



# The Experience of an Integrated Delivery System as an Accountable Care Organization

Massachusetts Health Data Consortium  
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# Geisinger Legacy



**“Make My Hospital  
The Best”**

# Geisinger Health System

## Mission

Enhance the quality of life through an integrated health service organization based on a balanced program of patient care, education, research, and community service.

## Geisinger Brand

- Quality
- Value
- Partnerships
- Advocacy

Combined  
Leadership -  
Clinical  
Backgrounds

# Geisinger Health System

## An Integrated Health Service Organization

### Facilities



- Geisinger Medical Center
  - Hospital for Advanced Medicine, Janet Weis Children's Hospital, Women's Health Pavilion, Level I Trauma Center Ambulatory Surgery Center, Bloomsburg and Shamokin community hospitals
- 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
- Community Medical Center - Scranton
- Marworth Alcohol & CD
- >70K admissions
- 1,257 licensed in-patient beds

### Providers



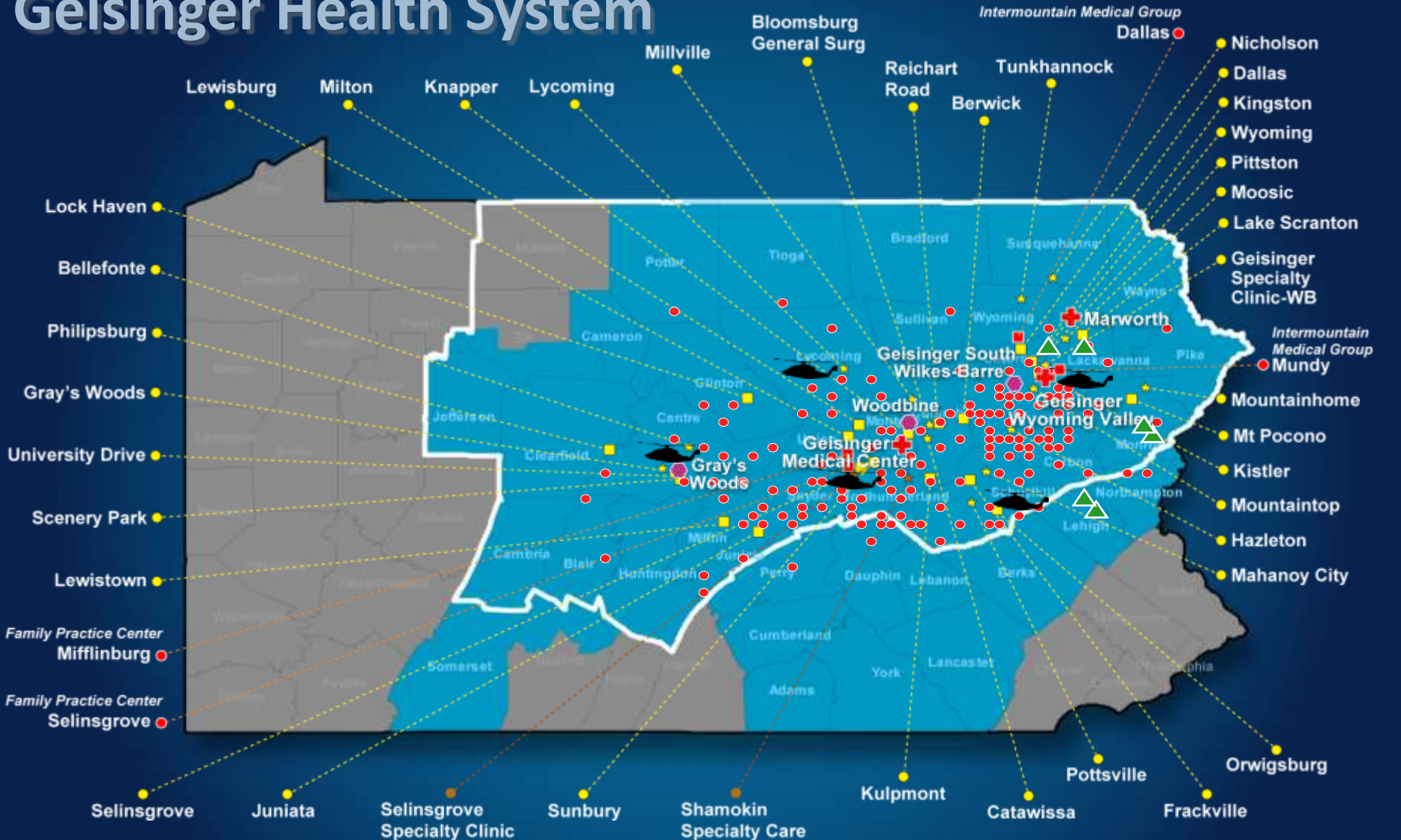
- Geisinger Clinic
- Multispecialty group
  - ~ 874 physicians
  - ~ 467 advanced practitioners
  - ~ 64 primary and specialty clinic sites (37 community practice sites)
  - 1 Outpatient surgery center
  - >2.0 million outpatient visits
  - ~ 334 residents and fellows
- 70% non-GIO activity

### Insurance



- Geisinger Insurance Operations
- 270,000 PA members
  - 52,000 Medicare Advantage
  - 96,000 HMO Group
  - 95,000 PPO Indiv & Group
  - 8,000 CHIP
  - 21,000 Self Insured
- \$1.4 billion annual revenues
- 27,987 contracted physicians/facilities (including 110 non-Geisinger hospitals)
- Provider Partnerships – TPAs
- Provider Partnerships – Medicare
- PGP, Transitions Demonstration
- 42 Pennsylvania Counties
- West Virginia, other states

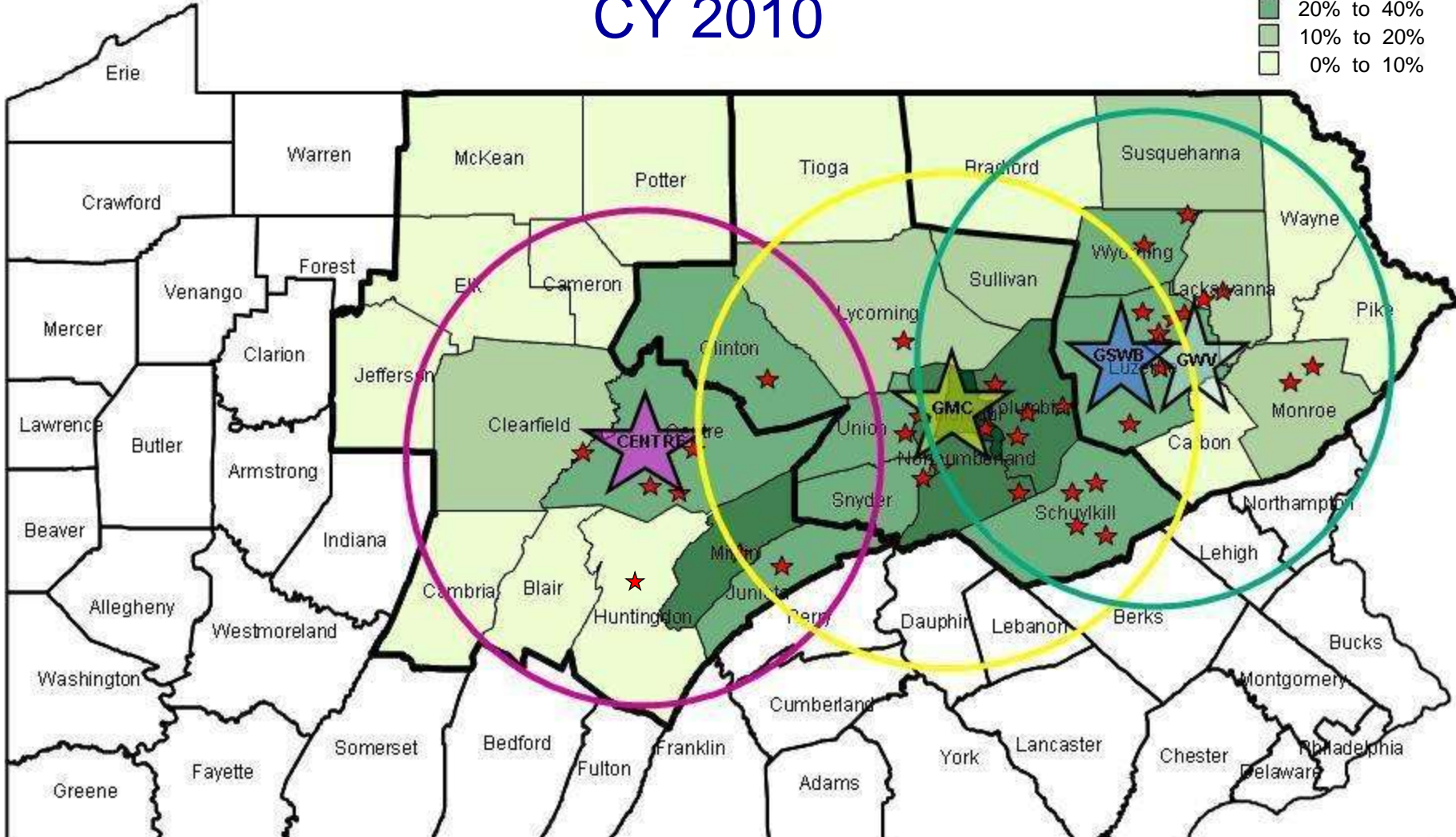
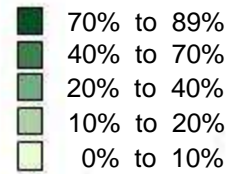
# Geisinger Health System



Last updated 12/16/10

- Geisinger ProvenHealth Navigator Sites
- + Geisinger Inpatient Facilities
- ▲ Careworks Convenient Healthcare
- Contracted ProvenHealth Navigator Sites
- ◆ Ambulatory Care Facility
- Geisinger Health System Hub and Spoke Market Area
- ★ Geisinger Medical Groups
- Geisinger Health Plan Service Area
- Non-Geisinger Physicians With EHR
- ★ Geisinger Specialty Clinics
- LifeFlight Base

# Geisinger Population-Based Care CY 2010



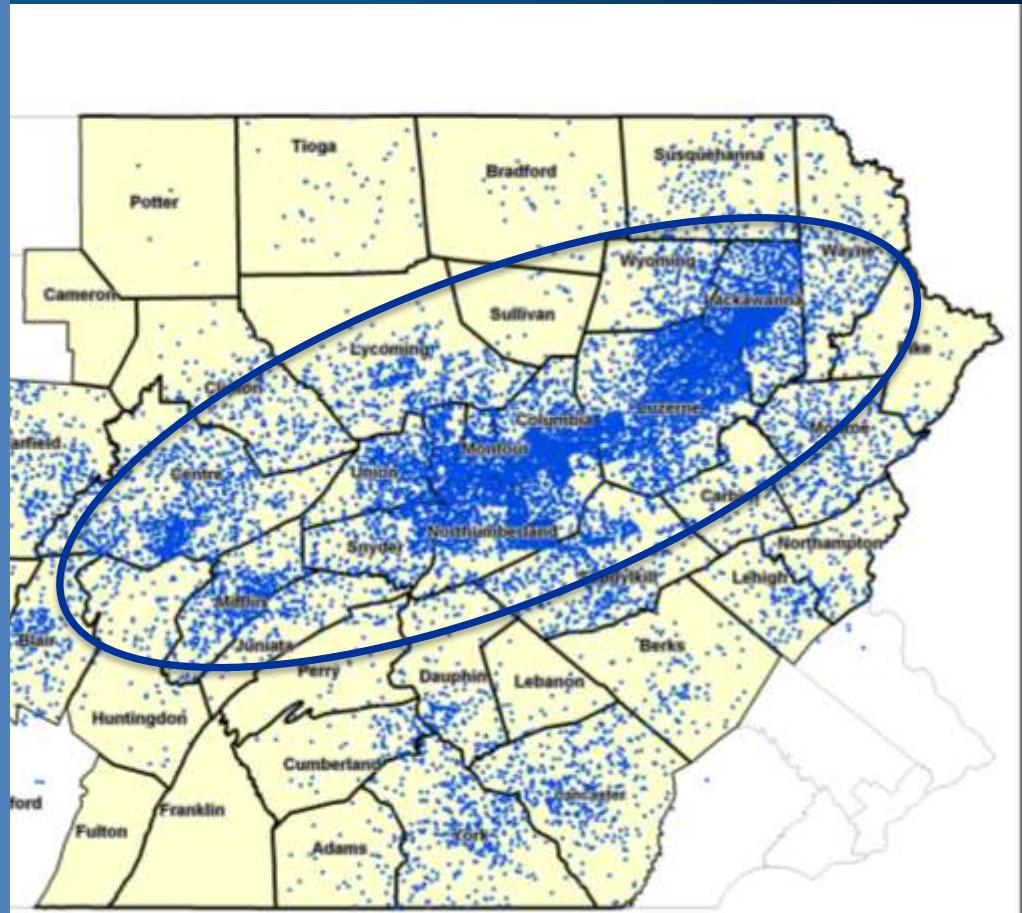
\*All MRNs are defined as inpatient and outpatient for GMC, GWV, GSWB and GC

Strategy & Business Development  
2/11



# Geisinger Insured Footprint

- Strong correlation between clinical and insured footprints
- Long term relationships with patients and members
- Insurance organization acts as a data integrator
  - Full continuum of care (GHS and others)
  - Full range of age cohorts birth to death
  - Integrate clinical/quality metrics from provider EMR
  - Trend analytics – internal & external
- Innovation lab – provider/insurer
  - Clinical Innovation validation
  - Reimbursement Innovation
  - Patient/member navigation
  - Payment for quality
  - Population cost of care proof point



1 dot=15 members per zip code

**Geisinger Health System\***  
**Functional Operating Management**  
**Structure**

Glenn D. Steele, Jr., MD, PhD  
 President and Chief Executive Officer

Audit Committee

Internal Audit and  
 Information Security

Andrew M. Deubler  
 EVP, Office of Integrated  
 Resource Development

Albert Bothe, Jr., MD  
 EVP, Chief Medical  
 Officer

Lynn Miller  
 EVP, Clinical  
 Operations

Earl Steinberg, MD  
 EVP, Innovation/  
 Dissemination

Joanne E. Wade  
 EVP, Strategic Program  
 Development

David H. Ledbetter,  
 PhD  
 EVP, Chief Scientific  
 Officer

Susan M. Hallick  
 EVP, Chief Nursing  
 Officer

Frank J. Trembulak  
 EVP, Chief Operating  
 Officer

Kevin F. Brennan,  
 CPA  
 EVP, Chief Financial  
 Officer

Jean Haynes  
 EVP, Insurance  
 Operations

- Geisinger Clinic  
 - Clinical Service Lines
- Geisinger Medical Center
- Geisinger Northeast
- Ambulatory Surgical Centers
- Telemedicine

- Clinical Innovation
- Clinical Transformation
- HIT Optimization

- Geisinger Medical Mgmt. Corp.
- Geisinger Ventures
- Geisinger Community Health Svcs.
- International Shared Services
- Telemedicine (Strategic)
- Geisinger Consulting (Proven-Knowledge<sup>SM</sup>)
- Office of Strategic Industry Partnerships
- Strategy & Business Dev
- Clinical Market Strategy

- Research  
 - Weis Center
- Center for Clinical Studies
- Hood Center for Health Research
- Research Administration

Nursing Operations

- Geisinger Medical Center
- Geisinger Northeast
- Community Practice Service Line
- Care Management

- Marworth
- Corporate & Shared Services
- Environmental Services
- Facilities Planning & Mgmt.
- Government Relations
- Human Resources
- Information Security
- Information Technology
- Ins. & Risk Mgmt. Svcs.
- Internal Audit
- Legal Services
- Supply Chain Services
- Health Information Management
- PR/Marketing
- Telecom-munications

Financial Services

- Financial Planning & Reporting
- Treasury Management
- Revenue Cycle
- Reimbursement
- Third-Party Contracting
- Tax
- Decision Support Services
- Compliance

Insurance Operations

- Geisinger Health Plan
- Geisinger Indemnity Insurance Company
- Geisinger Quality Options

- Quality Operations
- Academic Affairs
- Patient satisfaction
- Credentialing
- Clinical Risk Management
- Safety & Regulatory
- Radiation Safety
- Service Excellence

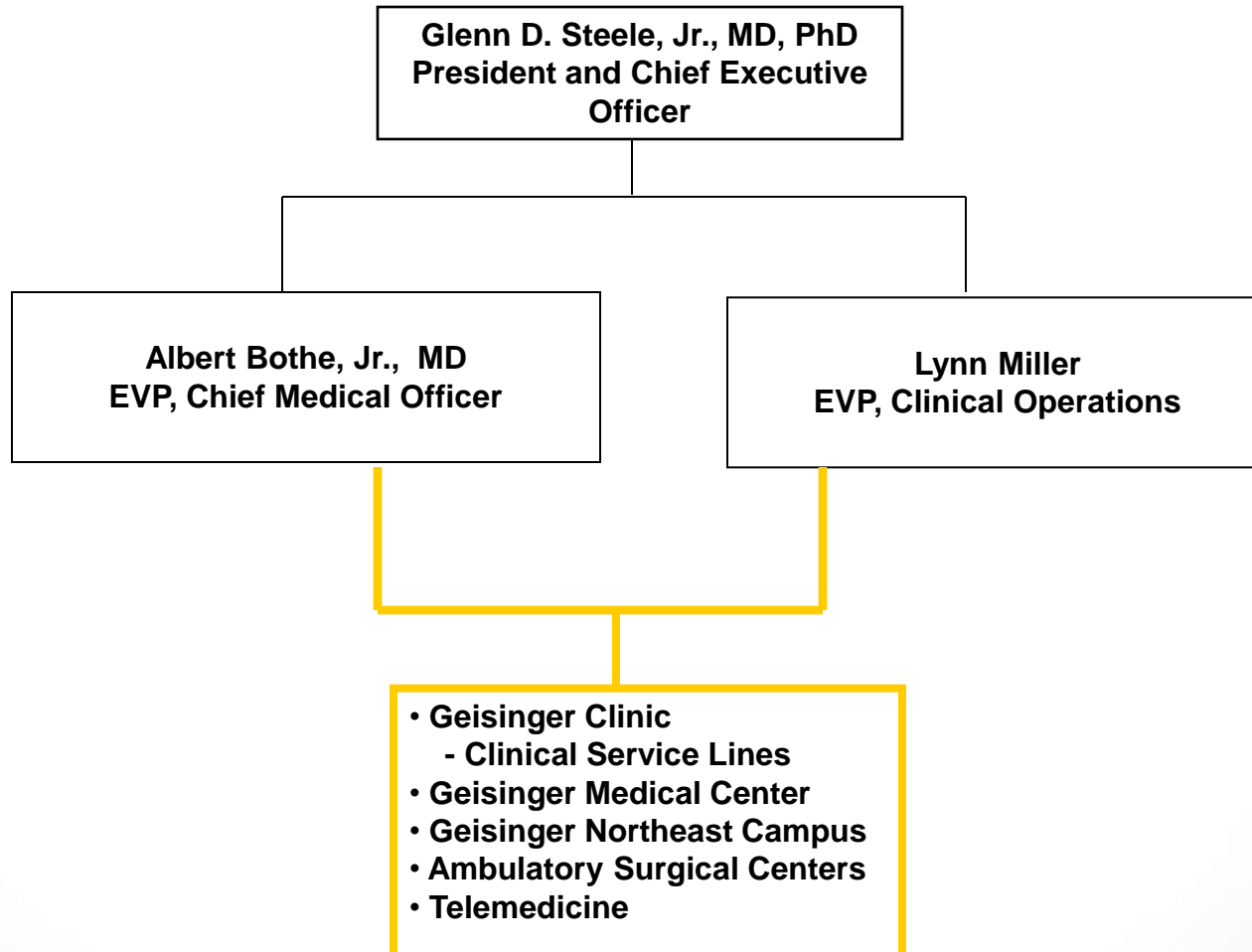
- Healthcare Solutions Enterprise

- Geisinger Center for Health Research

\* Throughout this document the acronym "GHS" or the terms "System," "Geisinger" or "Geisinger Health System" shall refer to the entire Health Care System comprised of the Geisinger Health System Foundation (the "Foundation") as parent and all subsidiary Corporate entities comprising the Health Care System.



# Geisinger Health System\* Clinical Enterprise Structure



# 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 - ~165,000 active users (33% of ongoing patients)

- patient self-service (self-scheduling, kiosks)
- home monitoring integrated with Medical Home

“Outreach EHR” - 2,600 non-Geisinger community providers

- regional image distribution

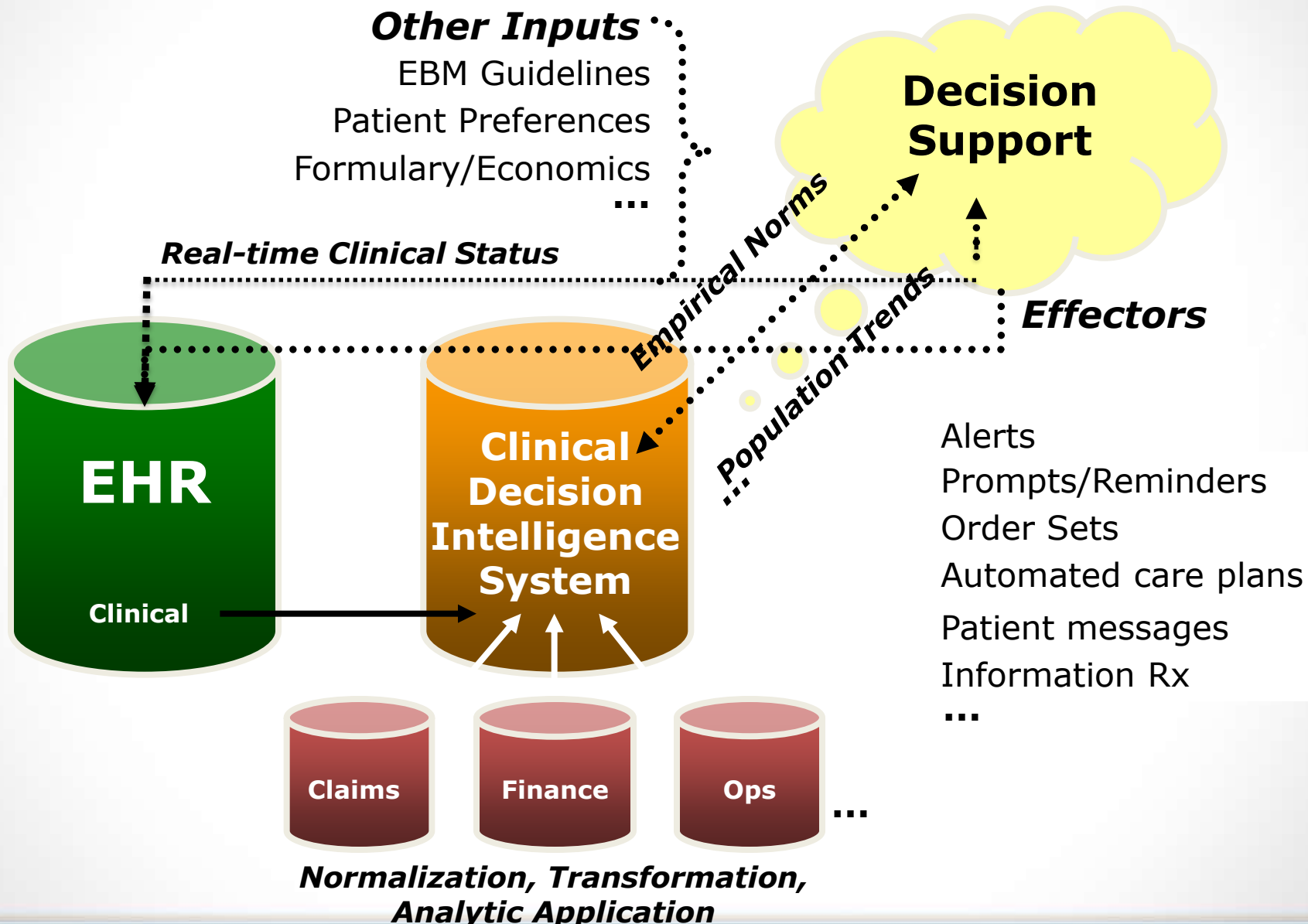
Active Regional Health-Information Exchange (KeyHIE)

- 11 hospitals, 90+ practices, 400,000 patients consented

Keystone Beacon Community

- HIT-enabled, community-wide care coordination in 5 rural counties

# CDIS Vision



# 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”

# Targets for the Geisinger Transformation

- Unjustified variation
- Fragmentation of care-giving
- Perverse payment incentives
  - Payment by units of work
  - Outcome irrelevant
- Patient as passive recipient of care, not active participant



**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

# ProvenCare® CABG: Clinical Outcomes

(Comparison of before (n=132) and after (n=321))

- 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

# Financial outcomes:

## Hospital:

Net revenue grew 12.3%

Direct cost grew only by 5.6%

Contribution margin grew 17.6%

Total inpatient profit per case improved \$1946

## Health Plan:

Paid out 4.8% less per case for CAB with ProvenCare<sup>®</sup>

Paid out 28 to 36% less for CAB at Geisinger than with other providers

# ProvenCare® Portfolio

- ProvenCare®:
  - CABG
  - PCI (Percutaneous Coronary Interventions Angioplasty/Angioplasty + AMI)
  - Hip replacement
  - Cataract
  - EPO
  - Perinatal
  - Bariatric Surgery
  - Low Back
  - Lung Cancer
  - Knee Replacement

# ProvenCare® - Chronic Disease

# ProvenCare® Chronic Disease Management

Primary care redesign serves as the foundation of a patient centered medical home

Patient Centered Primary Care

Integrated Population Management

Value Micro-Delivery Systems

Quality Outcomes Program

Value Reimbursement Program

# Time Required for Primary Care of Patients

- Acute Care 4.6 hours/day
- Preventive Care 7.4 hours/day
- Chronic Care 10.6 hours/day  
22.6 Hours/day

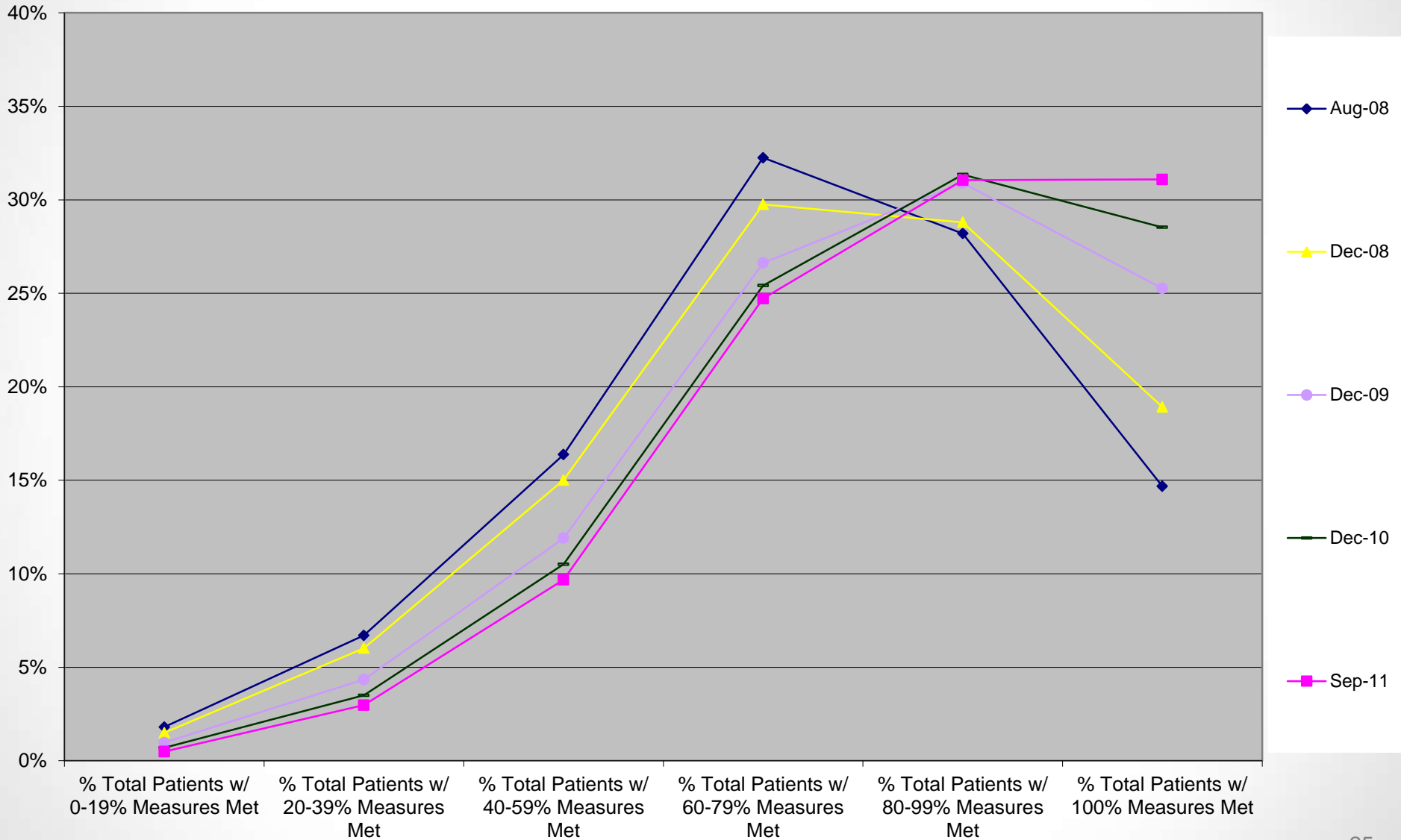
# Improving The Reliability and Consistency of Care Delivered to a Population

- Chronic Care
  - Diabetes
  - CAD
  - CKD
  - Hypertension
  - Osteoporosis
  - CHF
- Preventive Care
  - Childhood Immunizations
  - Adult Preventive Bundle

# Improving Diabetes Care for 25,071 Patients

	3/06	3/07	8/10	8/11
<b>Diabetes Bundle Percentage</b>	2.4%	7.2%	13.0%	12.5%
% Influenza Vaccination	57%	73%	75%	76%
% Pneumococcal Vaccination	59%	83%	83%	82%
% Microalbumin Result	58%	87%	78%	78%
% HgbA1c at Goal	33%	37%	52%	50%
% LDL at Goal	50%	52%	54%	55%
% BP < 130/80	39%	44%	55%	57%
% Documented Non-Smokers	74%	84%	85%	85%

# Primary Care Adult Prevention Bundle Summary

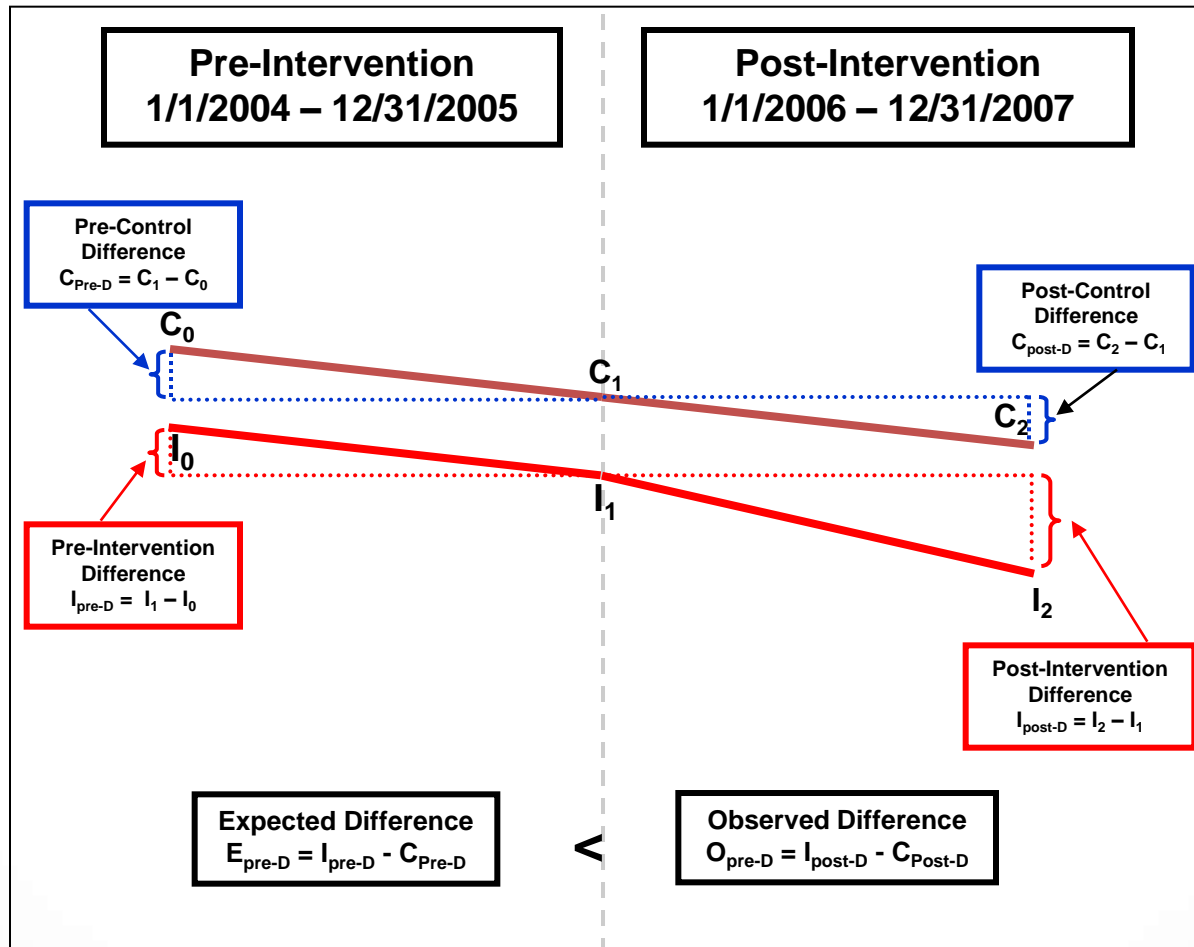


# EVALUATING OUTCOMES

- Parallel pre-post design
  - Pre-period: 2004-2005
  - Post-period: 2006-2007
  - Bundle clinics versus non-bundle clinics
- Longitudinal analysis
  - Micro-vascular events (retinopathy, major amputation)
  - Macro-vascular events (heart attack and stroke)

# PARALLEL PRE-POST DESIGN

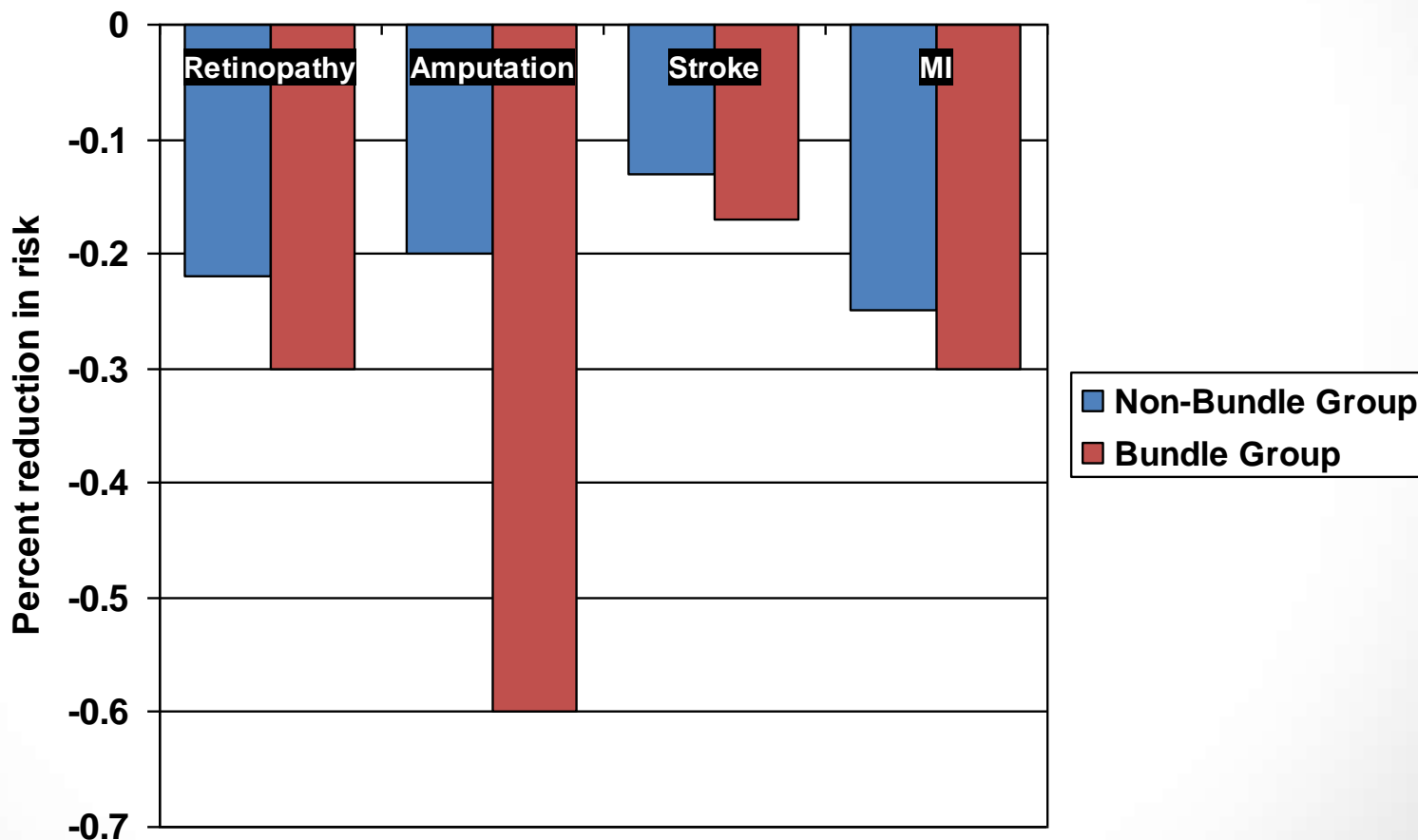
Outcome



**Intervention**  
**Control**

Time

# RISK REDUCTION FROM THE PRE- TO THE POST BUNDLE PERIODS AMONG BUNDLE AND NON-BUNDLE CLINICS



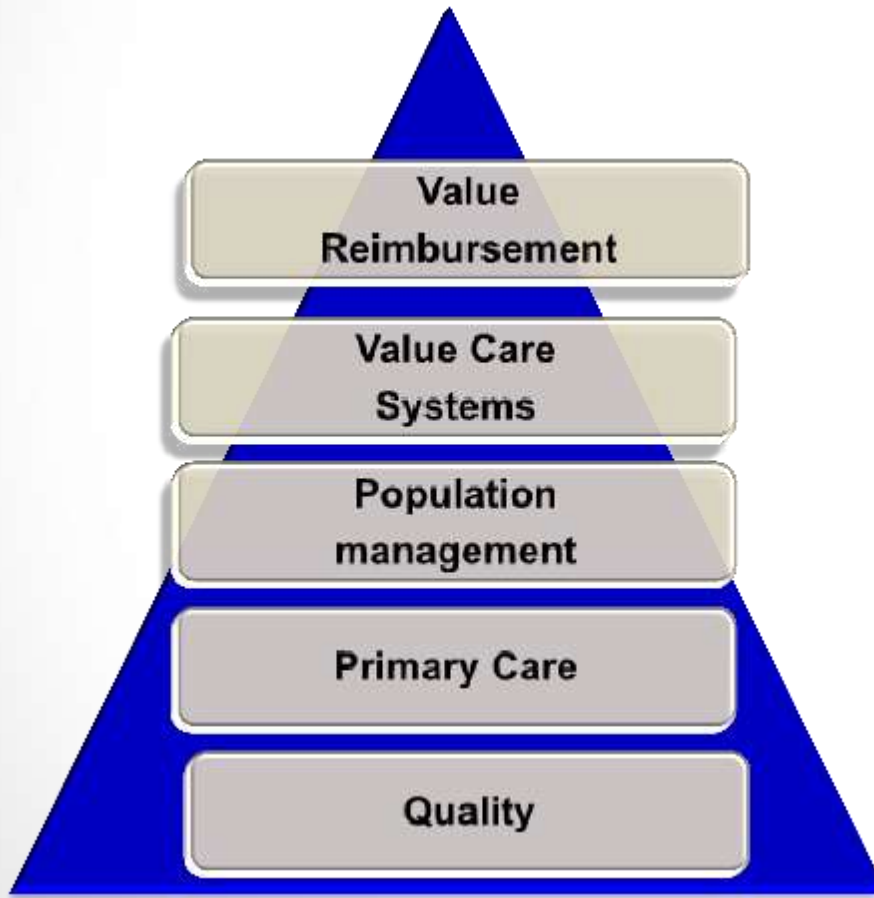
# Workflow Redesign

1. **Eliminate** non-value added work
2. **Automate** work that can be done by a computer or done outside an office encounter
3. **Delegate** work that is done at an office visit to trained non-physician staff when possible
4. **Incorporate** new workflows into the provider practice - “Hardwire” with reminders and EHR tools to enhance the reliability and efficiency of care
5. **Activate** the patient with EHR assistance when possible

# Operational Flows

- Improving reliability and safety in health care is about designing consistent operational flows
- An electronic health record is a tool to help create consistent designs, but is not itself the answer
- Sustained improvement does not does not rely on individual memory and greater effort (“I’ll remember to do it the next time”)
- Operational flows make sure that the care we all know should be provided, happens every time

# Five Functional Components of PHN



# It Takes a Partnership: Each Party Doing What It Does Best...

## GHP

- Population analysis
- Align reimbursement
- Finance care
- Engage member and employer
- Report population outcomes
- Take to market

## CPSL

- Identify best practice
- Design systems of care
- Educate patient and family
- Deliver care
- Report patient outcomes
- Continually improve

# Primary Care Redesign



## Patient and family engagement & activation

- Self-management education
- Informed decision making



## Physician-led team based care

- Physician leadership must set stage for expectation of practice
- Acute/chronic illness care with enhanced access for expanded scope of services
- Redefining roles – “top of the license”
- Responsibility and awareness of where patient is at all times – hospital, SNF, home



## Chronic disease and preventive care optimization via IT enabled planned visits

- EMR tools
- HP tools for non-EMR practices

# Population Segmentation

## Questions we considered:



**What are the most prevalent conditions in the population?**

Acute

Chronic

**Who should be managed?**

Who are the highest cost patients/groups?

Who are the patients with acute/chronic condition(s)?

Who are the patients not following treatment guidelines for their condition(s)?

**How should they be managed?**

High touch

High tech

Education

# Integrated Population Management

<b>Components</b>	<b>Core Activities</b>
Population Segmentation	Predictive modeling Risk stratification
Health Promotion	Preventive care & Screenings
Disease Management	Self-management education Medication management
Case Management	Care coordination Exacerbation management TOC Tele-monitoring
Pharmacy Management	Brand vs. generic

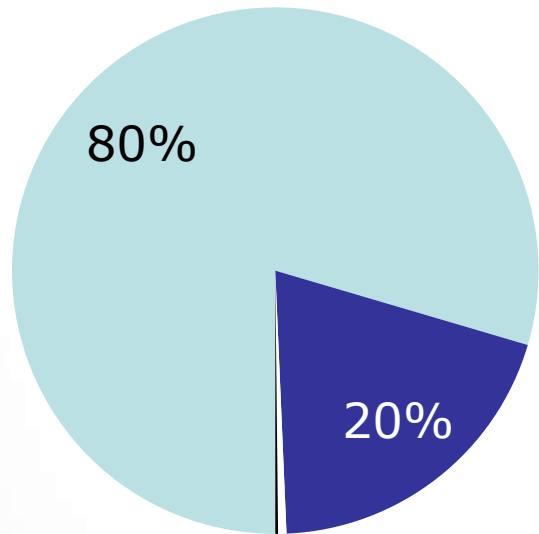
# Embedded Case Management has been Core to our Success

Personal Care Link	Embedded Case Manager	Recognized Team Member
Comprehensive Care Review – medical, social support	<ul style="list-style-type: none"> <li>- <b>High risk</b> patient case load</li> <li>- 15 - 20% Medicare</li> <li>- 5% commercial</li> <li>- 125 - 150 pts per CM</li> </ul>	Regular follow-up of high risk patients
TOC follow-up – acute care, SNF, ED	<ul style="list-style-type: none"> <li>- 1 CM per 800 Medicare lives</li> <li>- 1 CM per 5000 commercial lives</li> </ul>	Facilitates access – PCP, specialist, ancillary
Direct phone access – questions, exacerbation protocols	<ul style="list-style-type: none"> <li>- Not disease management focused</li> <li>- Focus on those at most risk</li> <li>- Focus on driving issue within the case</li> </ul>	Facilitate special arrangements – home care, hospice, AAA
Patient, family support contact		Links health care team to payer

# Patient Satisfaction Survey CY2009

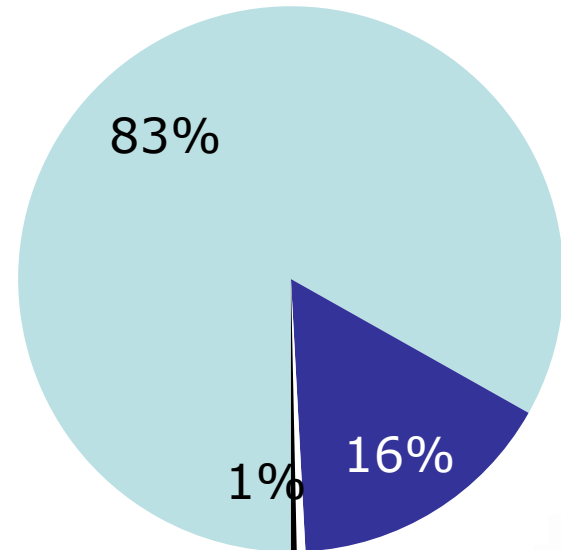
## 50% Overall Survey Return Rate

### Timeliness of the CM responding to the patient's concerns



Very good Good  
Poor Very poor

### Effectiveness of the CM working with the patient

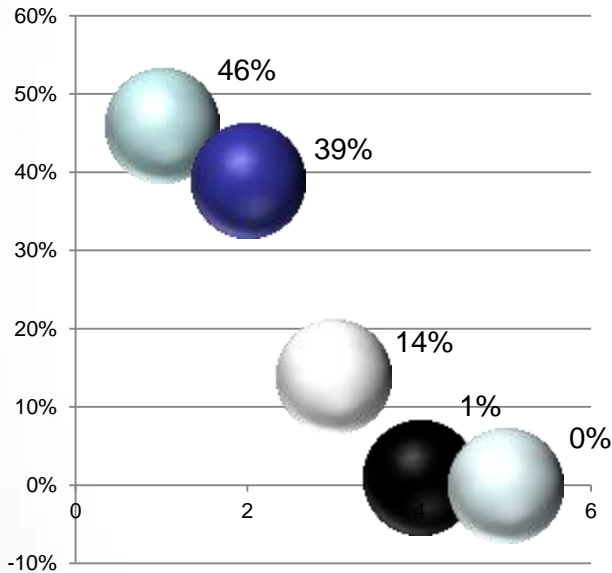


Very good Good  
Very poor Poor

# Provider Satisfaction Survey CY 2009

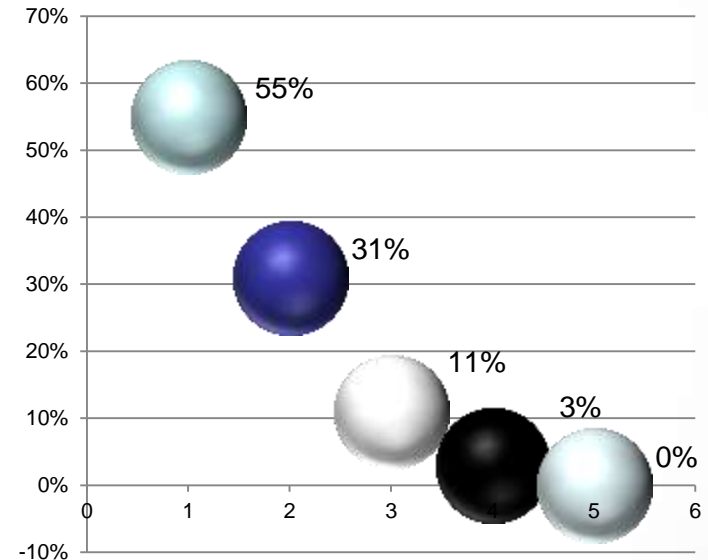
## 59% Overall Return Rate

Management/ Monitoring of all patients across all care sites has improved



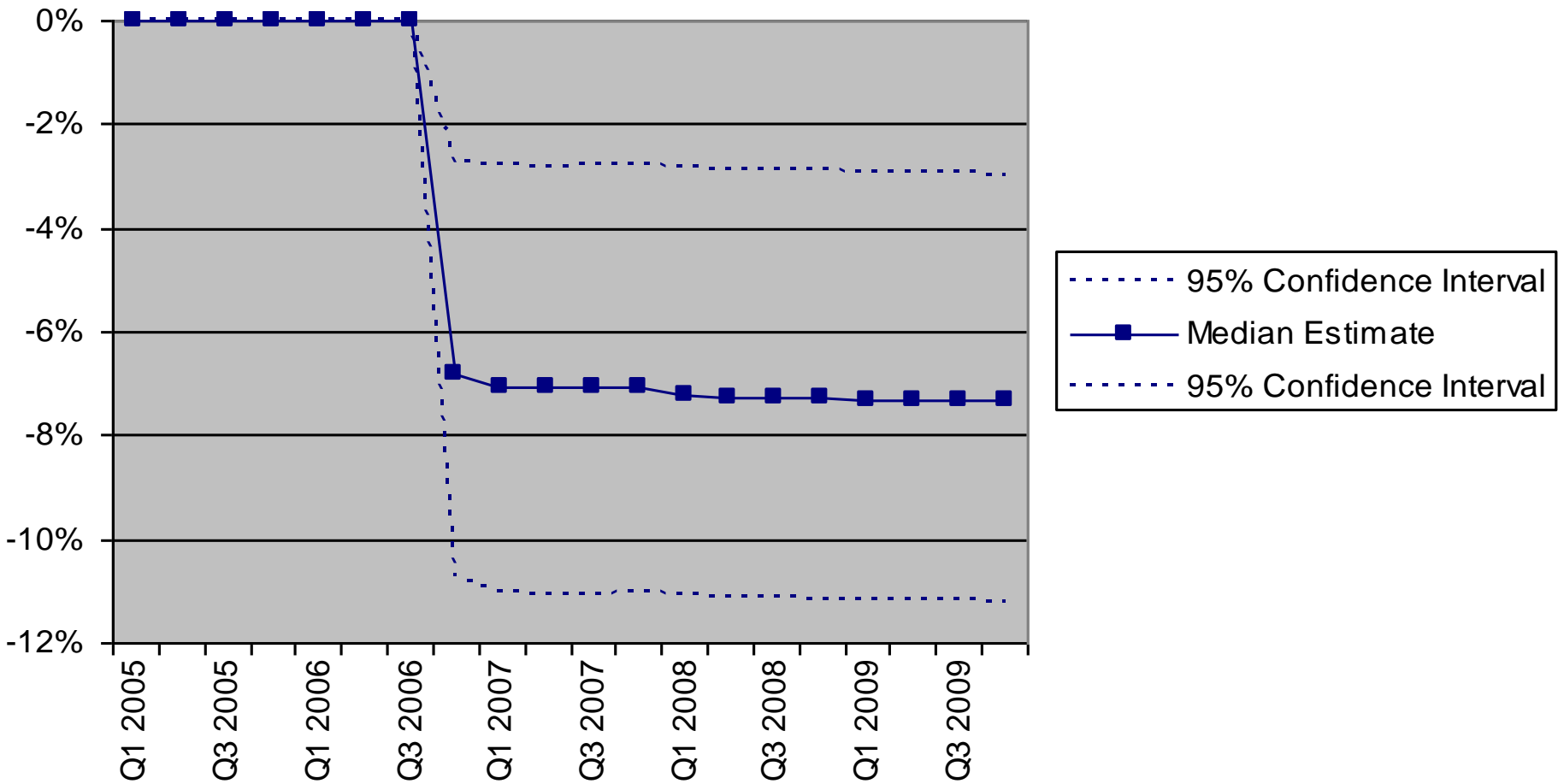
- Agree
- Agree Strongly
- Neutral
- Disagree
- Disagree Strongly

Medical Home has allowed you to provide more comprehensive care than the previous system

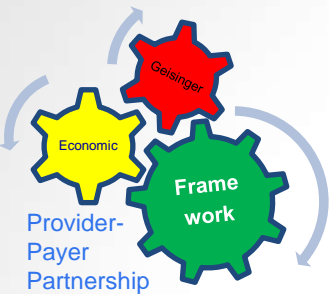


- Agree
- Agree Strongly
- Neutral
- Disagree
- Disagree Strongly

# 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.  $P = < 0.003$



# Deploy Innovation, Care Management

Cost per Unit, Utilization, PMPM

	Base Period	Year 1	Year 2	Year 3	Year 4
Inpatient Facilities Acute	\$ 240.15	-2.5%	-5.0%	-2.0%	-1.0%
Inpatient Facilities Maternity	2.28	-1.0%	-5.0%	-2.0%	-1.0%
Outpatient Facilities	199.75	-2.5%	-5.0%	-2.5%	-1.0%
Other Facilities	58.21	-2.5%	-5.0%	-2.0%	-1.0%
Inpatient Surgery Non-Maternity	8.58	-2.5%	-5.0%	-2.0%	-1.0%
Inpatient Surgery Maternity	6.50	-2.5%	-5.0%	-2.0%	-1.0%
Outpatient Surgery	34.88	-2.5%	-5.0%	-2.0%	-1.0%
Inpatient Visits	6.32	-2.5%	-5.0%	-2.0%	-1.0%
Office Visits/Misc. Services	74.85	-1.9%	-4.0%	-2.0%	-1.0%
Preventive Services	23.49	<b>1.5%</b>	<b>5.0%</b>	<b>1.0%</b>	<b>0.5%</b>
Other Professional Services	30.77	-2.5%	-5.0%	-2.0%	-1.0%
Office	12.64	-2.5%	-5.0%	-2.0%	-1.0%
Other (Chiropractic/Psych/CD)	16.30	-2.5%	-5.0%	-2.0%	-1.0%
Other (Home Health/Amb/DME)	24.26	-2.5%	-5.0%	-2.0%	-1.0%
Pathology	11.02	-2.5%	-5.0%	-2.0%	-1.0%
<b>Total</b>	<b>\$ 750.00</b>	<b>\$749.28</b>	<b>\$732.44</b>	<b>\$733.54</b>	<b>\$742.48</b>

Year 1 Ramp Up  
Unit Cost +1.0%  
Utilization -1.1%  
PMPM -0.1%

Year 2 High Impact  
Unit Cost +0.1% (mix)  
Utilization -2.3%  
PMPM -2.2%

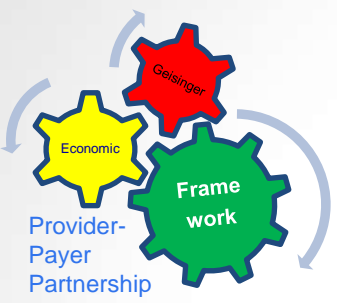
Year 3 Moderate  
Unit Cost +1.0%  
Utilization -0.8%  
PMPM +0.2%

Year 4 Leveling  
Unit Cost +1.5%  
Utilization -0.3%  
PMPM +1.2%

Year 6 New Base  
Unit Cost +1.8%  
Utilization -0.2%  
PMPM +1.6%

Provider equal partner with health plan in innovation  
each innovation produces varied impacts by service category  
innovations are clinical and/or reimbursement related

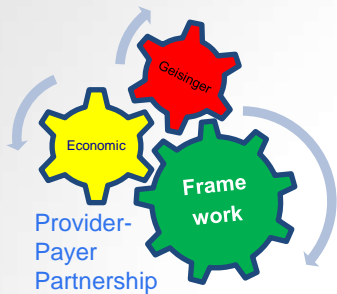
# Reimburse Providers for Quality



- QUALITY FUND
- Facility Metrics
- PCP Metrics
- HEDIS Measures
- Star Ratings
- Specialist Programs

Aligned Providers  
Personal component (PCP, ordering MD)  
Group component  
Overall Team component

Independent Providers  
% add on to fees,  
Flat \$ bonuses per metric met  
Etc.



# Reimburse Providers for Quality

## FACILITIES

Reduce Central Line Blood Stream Infections  
 Reduce Ventilator Associated Pneumonia  
 Mortality Rates  
 Fall Prevention  
 Surgical Care Improvement Program

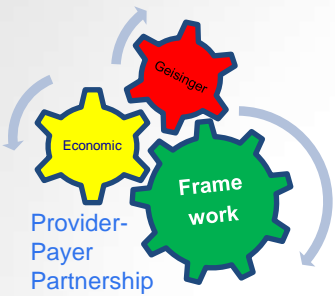
## SPECIALISTS

Hospitalists – reduce readmission rates  
 Diabetes – care bundles  
 Rheumatology – communication pilot  
 Hypertension  
 Pediatric Behavioral Health  
 Obesity  
 Aged  
 Advanced Illnesses  
 ESRD

## PRIMARY CARE PHYSICIANS

Quality improvement plan for each PCP medical home site  
 Improve HEDIS ED visits / 1000 rates  
 Reduced SNF LOS and SNF readmission rates  
 Implementation of new acute care protocols and demonstration of Improvement in ACSC rates / 1000 for acute hospital admissions  
 Achieve targeted HEDIS measures > 90 percentile  
 Increase care bundle completion

Early phases – pay for specified effort  
 Mature phases – pay for outcomes



# Resulting Economic Framework

## Current Premium to Employer/Government

Reimbursement Per Unit of Service

Administration/Reserves

## Revised Flow of Funds

Reimbursement per unit of service per episode, capitation

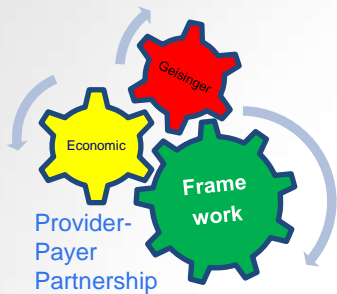
Payment for Quality

Administration/Reserves

Employer Savings

As you generate savings set a portion aside for making quality payment a permanent funding source for providers

# Geisinger Programs Proof Points



## ProvenCare

- Bundled payments
- Map care process and payment patterns
- Providers elect to participate
- Pay one fee to one key provider, who distributes
- Guarantee period post procedure
- Reduces variation in practice patterns
- Creates efficiencies for provider process flow

## Proven Health Navigator

- Imbedded insurance company RNs in PCP offices
- Population based targets
  - Risk adjusted for members using PCP (various attribution methods)
  - Claims history of defined population
  - Reward system for quality and efficiency
- 4% to 7% lower annual pmpm trend

## CMS PGP Demonstration

- 1.4% annual pmpm trend by 5th year

## Large Health Care Employer

- 11% annual trend base period
- 5% annual trend within 2 years
- 3% annual trend by end of third year

## NCQA Quality Rankings

- While reducing medical benefit cost trends;
- GIO #1 in Pennsylvania for 22 metrics
- GIO overall #8 national ranking
- GIO Medicare #10 national ranking

Quality Care is efficient

Providers must be willing partners to drive outcomes

# 10 Potential Mistakes in Implementing ACO's

- Overestimating ability to:
  - Manage risk
  - Use EHR
  - Report performance metrics
  - Implement standardized care
  - Management protocols
- Failure to:
  - Balance interests of all providers in governance and management structures
  - Engage patients in self-care management and self determination
  - Contract with most cost-effective Secondary Care Provider (SCP)
  - Navigate new regulatory/legal environment
  - Integrate beyond the structural level
- Not recognize the inter-dependencies of the above (race to the bottom)

(Shortell et al – JAMA)

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# QUESTIONS