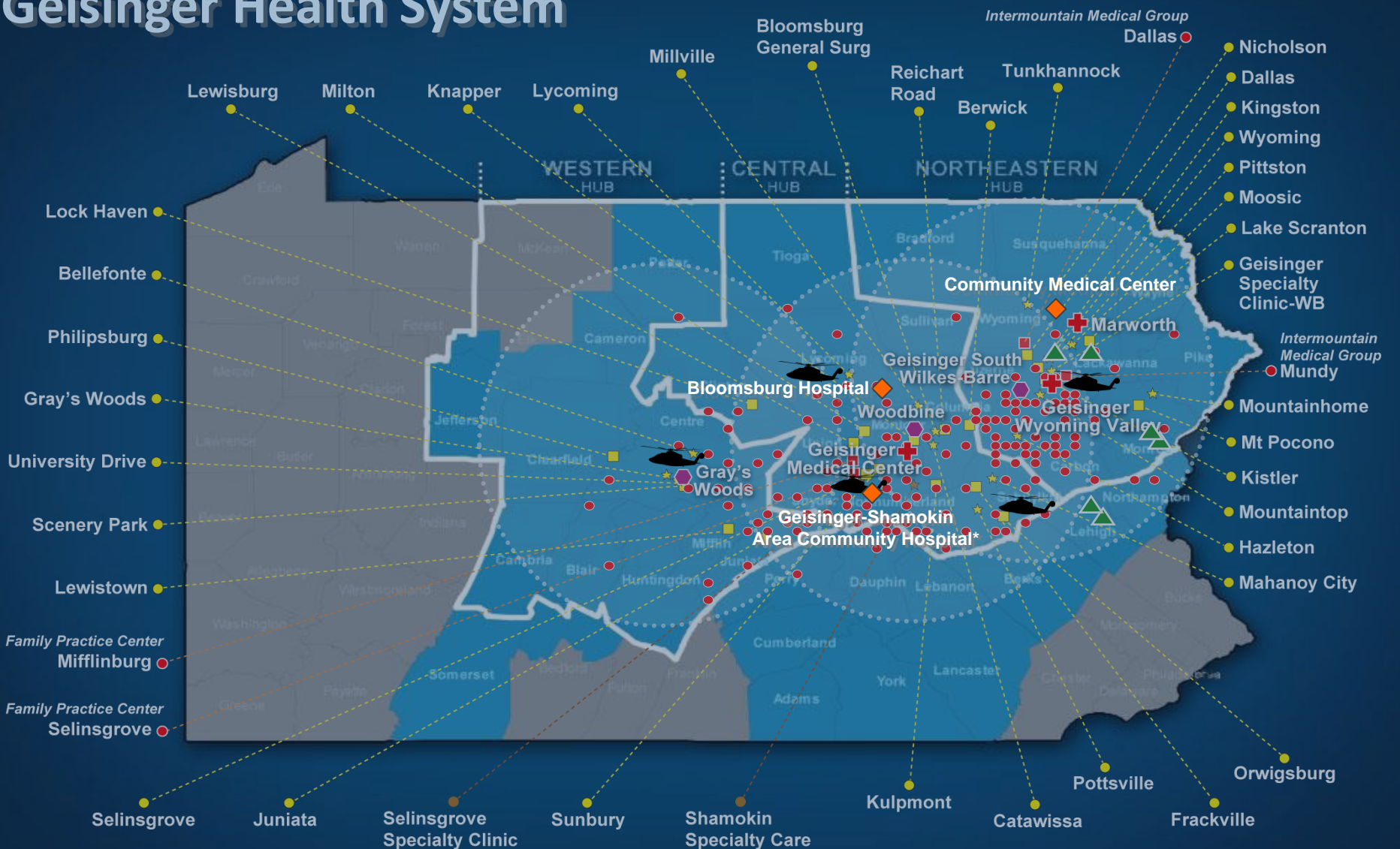
### Physician Practice Group

- Multispecialty group
- ~900 physicians
- ~520 advanced practitioners
- ~65 primary and specialty clinic sites (37 community practice sites)
- 1 Outpatient surgery center
- >2.1 million outpatient visits
- ~360 residents and fellows

### Managed Care Companies

- ~298,000 members (including ~63,000 Medicare Advantage members)
- Diversified products
- >30,000 contracted physicians/facilities
- 43 Pennsylvania (PA) counties

# Geisinger Health System



Last updated 12/16/10

\* A campus of Geisinger Medical Center

- Geisinger ProvenHealth Navigator Sites
- + Geisinger Inpatient Facilities
- Non-Geisinger Physicians With HER
- Contracted ProvenHealth Navigator Sites
- ◆ Ambulatory Care Facility
- ✈ LifeFlight Base
- ★ Geisinger Medical Groups
- Geisinger Health System Hub and Spoke Market Area
- ◆ Geisinger-Shamokin Area Community Hospital, Bloomsburg Hospital\*, and Community Medical Center
- ★ Geisinger Specialty Clinics
- Geisinger Health Plan Service Area
- ▲ Careworks Convenient Healthcare

# Electronic Health Record (EHR) update

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- **>\$135M invested** (hardware, software, manpower, training)
- **Running costs:** ~4.4% of annual revenue of >\$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** - ~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<sup>®</sup>) Programs**
- **Keystone Beacon Community - \$16M Grant from ONCHIT over 3 years**
  - HIT-enabled, Community-wide care coordination in 5 rural counties



# Awards/Grants

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- GHS awarded “**Most Wired**” health care system by Computer World eight years running
- American Medical Group Association’s 2011 Acclaim Award (*recognized for its transforming care delivery: Patient-centric, value-driven innovation initiative*)
- 2011 named SDI IHN 100 – Most Integrated Healthcare Networks in the Nation (*identifying the 100 top US hospitals based on overall organizational performance*)
- 2011 Thomson Reuters (GMC) 100 Top Hospitals: National Benchmarks Award (*for overall organizational performance*)
- National Human Genome Research Institute \$25M Grant over 4 years to a seven-member network group (eMERGE) (*integrate genomic information into EHRs to improve patient care*)
- June 2010 – NIH Grant \$1.8M (*further molecular neuroscience, regeneration research*)
- 2010 Thomson Reuters 50 Top Hospitals Cardiovascular Benchmarks for Success List (*identifies high performing cardiovascular hospitals nationally & sets performance targets for managing & improving cardiovascular services*)

# The Vision

- Quality
- Innovation
- Market Leadership
  - Growth
  - Scale and Generalize Innovation
- The Geisinger Family
  - Legacy
  - Personal and Professional Well-being

# Where Do We Want to Be as a Nation?

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**



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

McGlynn, Elizabeth A.: Asch, Steven M.: Adams, John: Jeesev, 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**

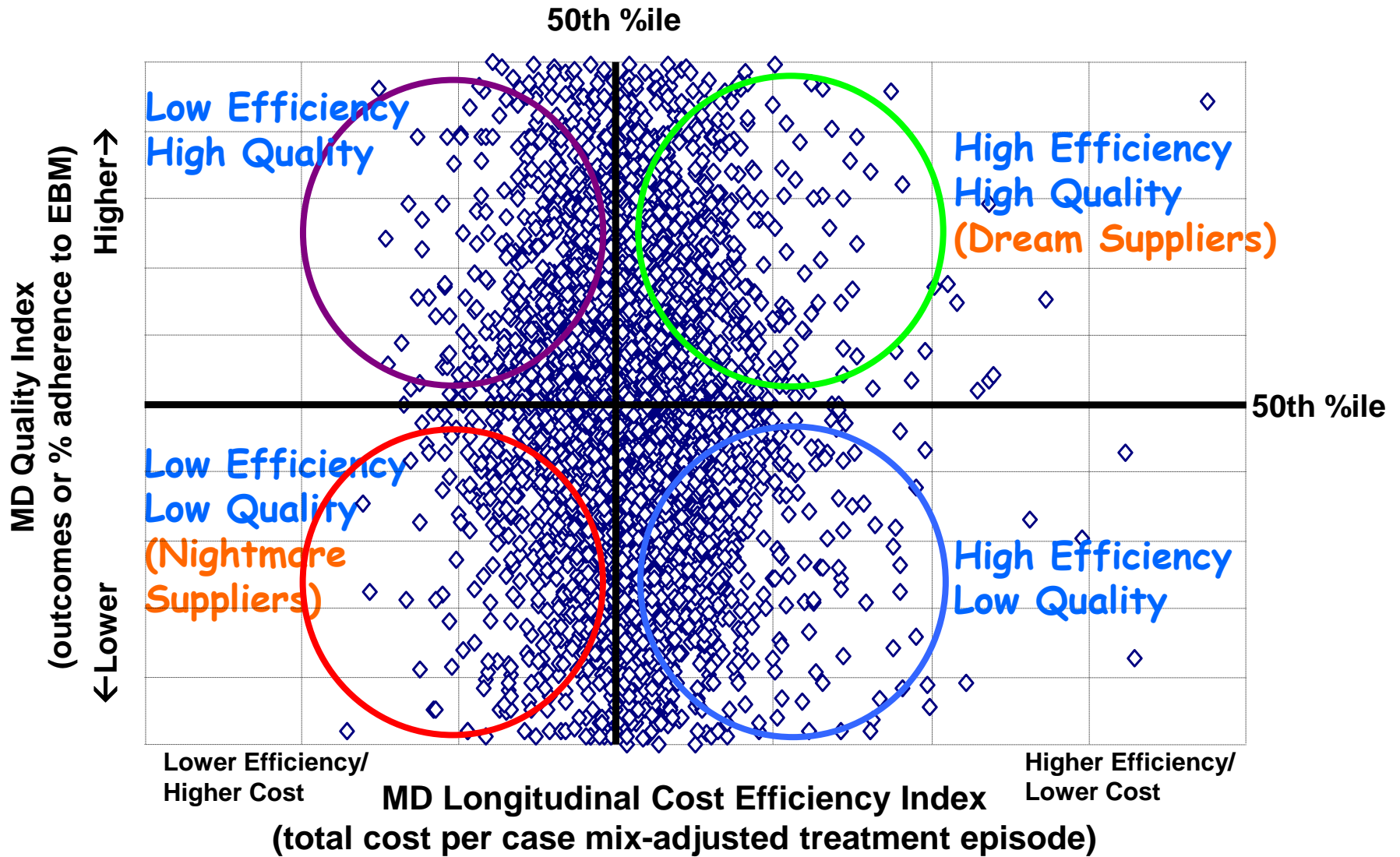
Participants received 54.9 percent of recommended care.

### **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”

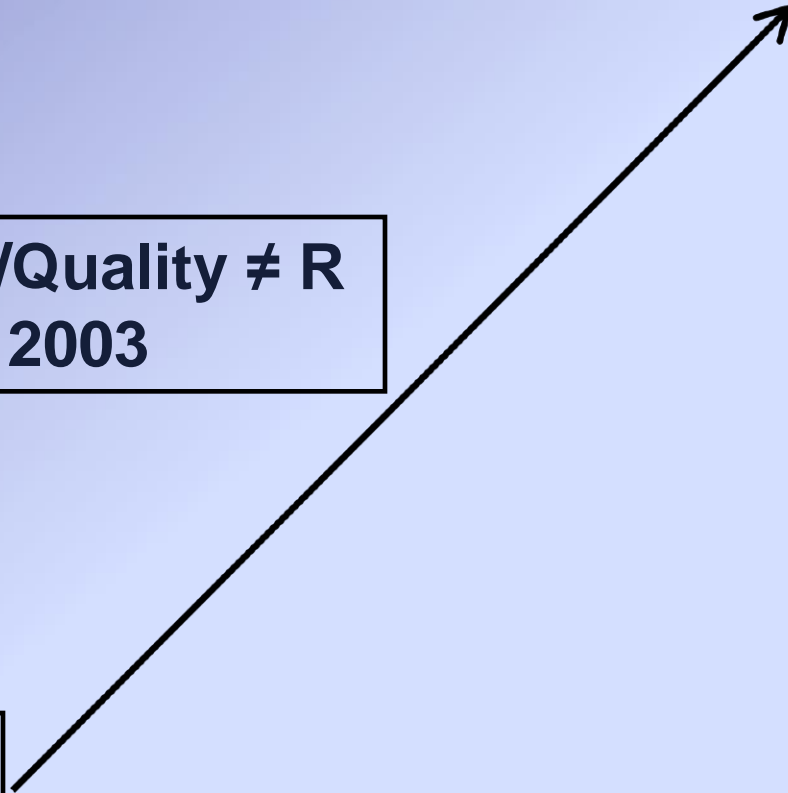


Adapted from Regence Blue Shield; Arnie Milstein, MD - Mercer

**Cost ↓ = Quality ↑**  
**2006-2010**  
**GHS Innovations**

**Cost/Quality ≠ R**  
**2003**

**Cost ↓ or Quality ↑**  
**1993-1994**  
**Hillary-Care 'Debate'**



# The Key Issues

- Unjustified variation
- Fragmentation of care-giving
- Perverse payment incentives
  - ↑Units of work
  - Outcome irrelevant
- Patient as passive recipient of care

# **ProvenCare<sup>®</sup> for Acute Episodic Care (the “Warranty”)**

# ProvenCare<sup>®</sup> for Acute Episodic Care

## ProvenCare<sup>®</sup>

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

# ProvenCare<sup>®</sup> CABG: Quality/Value - Clinical Outcomes

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



# ProvenCare<sup>®</sup> CABG: Clinical Outcomes

(Comparison of before (n=132) and after (n=321) ProvenCare<sup>®</sup>)

- 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<sup>®</sup> 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<sup>®</sup> than it would have without
- Paid out 28 to 36% less for CAB with GHS than with other providers

# ProvenCare<sup>®</sup> Portfolio

## ProvenCare<sup>®</sup>:

- CABG
- PCI (Percutaneous Coronary Interventions  
Angioplasty/Angioplasty + AMI)
- Hip replacement
- Cataract
- EPO
- Perinatal
- Bariatric surgery
- Low back
- Lung cancer
- Knee Replacement

# ProvenCare<sup>®</sup> - Chronic Disease

# Chronic Disease Portfolio

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

# Improving Diabetes Care for 24,402 Patients

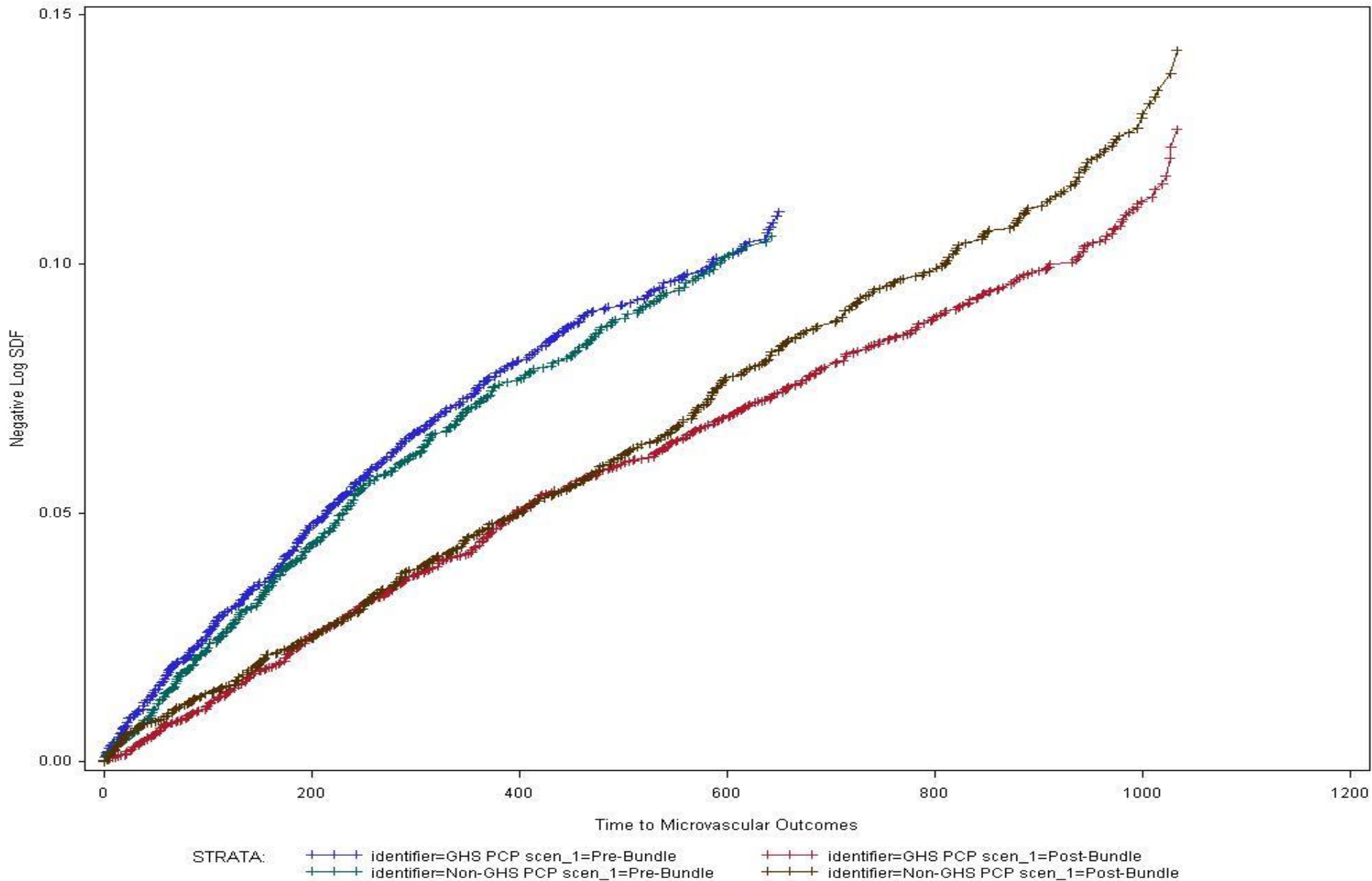
	3/06	3/07	10/09	10/10
Diabetes Bundle Percentage	2.4%	7.2%	12.9%	11.8%
% Influenza Vaccination	57%	73%	72%	74%
% Pneumococcal Vaccination	59%	83%	84%	84%
% Microalbumin Result	58%	87%	79%	78%
% HgbA1c at Goal	33%	37%	45%	50%
% LDL at Goal	50%	52%	62%	55%*
% BP < 130/80	39%	44%	52%	53%
% Documented Non-Smokers	74%	84%	85%	85%

\*Measure change resulted in a 9% decrease February 2010



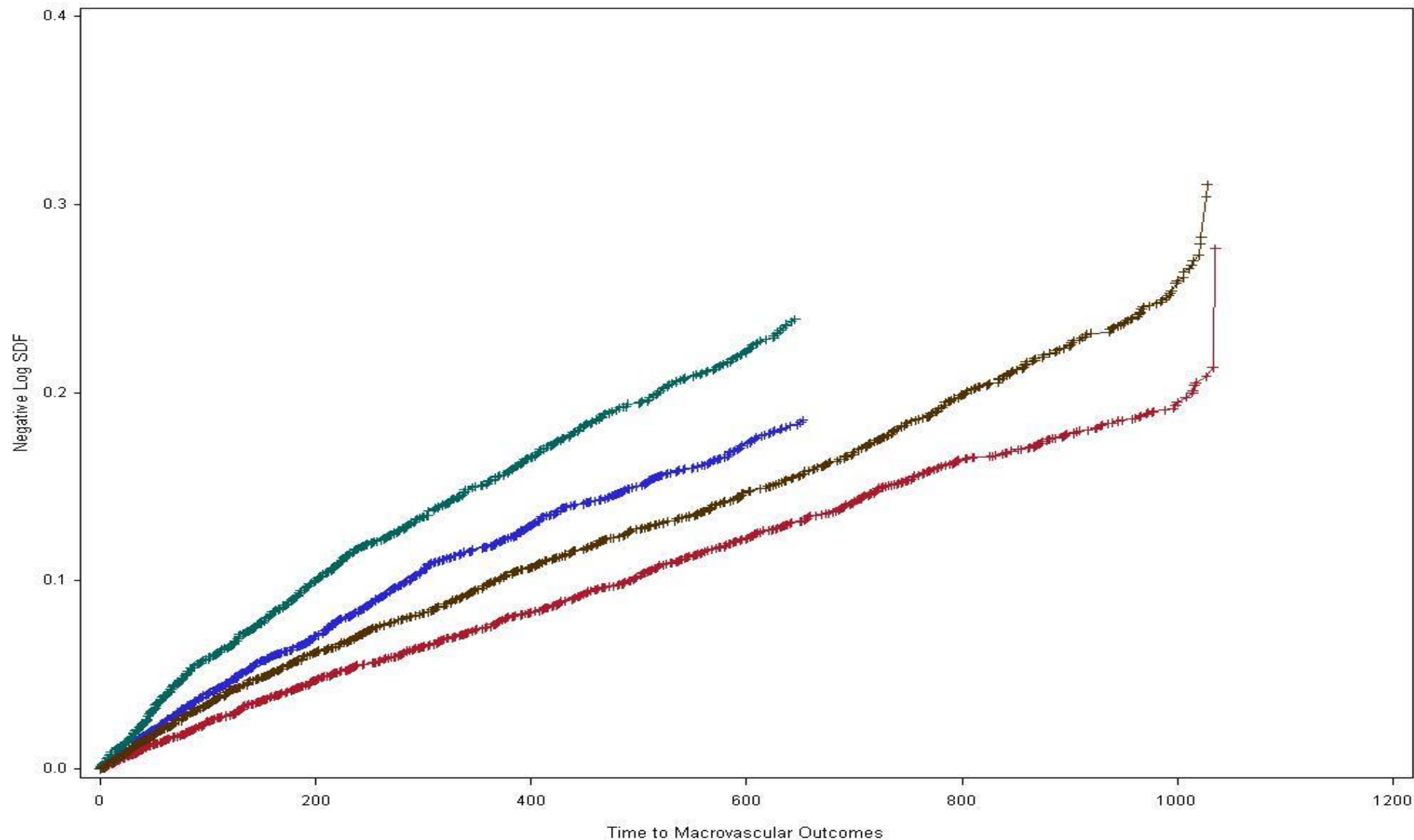
# Cumulative Hazard Function for Macro-Vascular and Micro-Vascular Disease

## Micro-vascular (Retinopathy and Amputation)



# Cumulative Hazard Function for Macro-Vascular and Micro-Vascular Disease

## Macro-vascular outcomes (MI and Stroke)



STRATA:    +++ identifier\_1=GHS PCP scen\_1=Pre-Bundle    +++ identifier\_1=GHS PCP scen\_1=Post-Bundle  
          +++ identifier\_1=Non-GHS PCP scen\_1=Pre-Bundle    +++ identifier\_1=Non-GHS PCP scen\_1=Post-Bundle

# Value Driven Primary Care

## Patient Centered Outcome Improvements

### •Microvascular

- Retinopathy
  - 10 fewer cases per 1000
  - 750 over six years
- Amputations
  - One less case per 1000
  - 75 over six years

### •Macrovascular

- Heart Attack
  - 30 fewer cases per 1000
  - 2250 less over six years
- Stroke
  - 20 fewer cases per 1000
  - 1500 less over six years

# Ongoing Issues

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

# **ProvenHealth Navigator<sup>®</sup>** **(Advanced Medical Home)**

# ProvenHealth Navigator<sup>®</sup> (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)



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# The New York Times

Business Day

TUESDAY, JUNE 22, 2010

## Paying to Cut Health Costs

Extra Nurses Help Doctors Keep Patients Out of the Hospital

*A Health Insurer Pays More to Save*

By Reed Abelson



THE AMERICAN JOURNAL OF  
**MANAGED CARE**

### Value and the Medical Home: Effects of Transformed Primary Care

Richard J. Gilfillan, 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; Karena M. Weikel, BA;  
Bruce H. Hamory, MD; Ronald A. Paulus, MD, MBA; and Glenn D. Steele Jr, MD, PhD

August 2010

## Health Affairs

REENGINEERING THE DELIVERY SYSTEM

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

**ANALYSIS & COMMENTARY**

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

November 2010

# ProvenHealth Navigator<sup>®</sup>

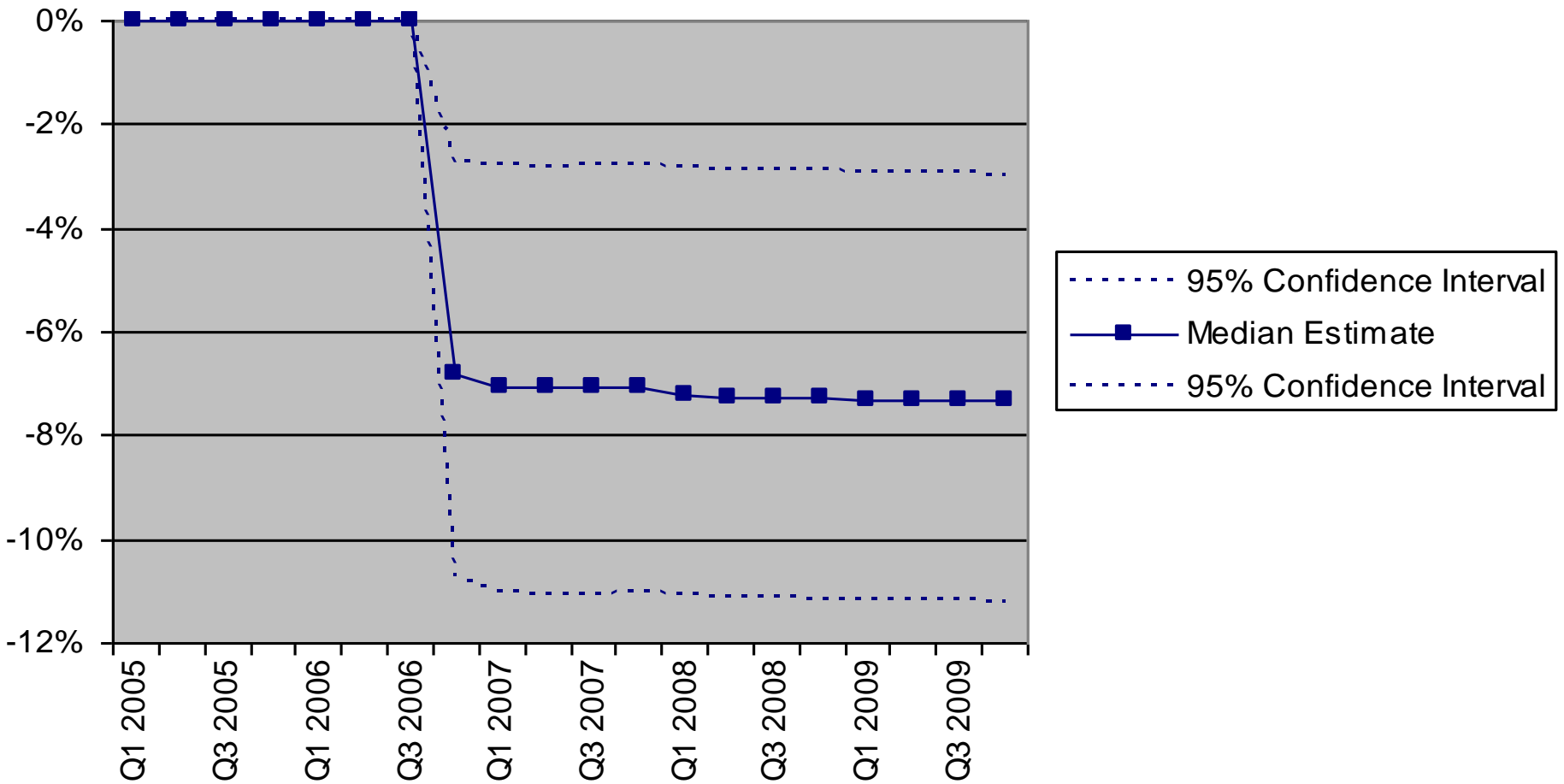
## Expansion since 2007 update

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

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

•Implementation dates are approximate / Membership as of April 2011

# Cumulative percent difference in spending attributable to PHN



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?

<u>NAME</u>	<u>STATE</u>
Billings Clinic	MT
Dartmouth-Hitchcock Clinic	NH
Everett Clinic	WA
Forsyth Medical Group	NC
Geisinger Clinic	PA
Marshfield Clinic	WI
Middlesex Health System	CT
Park Nicollet Health Services	MN
St. John's Health System	MO
University of Michigan	MI

# Physician Group Practice (PGP) Year 5 – GHS Results

TCC – 1.4% vs. 5.8% National  
All quality metrics achieved  
No shared Savings

# PGP to “Transitions Demonstration” (ACO #1)

## Key changes

- Population/Attribution
- Shared Savings Split/“Corridor” of significance
- Quality Criteria/Leading Quality optional module



# Caveats I

For all of the Innovations

↓ Cost in hospital

↓ Hospital volume

↓ Total cost of care

∴ New relationship to payer

or

New payment incentives

or

Backfilled volume with new payer mix

# Caveats II

- Scalable?
- Applicable to non-Integrated Delivery Systems?
- Applicable in absence of real-time EHR?
- Applicable in fee-for-service settings?
- Pending wider use in marketplace
- Support for innovation from CMMI/CMS?
- What will the market based response be?

# Scalability Experiments

PGP → Transition Demonstration (ACO #1)

Clinical Enterprise Partnering

➤ Consulting

➤ GHS Collaboratives

- Jefferson University Health / Main Line Health
- HSHS/Bon Secours
- Premier Integrated Care Collaborative
- Orlando – UCF
- GE Beta Test – Milwaukee
- Care Connectivity Consortium (**Mayo/Intermountain/Kaiser/Group Health**)
- ACS Commission on Cancer Collaboration

➤ GIO Scaling/Generalizing

- New Jersey Risk Products
- TPA Plus
  - Delaware, West Virginia, GE

➤ National Innovation Center