



# Value Re-engineering

*2015 Innovation Conference*

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# Where We Are Now (Nationally)

- Unjustified variation in quality, access, and cost of care
- Unwarranted and fragmented care-giving
- An addiction to perverse payment incentives
  - Piece rate Medicare/Medicaid payment model
    - Driving up units of work
    - Driving up cost
    - Diminishing value and quality
  - Piece rate quality payments + expanded “Pay & Chase”
- Transition to new payment incentives (but fundamentally hospital centric delivery models)



# Where Do We Want to Be?



- Affordable coverage for all
- Payment for value
- Coordinated care
- Continuous improvement/innovation
- National health goals, leadership, accountability

# Geisinger Health System

## *An Integrated Health Service Organization*

### Provider Facilities

- Geisinger Medical Center and its Shamokin Hospital Campus
- Geisinger Wyoming Valley Medical and its South Wilkes-Barre Campus
- Geisinger Community Medical Center, Scranton, PA
- Geisinger-Bloomsburg Hospital
- Geisinger-Lewistown Hospital
- Holy Spirit Health System
- Marworth Alcohol & Chemical Dep Treatment Center
- 4 outpatient surgery centers
- 2 Nursing Homes
- Home health & hospice services covering 22 counties
- >100K admissions/OBS & SORUs
- 2,045 licensed inpatient beds
- Pending: AtlantiCare Health System

### Physician Practice Group

- Multispecialty group
- ~1,220 physician FTEs
- ~750 advanced practitioners
- 113 primary & specialty clinic sites (60 community practice)
- 1 outpatient surgery center
- ~2.8 million outpatient visits
- ~430 resident & fellow FTEs
- ~335 medical students

### Managed Care Companies

- ~477,000 members (including ~100,000 Medicare Advantage members and ~132,000 Medicaid members)
- Diversified products
- ~50,000 contracted providers/facilities
- 43 PA counties
- Offered on public & private exchanges
- Members in 5 states

# Transforming Healthcare with Technology

**Over \$200M invested** (hardware, software, manpower, training)

Running Costs **~4.0%** of over \$3.9 Billion in annual revenue

Fully-integrated EHR **46** Community Practice Sites | **7** Hospitals | **7** EDs | **4** Surgical Centers | Etc...

Networked Patient Portal **~268,386 Active Users** (41% of ongoing patients)

“Outreach Health IT” **10,221 Users in 865** non-Geisinger practices

Active Regional Health-Information Exchange (KeyHIE) **22** hospitals, **175** practices, over **1M** patients consented, publish **700,000+** documents monthly, participants access **~89K** patients monthly

**e-health (eICU®) Programs**

Keystone Beacon Community

CDIS (Clinical Decision Intelligence System)

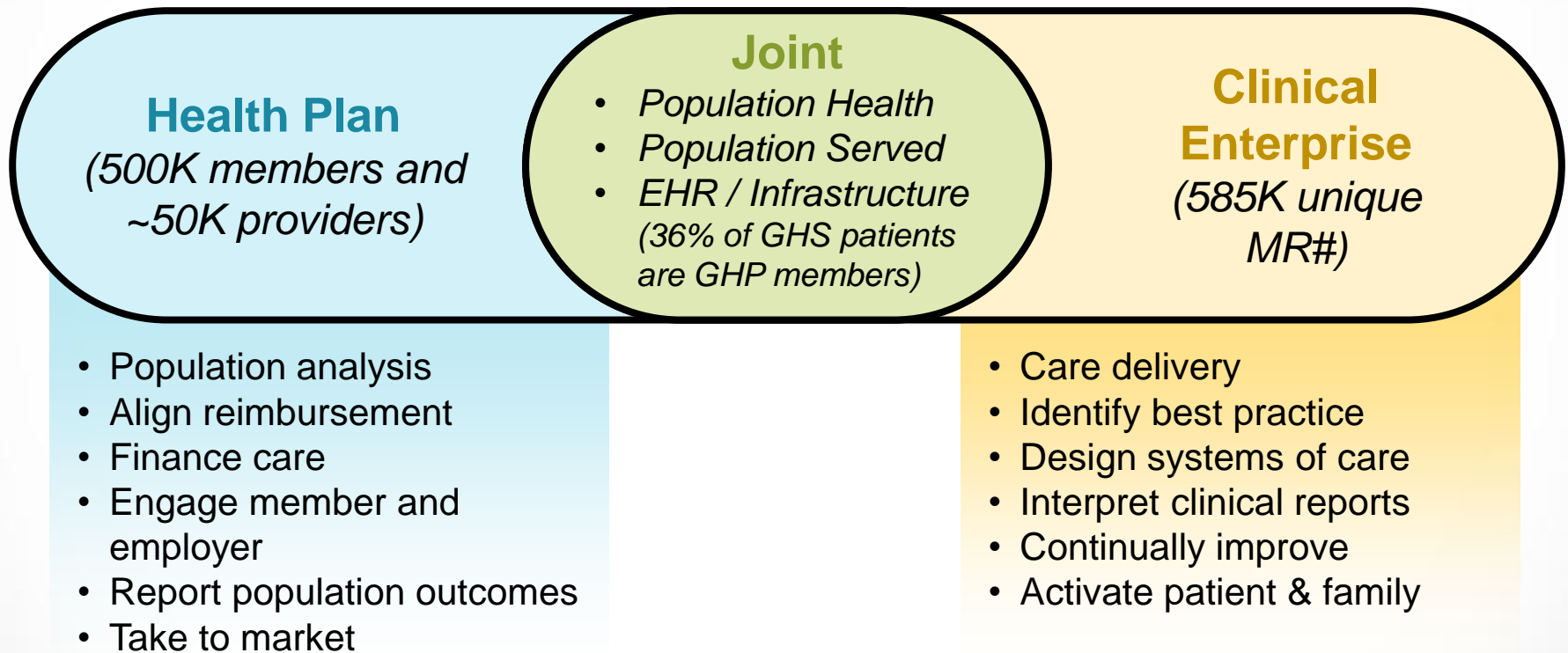
**Functional ‘Apps’ Portfolio**

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# The “Sweet Spot” for Partnership & Innovation

*Aligned objectives between the health plan & clinical enterprise, with each organization contributing what it does best.*



# Strategic Priorities



## Quality and Innovation

- Patient Centered Focus
- Patient activation (empowerment)
- Culture of quality, safety and health
- Value Re-Engineering

## Market Leadership

- Extending the GHS Brand
- Scaling and Generalizing Innovation

## The Geisinger Family

- Personal and professional well being



# The Geisinger Value Re-Engineering “Touchstones”

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# Sweet Spot Innovations

## 1990's

- EHR Installation
- Medicare Advantage

## 2000-2006

- Non-proprietary EHR
- Patient Portal
- Value Reengineering
  - ProvenCare® Acute
  - ProvenCare® Chronic
- PGP Demo (ACO Precursor)
- Data Warehouse
- Quality Incentives
- PPO

## 2007-2010

- Value Reengineering
  - ProvenHealth Navigator®
- Practice-based CM
- Clinical decision support

## 2011-2012

- Robust Care Gap Program
- Transition of Care Bundle
- Specialty PCP integration
- Natural Language Processing
- Proof of generalizability beyond Central PA
- Open Notes
- SNFist

## 2013-2014

- Launch of xG Health
- Medicaid MCO
- Private/public exchanges
- Urgent care centers
- CPSL alternative to ED
- Proven® Biologics
- Geisinger in Motion



# “Sweet Spot” Innovations Transforming HealthCare

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# The Beginning: ProvenCare<sup>®</sup> CABG

“ProvenCare<sup>SM</sup>”

A Provider-Driven Pay-for-Performance Program  
for Acute Episodic Cardiac Surgical Care

*Casale A, Paulus R, Steele G, et al ProvenCare<sup>®</sup> A Provider-Driven Pay-for-Performance Program for Acute Episodic Cardiac Surgical Care, Annals of Surgery. Vol. 246, Number 4, Oct. 2007*

# ProvenCare® Portfolio

## ProvenCare®:

- ProvenCare® Autism
- ProvenCare® Bariatric Surgery
- ProvenCare® Cellulitis
- ProvenCare® COPD
- ProvenCare® Coronary Artery Bypass Graft (CABG)
- ProvenCare® CNS Mets
- ProvenCare® Epilepsy
- ProvenCare® Fragility Hip Fracture
- ProvenCare® Heart Failure
- ProvenCare® Hepatitis C
- ProvenCare® Hysterectomy
- ProvenCare® Inflammatory Bowel
- ProvenCare® Lung Cancer (CoC Collaborative)
- ProvenCare® Lumbar Spine
- ProvenCare® Migraine
- ProvenCare® Multiple Sclerosis
- ProvenCare® Percutaneous Coronary Intervention (PCI)
- ProvenCare® Perinatal
- ProvenCare® Psoriasis
- ProvenCare® Rectal Cancer
- ProvenCare® Rheumatoid Arthritis
- ProvenCare® Total Hip
- ProvenCare® Total Knee

## ProvenCare® Evidence-Based Guidelines (EBG) (in conjunction with PRIDE):

- Chest Pain – R/O MI (ED)
- Kidney Stone (ED)
- Newborn Protocols
- Pediatric Abdominal Pain (R/O Appendicitis (ED))
- Pediatric Head Injury (ED)
- Pediatric Pulmonary Embolism (ED)
- Sepsis (ED) & Sepsis (Med/Surg)
- Vent Management

Portfolio as of: 01/23/15

# Provincare<sup>®</sup> Biologics

## Why

Specialty drugs will account for nearly half of all drug sales in coming years

## Targets

Hepatitis C  
Inflammatory Bowel Disease  
Multiple Sclerosis  
Rheumatoid Arthritis  
Oncology  
Psoriasis

## Scope


GHS projected 2014 expense avoidance of \$58M

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GHP expected to avoid expenses of \$172M

## Approach

Process Redesign  
Channel Redesign  
Formulary Management & Contracting  
Total Cost of Care

A photograph of a Walmart store exterior. The Walmart logo is prominently displayed on the building's facade. The sky is clear and blue. The store has a modern design with large windows and a covered entrance.

**Company's New "Centers of Excellence" Program is First-of-its Kind Partnering with Six of the Nation's Foremost Health Care Systems to Provide Better Care**

"We devoted extensive time developing Centers of Excellence in order to improve the quality of care our associates' receive. We have identified six **renowned health systems that meet the highest quality standards for heart, spine and transplant surgery**. Through these organizations, our associates will have no out-of-pocket expenses and a **greater peace of mind knowing they are receiving exceptional care from a facility that specializes in the procedure they require**. This is the first time a retailer has offered a comprehensive, nationwide program for heart, spine and transplant surgery."

**-- Sally Welborn, SVP, Global Benefits, Walmart**

# ProvenCare® Chronic Disease



## Portfolio of ProvenCare® Chronic Disease Programs

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

# Improving Diabetes Care for 30,005 Patients

	3/06	1/14	12/14	1/15
Number of Patients	20,178	27459	29,805	30,005
<b>Diabetes Bundle Percentage</b>	2.4%	13.7%	19.1%	18.5%
% Pneumococcal Vaccination	59%	79%	80%	80%
% Microalbumin Result	58%	80%	76%	76%
% HgbA1c at Goal	33%	47%	50%	49%
% LDL at Goal *Change to @ Goal on patient list July 2014	50%	60%	65%	65%
% BP at Goal *Change to @ Goal on patient list July 2014	39%	79%	76%	76%
% Documented Non-Smokers	74%	85%	85%	85%



# ProvenCare® Type 2 Diabetes

## Value Driven Care Outcome Improvements

### Heart Attack

- Less than 3 years
- 306 prevented with estimated savings of \$27,111/case = **\$8.3M**



### Stroke

- Less than 3 years
- 141 prevented with estimated savings of \$2,921/case = **\$412K**



### Retinopathy

- Less than 3 years
- 166 cases prevented!
- Quality of life maintained
- Savings...priceless!



Primary Care Diabetes Bundle Management: Three-Year Outcomes for Microvascular and Macrovascular Events ( FBloom; TGraf; WStewart; GSteele, et. al. , **June 2014 (20(6); 175-182)**



THE AMERICAN JOURNAL OF  
**MANAGED CARE**

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# Improving CAD Care for 18,501 Patients

	9/06	1/14	12/14	1/15
Number of Patients	13,688	16,892	18,422	18,501
<b>CAD Bundle Percentage</b>	8%	25%	30%	30%
% LDL <100 or <70 if High Risk	38%	61%	70%	70%
% ACE/ARB in LVSD,DM, HTN	65%	79%	78%	79%
% BMI measured	79%	99%	99%	99%
% BP < 140/90	74%	80%	79%	79%
% Antiplatelet Therapy	89%	95%	95%	95%
% Beta Blocker use S/P MI	97%	97%	97%	97%
% Documented Non-Smokers	86%	86%	86%	86%
% Influenza Vaccination	60%	75%	72%	73%

# Improving Preventive Care for 261,726 Patients

	11/07	1/14	12/14	1/15
Number of Patients	203,074	242,122	260,367	261,726
<b>Adult Preventive Bundle</b>	9.2%	18%	19%	20%
Breast Cancer Screening (q 2 yrs 50-74) (discuss q 2 yrs 40-49)	46%	73%	74%	74%
Cervical Cancer Screening (q 3 yr Age 21-29) (q 5 yr Age 30-64)	64%	75%	73%	73%
Colon Cancer Screening (Colonoscopy q 10 yrs Age 50-74 or FOBT yearly)	44%	65%	65%	65%
Lipid Screening (Every 5 yr M > 35, F > 45)	75%	87%	87%	87%
Diabetes Screening (Every 3 yr > 45)	85%	91%	93%	91%
Documented Non-Smokers	75%	79%	79%	79%
Tetanus Diphtheria Immunization (every 10 yr)	35%	76%	77%	77%
Pneumococcal Immunization (Once Age >65)	84%	84%	84%	84%
Influenza Immunization (Yearly Age >18) <b>**Change in age from Age&gt;50 to Age&gt;18 February 2013</b>	47%	44%	43%	44%
Chlamydia Screening (Yearly Age 18-25)	22%	40%	40%	40%
Osteoporosis Screening (every 7 yr Age >65)	52%	78%	77%	77%
Zoster Vaccine (Age >60) <b>**New Measure February 2013</b>		37%	40%	43%

# ProvenHealth Navigator® Results

Acute care admissions

27.5%

Demonstrated improvement in the risk of heart attack, stroke, and retinopathy in individuals with diabetes

3-year results in 25,000 patients



305 MIs prevented  
140 strokes prevented  
166 cases of retinopathy prevented



All cause 30-day re-admissions

34%

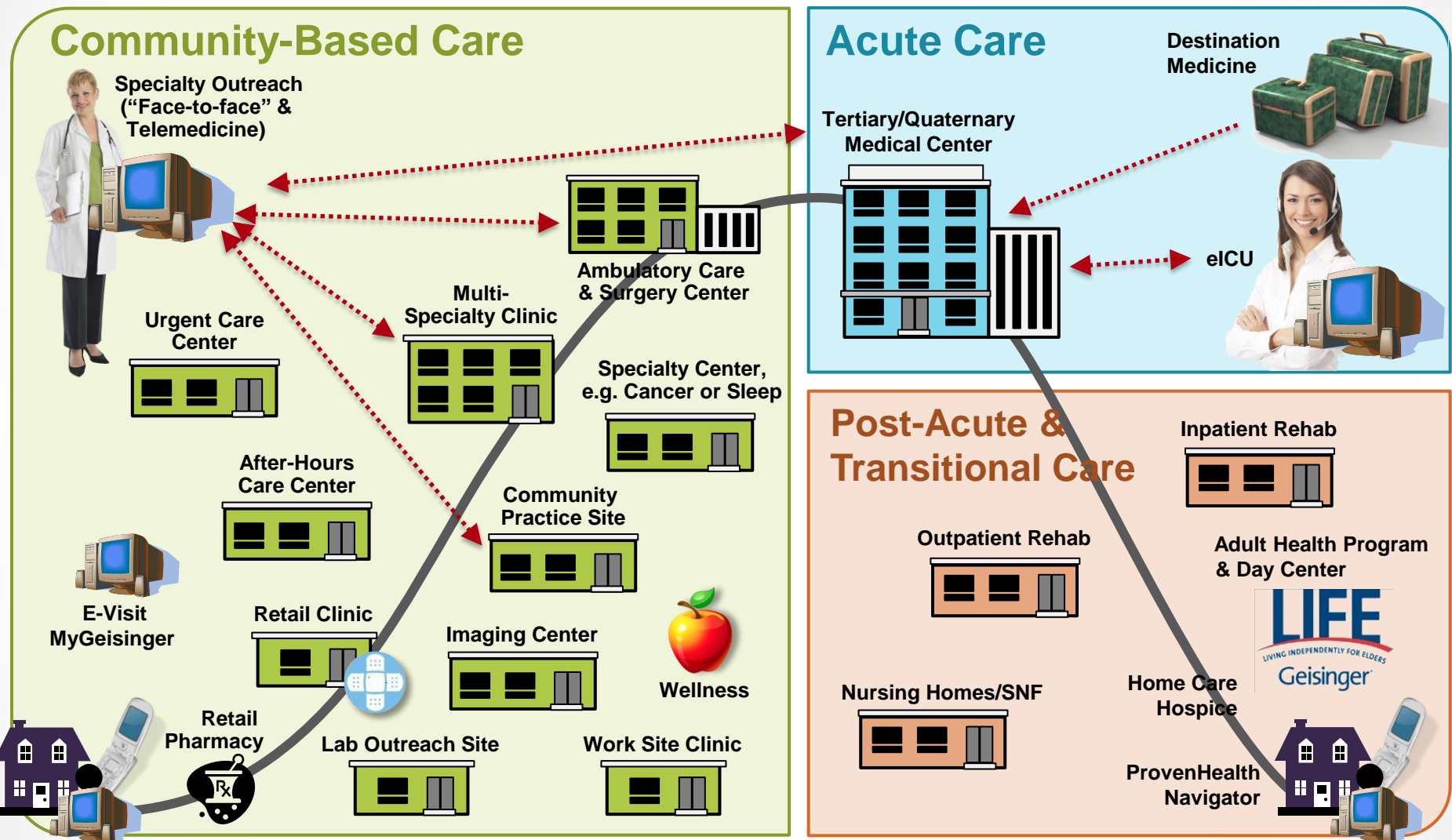
Patients say quality of care improved when they worked with a case manager

72%

ED Visits Remain Flat

*\*Outcomes represent the period 2007—2012 and more than 80,000 Geisinger Health Plan members in Geisinger Health System practices.*

# Geisinger Patient-Centered Continuum of Care

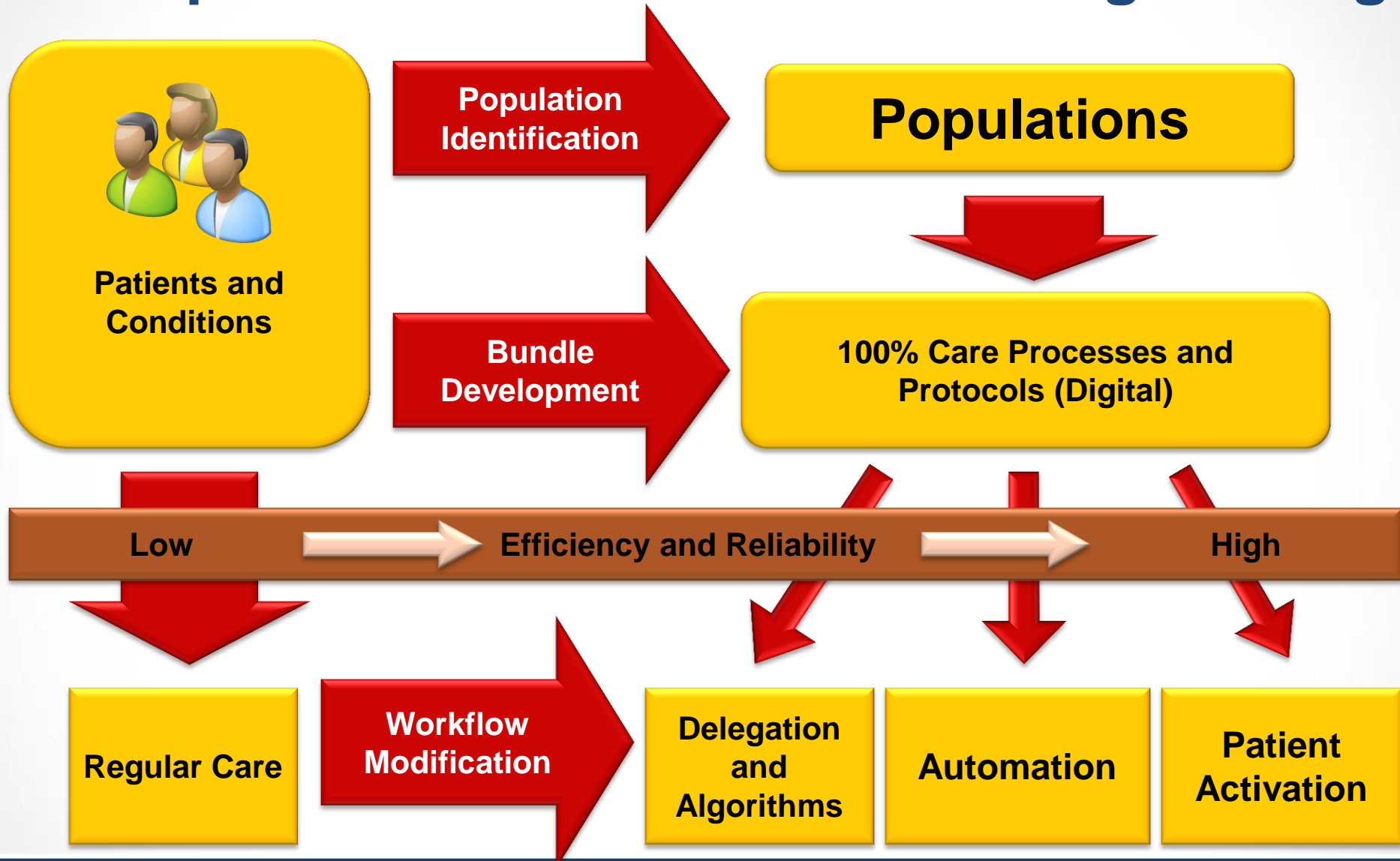


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# Disruptive Innovation & Value Reengineering





# Transforming HealthCare With Technology

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# Reengineering Primary & Specialty Care Integration

- PCP & specialists coordinated patient management
  - CKD/ESRD high risk management
  - Psychiatric care management
  - Neurology/Dermatology/Endocrine/Cardiology/Autism
- Convenient Care redesign of primary care/emergency medicine
  - 14 urgent care/after hours care sites
  - Coordinated low cost alternative to ED





# Activating Patients through Transparency: “Open Notes”

## Background

- 12-month research project started in 2010

## Results

- 99% of patients requested continuation of the pilot

## Current Status

- >1,400 Geisinger providers are live  
>220,000 patients



# Innovations in Personalized Medicine



- Regeneron partnership to advance genomic medicine
- Clinical data warehouse grows
- Data analytics deployed to identify care gaps, permitting clinical intervention
- Focused population health research initiatives: Obesity, Autism, etc.
- Institute for Advanced Application
- Geisinger in Motion

# Scaling and Generalizing

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**CORE OPERATIONS**

Mission: Execute Core Business / Innovate



**PRODUCT DEVELOPMENT & SERVICE DELIVERY**

Mission: Generalize / Disseminate / \$ Return



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# xG Health Solutions™

## Strong Foundation, Accelerating Growth

**MISSION: Help providers committed to high quality value-based care succeed under risk-based payment**

**Launched in 2013**

*Investors:*



**OAK**  
INVESTMENT  
PARTNERS

**GEISINGER**

**57** organizations  
empowered by our  
IP and know-how

**32** current  
clients

**150** employees

# Significant Reduction in Utilization at Eastern Maine Health System

## *RESULTS (Year 1: 2013 vs. 2012)*

### Reductions in Utilization

- 32%** Med-Surg Admits/1000
- 72%** Med-Surg Readmits/1000
- 7%** ED Visits/1000

### Savings

**\$8.6MM** reduction in total  
cost of care

## *CUSTOMER*

- Eastern Maine Health System
- 8 hospitals; 950 beds; 1,970 employed and affiliated MDs
- ~6,400 employees
- **Target Population:**  
~12K self-insured lives;  
Pioneer ACO  
~8300 attributed lives



## *SERVICES DEPLOYED*

- TPA services
- 5 patient-centered medical homes
- Population health analytics
- Embedded case managers
- Best practice sharing

# “Solutions” Aside, What Matters is Results

## RESULTS

### Reductions in Utilization

- 17%** Med-Surg Admits/1000
- 20%** Med-Surg Readmits/1000
- 33%** 1-Day Med-Surg Admits/1000
- 10%** ED Visits/1000

### Savings

**\$3M to \$6M** reduction in spending + additional \$1.4M to \$2.8M in savings due to increased worker productivity

## CUSTOMER

- West Virginia United Health System - largest system in W. Virginia
- 8 hospitals; 1,286 beds; 866 physicians
- 4,700 employees
- **Population:** 10K self-insured lives



 West Virginia United Health System

## SERVICES DEPLOYED

- TPA
- 3 PCMHs with our embedded case managers
- Pop. health data analytics
- Utilization management (hospitalizations, high end radiology; transitions of care)
- Condition management



# Where We Are Now (Geisinger)

- Consolidation of Providers
- Payer-Provider “Integration” Model Expansion
- Value Re-engineering
- Medical Tourism (i.e., Walmart ProvenCare®)
- Reference Pricing
- Bundling Episodic Care / ACOs
- Population Health (aka, ↓ Total Cost of Care)



# Where Do We Want to Be? (Geisinger)

- Distributed Data
  - Personalized Medicine/Genetics
  - Healthcare in the cloud
- “Activated” Patients/People
- Transparency and availability of standardized data on cost and quality
- New Provider Surrogates/Locations
- Social Network Enabling
- Behavior Change Analytics
- Generalizing Value Re-engineering



# Enabling Behavior Change:

➔ **Providers**

➔ **Patients**

