

# **MODERNIZING HEALTH CARE THROUGH QUALITY AND ANALYTICS WITH THE AIM OF POPULATION HEALTH**

**Telfer Health Transformation  
Exchange Seminar**

April 19, 2017



# It is a pleasure to be with you today

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## **Jean-François Beaulé, FSA**

Executive Vice President, Plan Design  
Innovation and Analytics, UnitedHealth Group



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Executive Vice President, Research and  
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# Today's discussion

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**Company Overview**

**Building a New Kind  
of Delivery System**

**R&D for  
Value at Scale**

**Applied Analytics**

**Panel / Q&A**



# UnitedHealth Group: Distinctively diversified



## HEALTH BENEFITS

Helping people  
live healthier lives®.



## HEALTH SERVICES

Helping make the health system  
work better for everyone.

### Foundational Competencies

Clinical Insight

Technology

Data & Information

### Our United Culture

Integrity

Compassion

Relationships

Innovation

Performance

**>240,000**  
Employees

**~18,500**  
Physicians & Nurses

**>600B**  
Data Transactions / Year

# What we are focused on: **Our Path Forward**



Build a Modern, High-Performing, Simpler Health Care System



**Expand Access  
to Care**



**Make Health Care  
More Affordable**



**Support and Modernize  
Medicare**



**Reinvest in Health**

## The Markets We Serve

UnitedHealthcare<sup>®</sup>

Commercial

**28M**

Medicaid

**6M**

Medicare

**11M**

Military

**3M**

Global

**4M**

OPTUM<sup>™</sup>

Members

**115M**

Hospitals

**4 of 5**

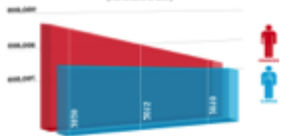
Doctors & other

**>100K**

# Health Challenges: Common Forces at Play



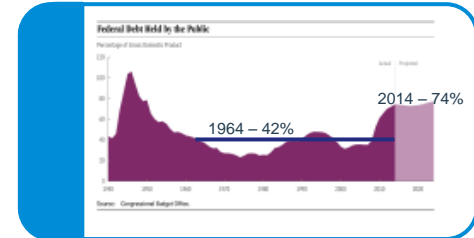
## Clinical Practitioner Shortage



AAMC



**Health Care System  
in Need of More Value**  
**Quadruple Aim**



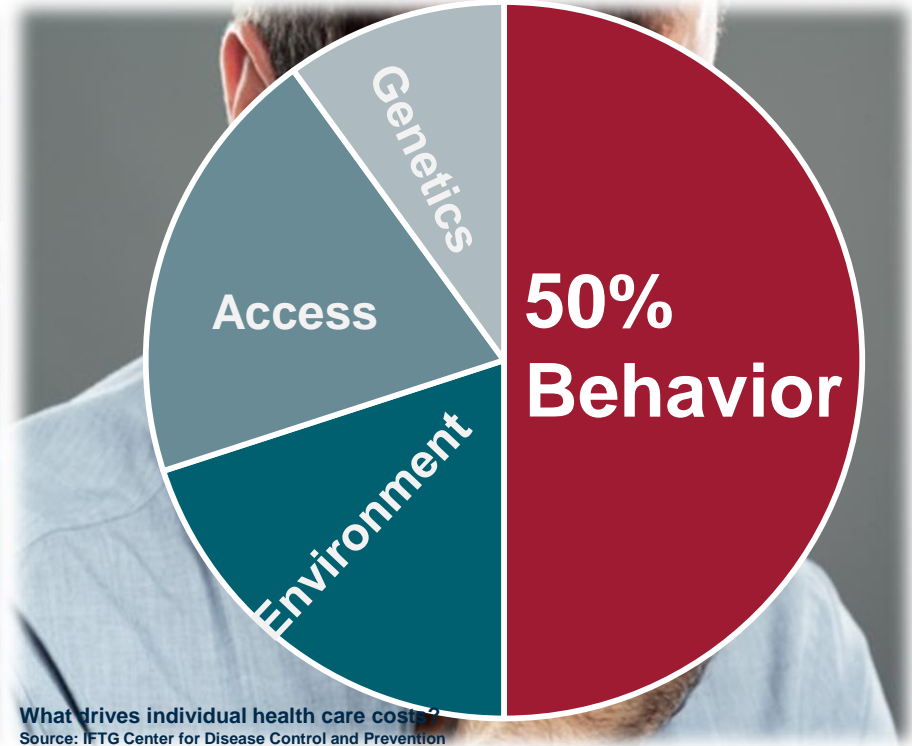


# \$3.5 trillion US health care system (18% of GDP)

## The Supply Challenge



## The Demand Challenge



**The Opportunity for Impact = ~30-50%**

# Variability is pervasive ...

**THE WALL STREET JOURNAL.**  
U.S. EDITION ▾

Home World ▾ U.S. ▾ New York ▾ Business ▾ Tech ▾ Markets ▾ Market Data ▾ Opinion ▾ Life & Culture ▾ Real Estate ▾ Careers ▾

September 5, 2012, 8:30 a.m. ET

## New UnitedHealth Group Report: High-Quality Care Can Be 14 Percent More Affordable on Average, but with Significant Local Variations

**VARIATION IN COSTS**

By Philip Ellis, Lewis G. Sandy, Aaron J. Larson, and Simon L. Stevens

### Wide Variation In Episode Costs Within A Commercially Insured Population Highlights Potential To Improve The Efficiency Of Care

**DOI:** 10.1377/hlthaff.2012.0361  
HEALTH AFFAIRS 31,  
NO. 9 (2012): -  
©2012 Project HOPE—  
The People-to-People Health  
Foundation, Inc.

**ABSTRACT** Reforming payment methods to move away from fee-for-service reimbursement is widely seen as a crucial step toward controlling health care costs. Although there is a good deal of evidence about variability in costs under Medicare, little has been published about the variability of costs for care that is financed by private insurance. We examined both quality and actual medical costs for episodes of care provided by nearly 250,000 US physicians serving commercially insured patients nationwide. Overall, episode costs for a set of major medical procedures varied about

**Philip Ellis** (phil.ellis@uhg.com) is a senior vice president at the UnitedHealth Center for Health Reform and Modernization, in Washington, D.C.

**Lewis G. Sandy** is senior vice president for clinical advancement at UnitedHealth Group, in Minnetonka, Minnesota.



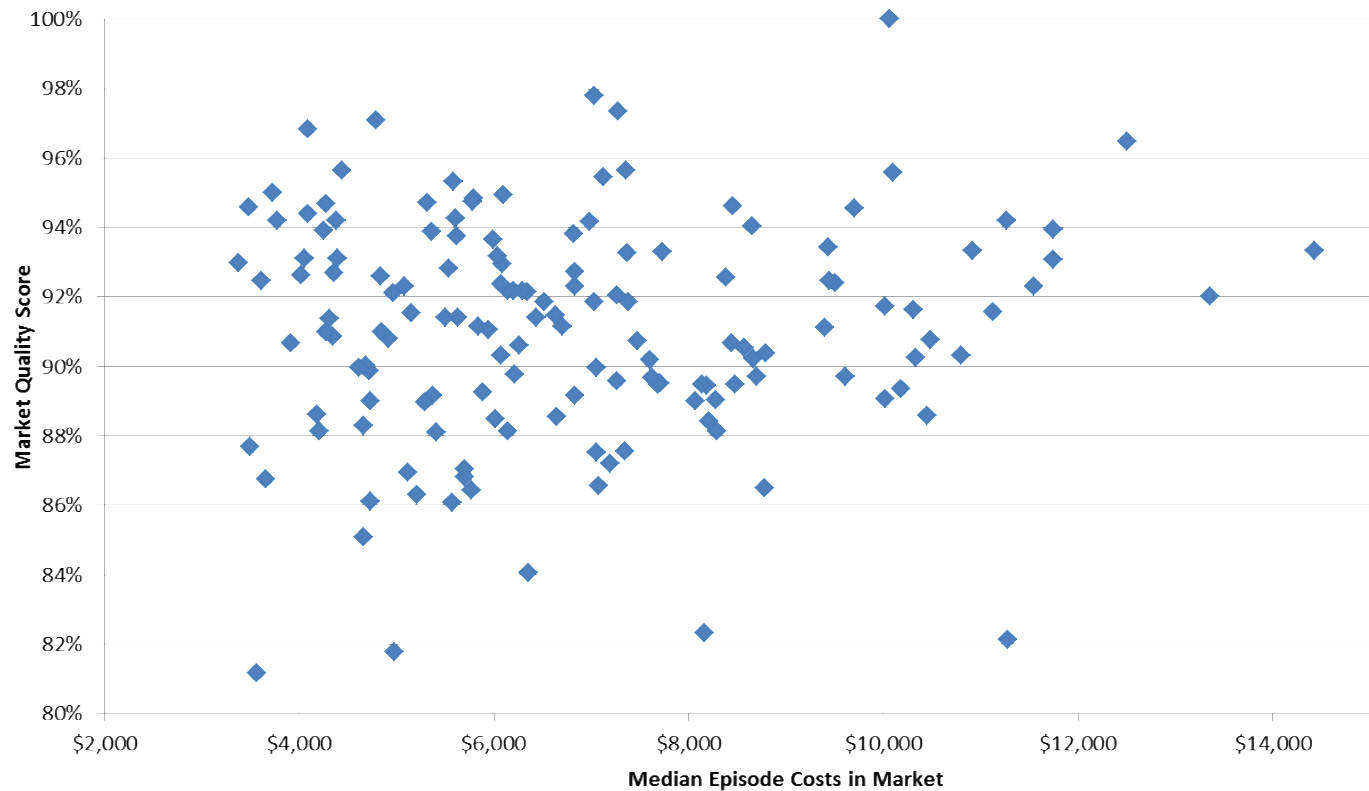
**Cardiac  
Catheterization  
(Diagnostic)**

**Capture and Reading  
of MRIs (national)**

**Hip and Knee  
Replacements –  
Atlanta Market**

**← 3.5 Fold Cost Difference →**

**↑  
20%  
Quality  
Range  
↓**



## Cardiac Catheterization (Diagnostic)

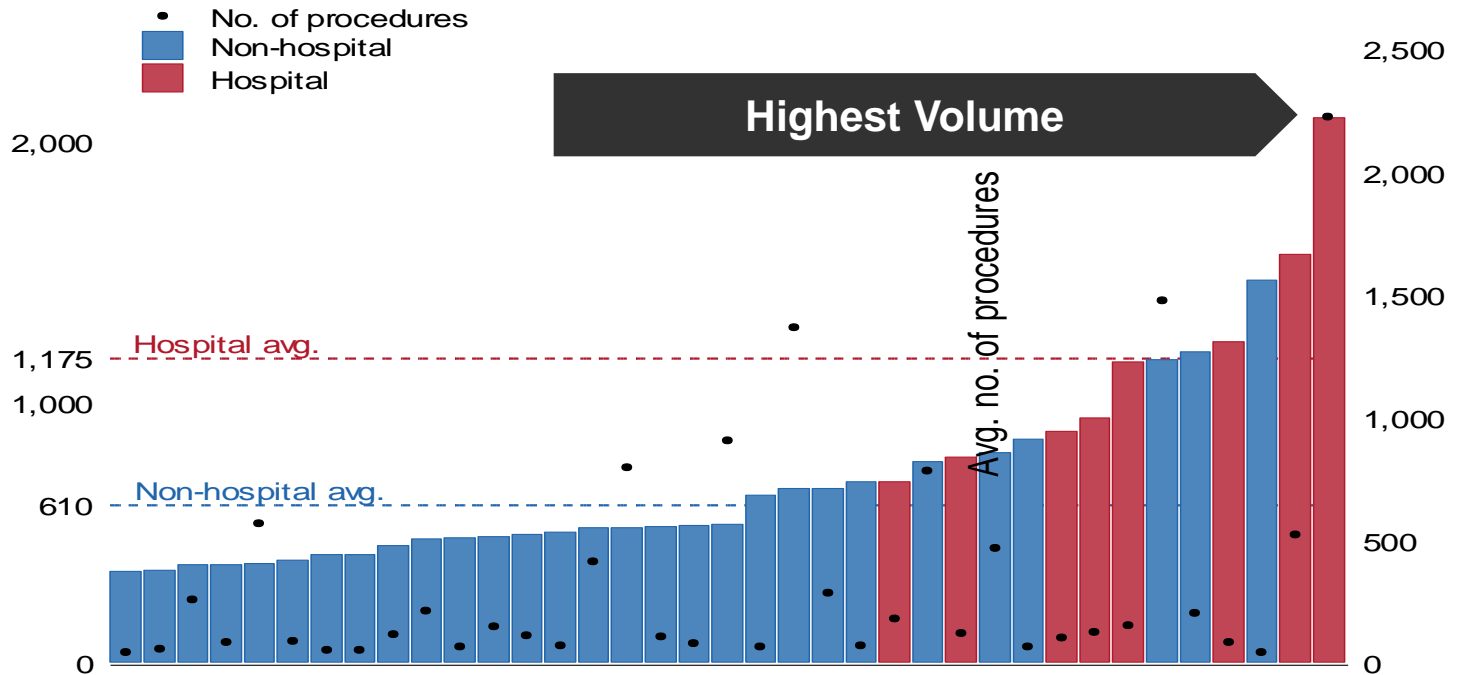
## Capture and Reading of MRIs (national)

## Hip and Knee Replacements – Atlanta Market

**\$2,200**

**>4 Fold Cost Difference**

**\$500**



Note: Each bar is a provider. Bar height indicates average price paid. All figures are 4 year averages over 2011-2014. Restricted to providers performing greater than an average of 10 procedures a year. Prices include both the taking and the reading of MRIs.

**Cardiac  
Catheterization  
(Diagnostic)**

**Capture and Reading  
of MRIs (national)**

**Hip and Knee  
Replacements –  
Atlanta Market**

## 3 Fold Readmission Difference

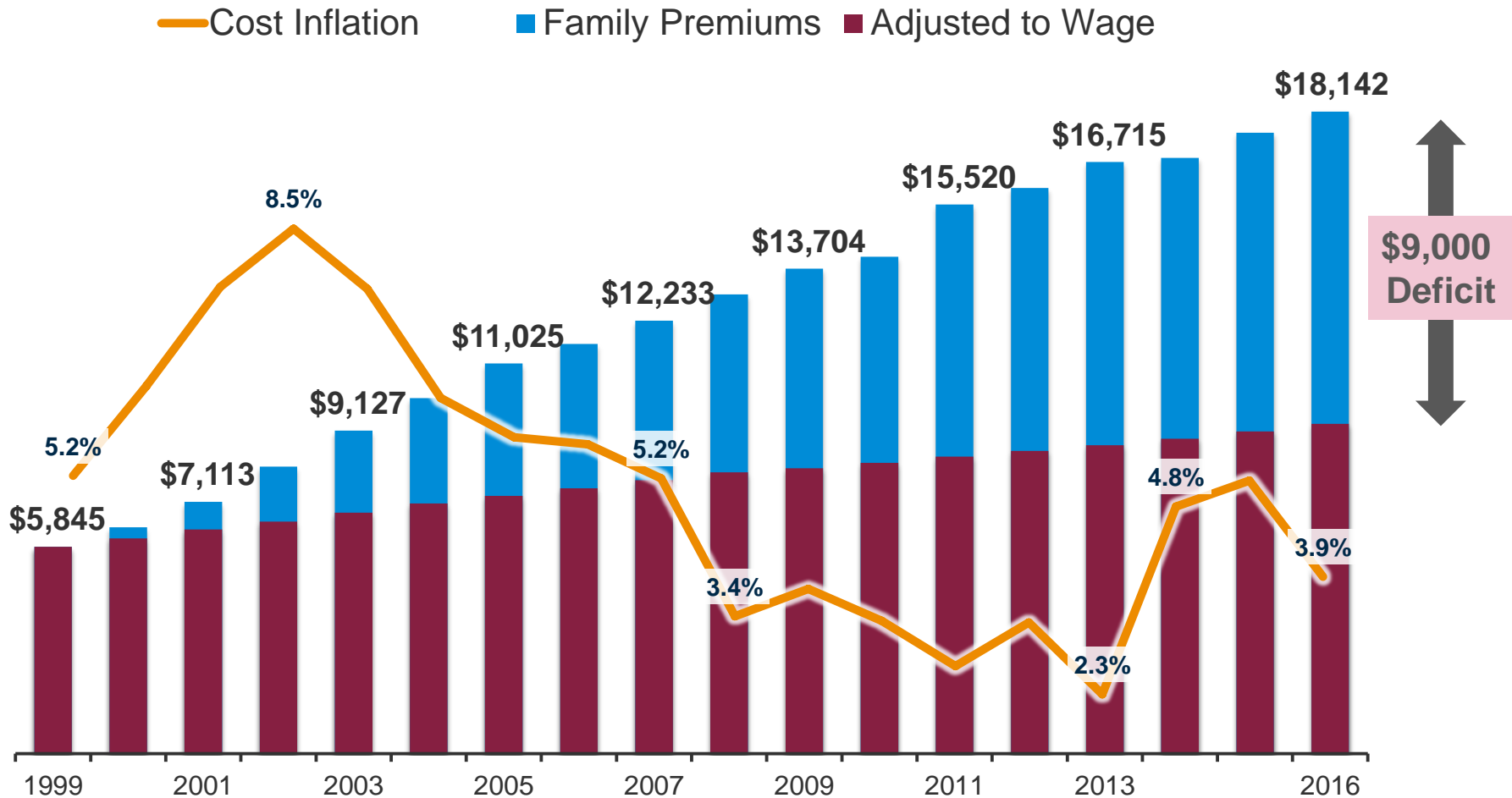


**3 Fold  
Cost  
Difference**



Source: VDA report, 2015 commercial book of business.

# The challenge of affordability – 3 fold medical cost increase vs. a 1.6 wage increase since 1999



Source: Kaiser / HRET Survey of Employer-Sponsored Health Benefits, 1999-2015 large employers (200+ employees)  
Cost Inflation: CMS office of the Actuary – National Health Expenditures, Wage increased from Department of Labor Statistics.

# US Delivery of Coverage in 2016

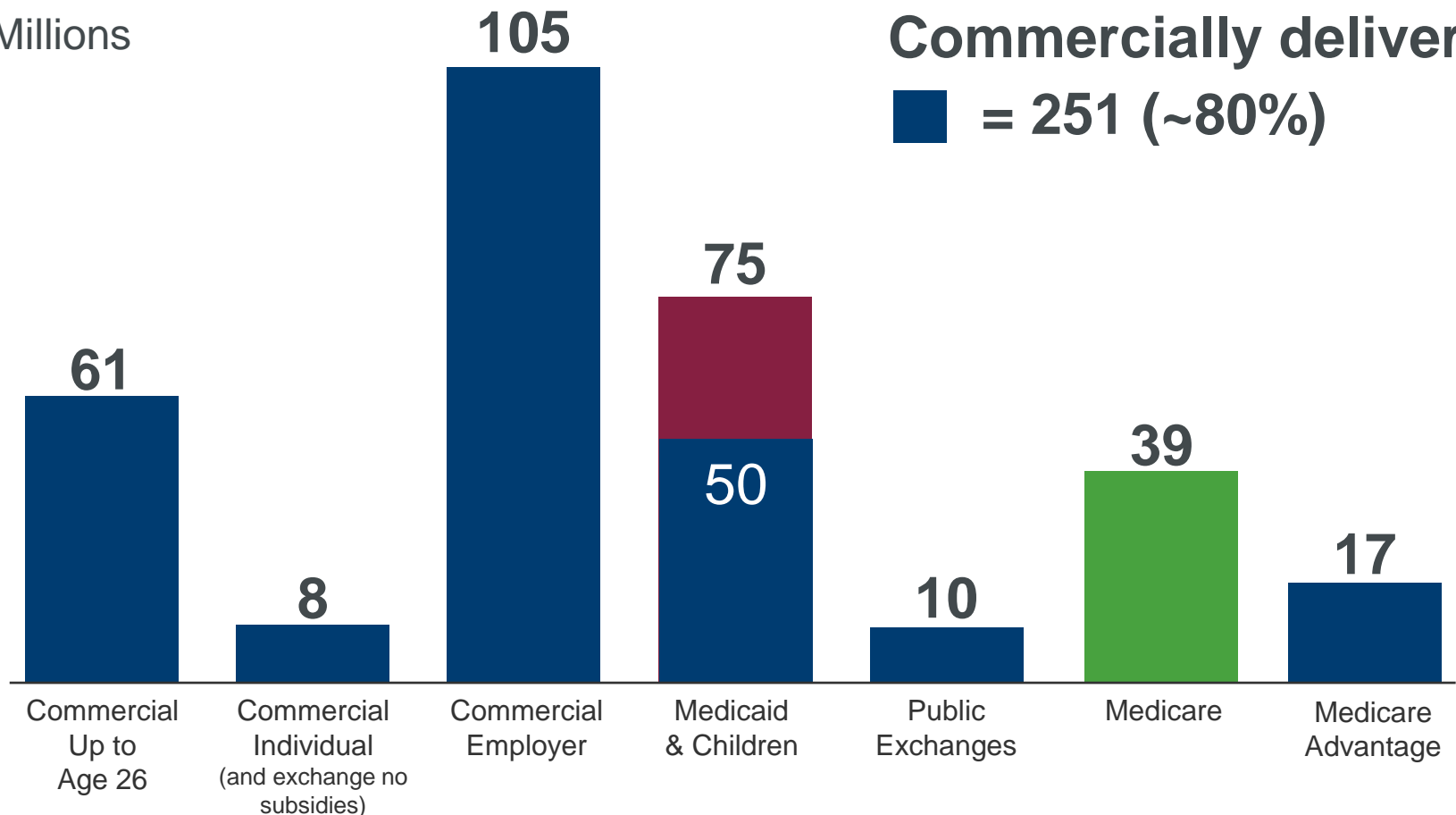
28 million remain uninsured

## U.S. Population (324 million) by Sponsor Health Coverage

Millions

Commercially delivered

■ = 251 (~80%)







**C+**

Medication Adherence

**52%**

Diabetes/PreDiabetes  
by 2020

**43%**

Sub-optimal  
Care Decisions

**1/5**

Adult Mental  
Illness per year

**88%**

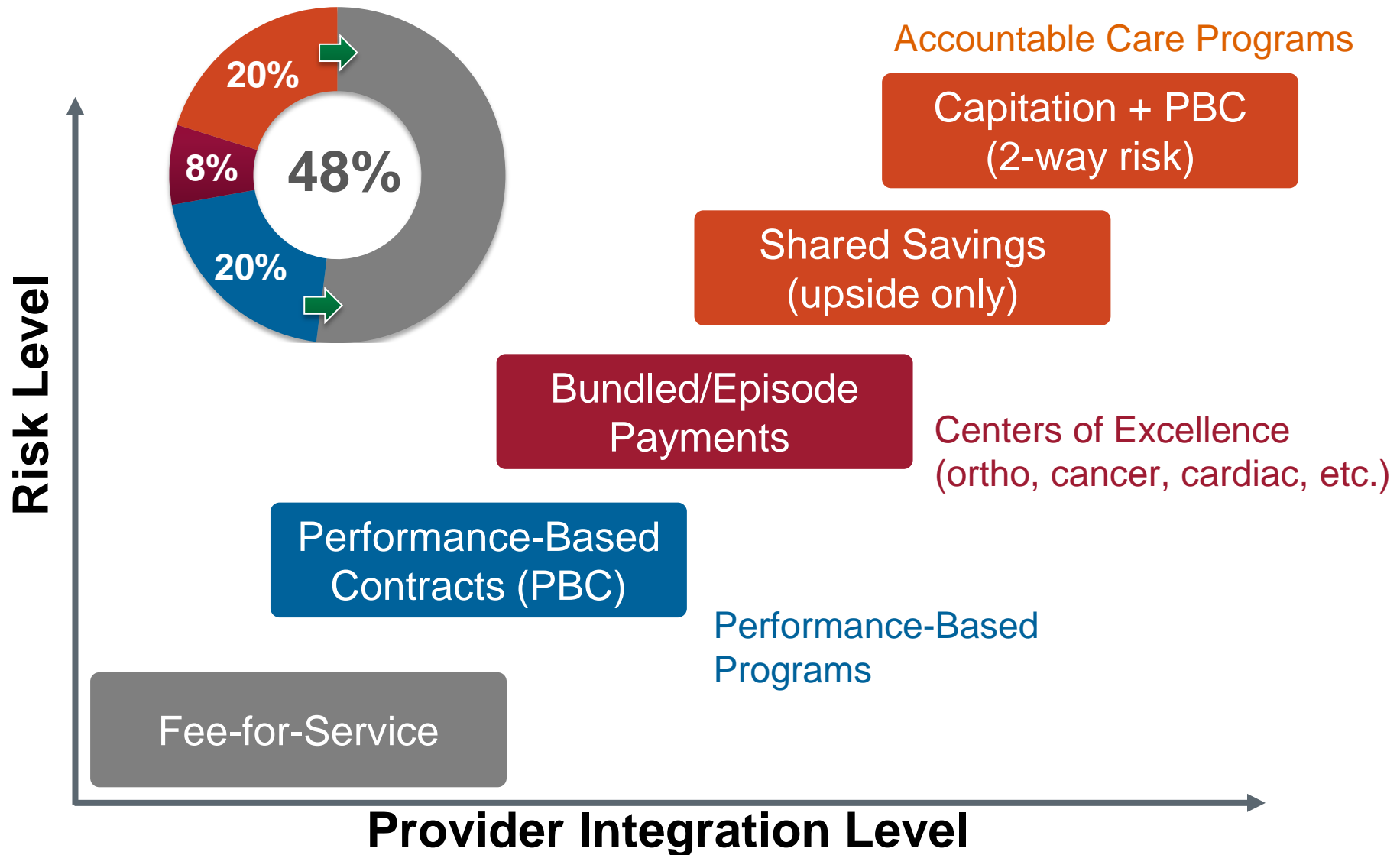
Lack Health Literacy

**20%**

Using Opioid  
Medications

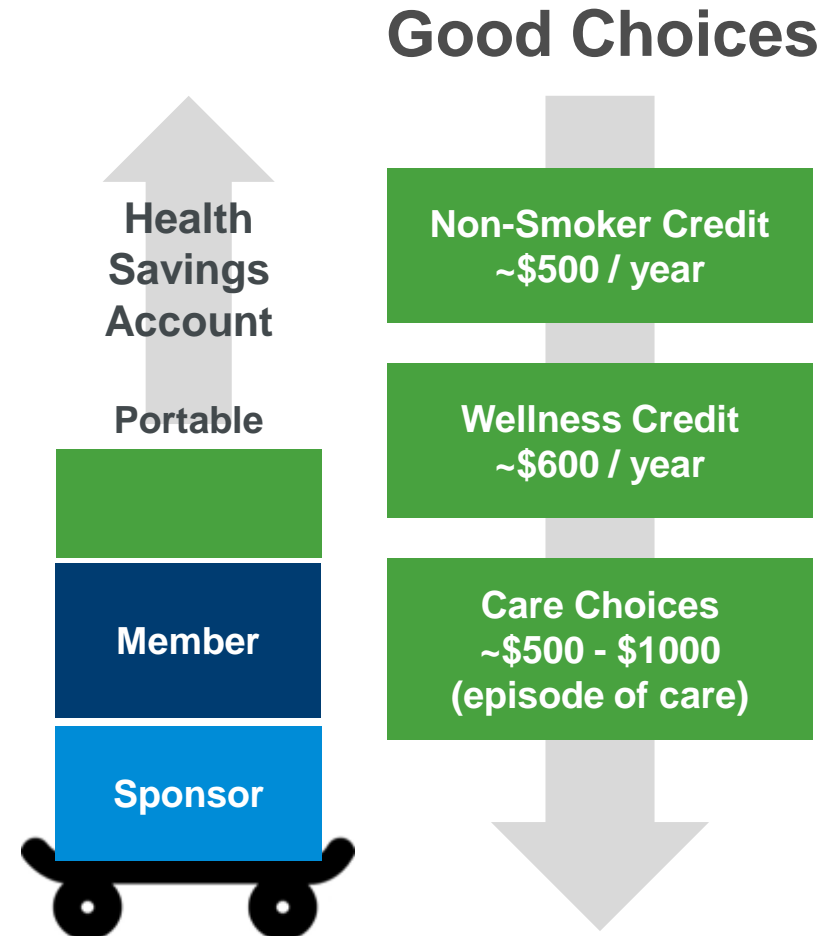
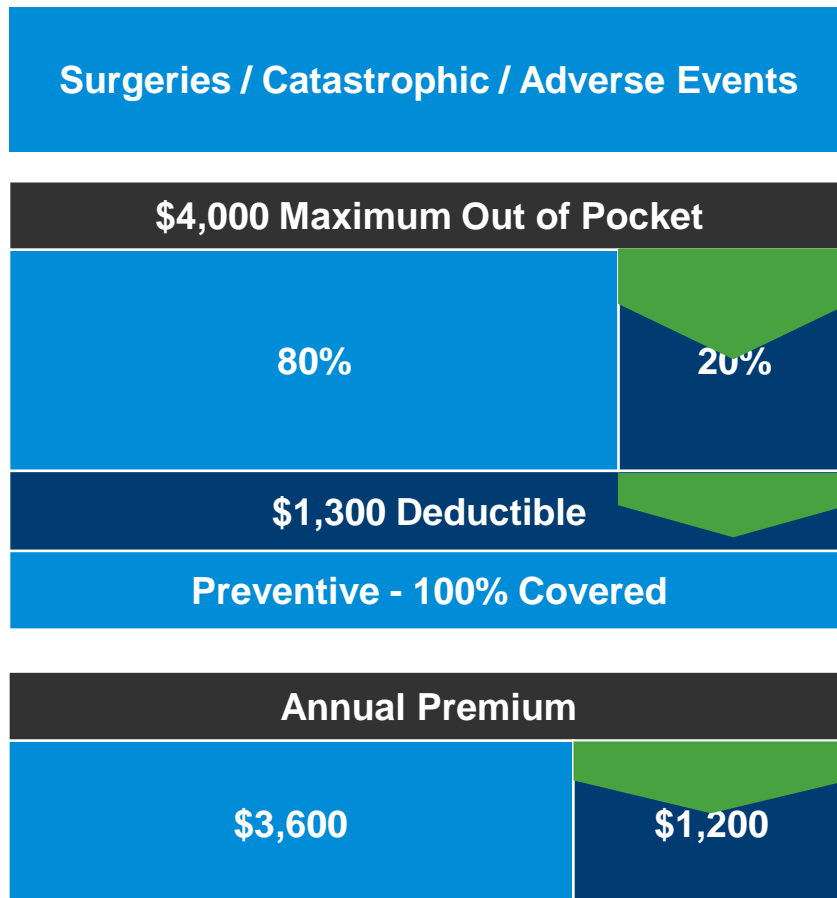
# HEALTH CHOICES

# Advancements in value based reimbursements



# Advancements in benefit designs (commercial)

■ Individual Pays    ■ Employer Pays    ■ Individual Rewards



# Design a system that drives positive changes

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**Identify where the 'better choices' occur  
(the evidence)**

**Pilot and test models iteratively  
(research)**

**System Design and Deployment  
(change management, scaling)**

**Measure to inform version 2, 3, ...  
(learn and improve)**



## Building a New Kind of Delivery System



# A primary care journey...

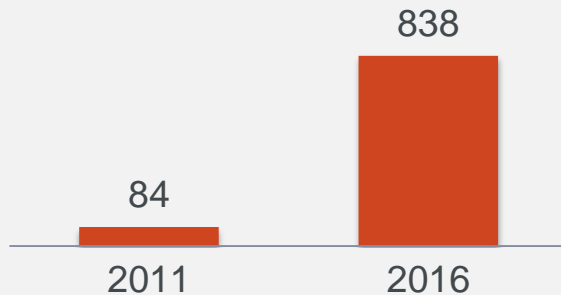
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- **General Internal Medicine**
- **Started in solo practice**
- **Small group practice**
- **ProHealth Physicians – 81 independent practices 1997**
- **Founding Board member**
- **Chairman – 16 years**
- **32 years in practice: office, hospital, school, nursing home/rehab**
- **ProHealth Physicians joins OptumCare 2015**
- **Join OptumCare national leadership team 2016**
- **Building out a new kind of delivery system in the US...**

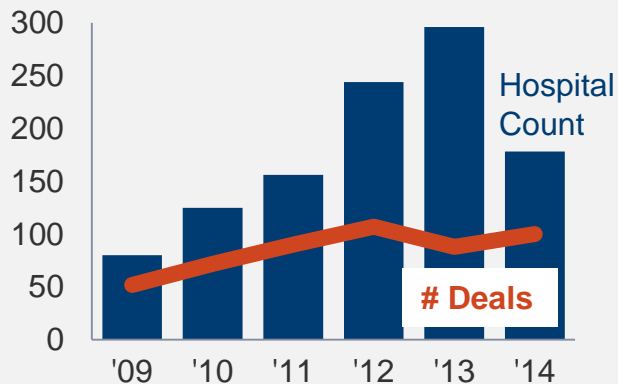
# Three key trends impacting care delivery

## Quality Based Reimbursement

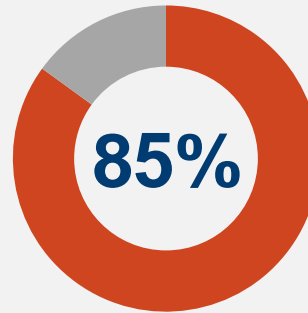
### Number of ACOs



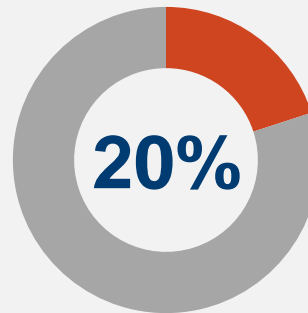
### Hospital Consolidation



## Data and Applied Analytics

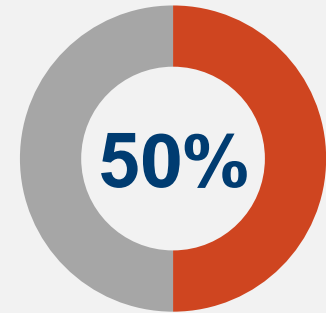


### Importance of Patient Clinical Data



### Effective Use of Data\*

## Provider Satisfaction



### Report symptoms of burnout

**655,000**  
2025 Projected Care Practitioner Shortage\*\*

\*NEJM Catalyst – Provider Survey March 2017.

\*\*Surgeons, primary care, nurses, specialists combined. Source: Convenient Care Association; AANP; Med Care Study.

## Primary Care Physicians In Ten Countries Report Challenges Caring For Patients With Complex Health Needs

**Themes of frustration with administrative burden and insurance hassle resonate across many of the countries.**

Country	Patients with multiple chronic conditions	Patients needing palliative care	Patients with dementia	Patients needing long-term home care services	Patients needing social services in the community	Patients with severe mental health problems
AUS (n = 747)	85%	48%	46%	47%	41%	34%
CAN (n = 2,284)	70	42	42	40	28	24
GER (n = 559)	88	58	67	68	71	32
NET (n = 618)	88	92	65	80	25	44
NZ (n = 503)	81	62	41	54	48	24
NOR (n = 864)	86	54	69	78	41	56
SWE (n = 2,905)	66	25	57	51	45	14
SWIZ (n = 1,065)	80	48	49	64	55	26
UK (n = 1,001)	79	81	64	60	44	43
US (n = 1,001)	76	41	47	46	32	16

Source: 2015 Commonwealth Fund International Health Policy Survey of Primary Care Physicians.

# What is OptumCare?

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- **House Calls – APRN model – 1 million home visits annually**
- **Complex Care – APRN model – nursing homes**
- **Care Delivery - ~12 medical groups/IPAs across the country – 50-70 in 5 years**
- **MedExpress – urgent care 130 sites and growing**
- **Surgical Care Affiliates – 200 ambulatory surgery centers**
- **Integrating and growing...**
- **Ambulatory, primary-driven, community-based, physician-led – leveraging Optum health services and technology**

# OptumCare's national footprint



**8.5M**

**consumers served**

**80**

**health care payers**

**20k**

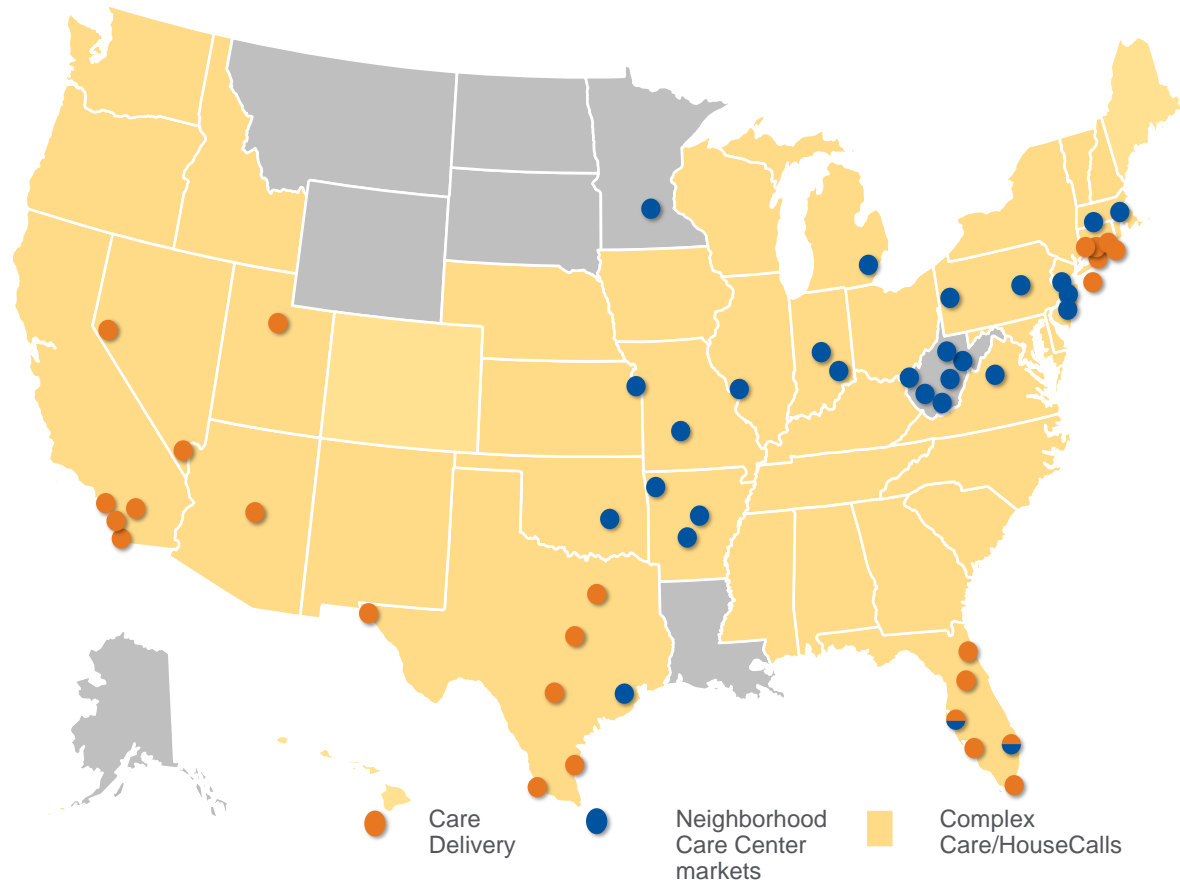
**physicians**

**6,500**

**advanced practice clinicians**

**500**

**primary & urgent care clinics**





# Technology capabilities embedded in a redesigned delivery system

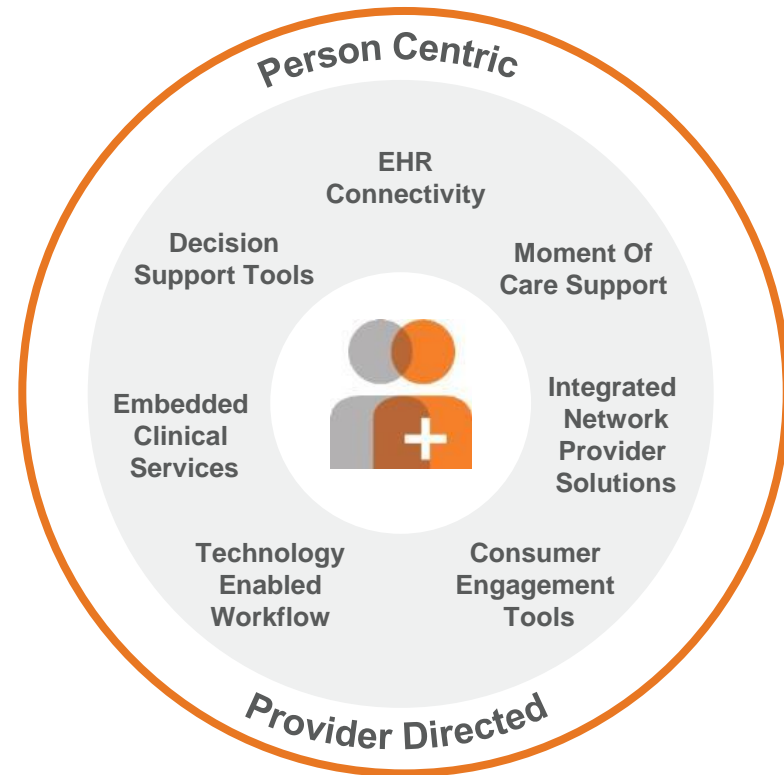
## Traditional Model

External Forces Directing  
Delivery System



## OptumCare Model

Capabilities Embedded  
Within



# Success is...

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Achieving the  
**quadruple aim**  
while providing the  
**right care**, in **right**  
**place**, at **right**  
**time** with  
no duplication



# Practice reorganization and redesign

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- **Workflow is king**
- **Dumping electronic tasks into a primary care black box**
- **Technology is an enabler**
- **Technology allows us to create new organizational structures**
- **Radiology: developing film and hard copies to digital model**
  - **Cement trucks and healthcare**
- **30% of primary care and care delivery moving to a digital platform**
- **Recapturing the visit space for relationship building, time to think, creativity and mastery**

# Organizational structure

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Allocating workflows and functions for optimization of roles and outcomes.

**OptumCare National**

**OptumCare Region**

**OptumCare CDO**

**OptumCare RBE**

**Employed  
Practice  
Site**

**Employed  
Practice  
Site**

**Contracted  
Practice  
Site**

**Contracted  
Practice  
Site**

# Value based reimbursement



“A wealth of information, creates a poverty of attention.”

*Herbert Simon.*

**Alignment of Incentives  
Group and Physician**

**Actionable Data at the  
Physician Level**

## Doctor Scorecard

Patient Satisfaction Pool							
Measure	Target	Compliant	Not Compliant	Total	Compliance Rate	Provider Status	ProHealth Mean By Specialty
Recommend This Practice? Jan-Jun	90%				TBD		TBD
Recommend This Practice? Jul-Dec	90%				TBD		TBD
MA Attestation Pool							
Measure	Target	Compliant	Not Compliant	Total	Compliance Rate	Provider Status	ProHealth Mean By Specialty
Medicare Advantage Attestation	95%				TBD		TBD
Value Drivers							
Measure	Target	Compliant	Not Compliant	Total	Compliance Rate	Provider Status	ProHealth Mean By Specialty
Cardiology Prefer	85%	6	0	6	100.00%	●	91.99%
Gastroenterology Prefer	90%	10	0	10	100.00%	●	91.87%
Other Pref Provider	85%	43	9	52	82.69%	◆	86.17%
% MRIs Freestanding Jan-Jun	67%				TBD		TBD
Generic Rx Rate	85%	1571	234	1805	87.04%	●	88.58%
CAHPS Domain 1	85%				TBD		TBD
CAHPS Domain 2	89%				TBD		TBD
HCC Coding	87%				TBD		TBD
HCC Training	1				TBD		TBD
Patient Portal	25%	1423	4721	6144	23.16%	◆	20.42%
Quality							
Measure	Target	Compliant	Not Compliant	Total	Compliance Rate	Provider Status	ProHealth Mean By Specialty
Colorectal Cancer	74%	844	137	981	86.03%	●	74.57%
Nephropathy Screen	89.5%	52	153	205	25.37%	◆	21.05%
Diabetes: A1c Poor Control	<13%	37	94	131	71.76%	◆	72.96%
BP Control	83%	706	51	757	93.26%	●	82.43%
Diabetes: Eye Exam	75%	109	23	132	82.58%	●	60.34%
High Risk Meds	<=6%	434	8	442	1.81%	●	1.22%
All Cause Readmissions (DART Data)	<=9%				TBD		TBD
Avoidable ER Visits - Medicare (DART Data)	<=31.4 %				TBD		TBD
Avoidable ER Visits - Commercial (DART Data)	<=11.7 %				TBD		TBD



Admission Risk: 3 Months

Views



Select Action

<input type="checkbox"/>	Risk % ▲	Patient Name ▼	Age ▼	Sex ▼	DL ▼	BP ▼	Attributed Provider ▼	Attributed Clinic ▼		
<input type="checkbox"/>	27	Underwood, Annette	88	F	0	157/93	Harasyn, Ryan, MD	WellHealth Clinic		
<input type="checkbox"/>	21	Johnson, Arthur	72	M		145/90	Johnson, Jackie, MD	St. Mary's		
<input type="checkbox"/>	16	Polk, James	77	M		153/88	Harrison, William, MD	Parkplace East		
<input type="checkbox"/>	16	Joshi, Rohan	84	M		147/91	Lane, Harriet, MD	Parkplace West		
<input type="checkbox"/>	8				197	133/78	Johnson, Jesse, MD	WellHealth Clinic		
<input type="checkbox"/>	8	Lim, S...			156	160/84	Brown, Robert, MD	WellHealth Clinic		
<input type="checkbox"/>	8	Sherlock, Diane	69	F	1	129	145/78	Martinez, Linda, MD	Grandview	
<input type="checkbox"/>	6	Lam, Wayne	57	M	2	8.7	145	130/74	Anderson, Pat, MD	WellHealth Clinic
<input type="checkbox"/>	6	Radova, Elena	63	F	1	8.1	163	150/89	Davis, John, MD	St. Mary's
<input type="checkbox"/>	6	Patel, Milind	72	F		8.4	104	129/80	Hart, Frank, MD	WellHealth Clinic
<input type="checkbox"/>	5	Taylor, Zachary	66	M	2	7.2	138	137/72	Wilson, James, MD	WellHealth Clinic
<input type="checkbox"/>	4	Jones, Letitia	69	F		7.7	110	121/74	Patel, Vipul, MD	Grandview
<input type="checkbox"/>	4	Gusev, Anna	71	F	1	8.0	131	133/76	Lorenz, Niklas, MD	Parkplace West
<input type="checkbox"/>						6.9	127	140/80	Schubert, Robert, MD	St. Mary's
<input type="checkbox"/>						8.7	143	127/78	Bauman, Sara, MD	Grandview

Select Action

Talk to Patient

Full Patient Demographic

Schedule

Dashboard

Care Plan

Assessments

Pro

## Encounters

Recent Appointments (4)

Recent ED/Urgent Care Visits (2)

Recent Admissions (1)

Date	Location	Provider	Reason	Source
08/29/2012	UrgentWest Care	Beckett, Paul	Hypoglycemia	Claims
04/30/2012	St. Mary's	Radovich, Samuel	DKA	EMR
02/07/2012	University ER	Patel, Mona	Hypoglycemia	Claims

## Clinical Indicators

Problem/Dx

Clinical Data

HbA1c (%)

Blood Pressure

LDL mg/dL

Weight (lbs)

Body Mass Index (%)

## Program Management

Suggested Programs

Historical Programs

+ Add a Program

Enroll	Program Name	Owner	Status
<input type="checkbox"/>	Readmission Prevention	Caldwell, Kelly	Suggested
<input type="checkbox"/>	Diabetes Mellitis	Caldwell, Kelly	Suggested

	RISK	Date
Admission Risk: 3 months	<b>21%</b>	09/17/2012
Cost: 12 months	<b>2.0</b>	06/22/2012

Talk to Patient Full Patient Demographic Schedule Task

Dashboard Care Plan Assessments Progress Analytics

### Clinical Indicators

Problem/Dx

Clinical Data

Active  
Medications

Test/Exams

Social  
History

HbA1c (%)



10.7

Blood Pressure

LDL mg/dL

Weight (lbs)

Body Mass Index (%)

### Encounters

Recent Appointments (4)

Recent ED/Urgent Care Visits (2)

Recent Admissions (1)

Reason

Source

Diabetes

Claims

EMR

2012

### Patient Risk Scores

Description

Risk

Date

Admission Risk: 3 months

21%

09/17/2012

Cost: 12 months

2.0

06/22/2012

### Program Management

Suggested Programs

Enroll

Program Name



Readmission Prevention



Diabetes Mellitus

Caldwell, J

# Case study: quality performance



## Current – 2016 Quality Results

Medicare	UnitedHealth Care	Aetna	Anthem	ConnectiCare
<b>Shared Savings</b> <ul style="list-style-type: none"> <li>99.34% (2015)</li> <li>7th in the country (n ~440)</li> </ul>	<b>Medicare Advantage</b> <ul style="list-style-type: none"> <li>4.58 Stars</li> <li>Inconsistent/ inaccurate data &amp; reporting</li> </ul>	<b>Medicare Advantage</b> <ul style="list-style-type: none"> <li>80% of targets achieved</li> <li>7 of 8 targets achieved</li> </ul>	<ul style="list-style-type: none"> <li>Reporting needs further research</li> </ul>	<b>Medicare Advantage</b> <ul style="list-style-type: none"> <li>70% of targets achieved</li> <li>20% are within 5% of goal w/o suppl. data</li> </ul>

### Future State

- Meets or exceeds goal for 75% of MA metrics (stretch-80%)
- Improve MSSP score to 95% (current is 90%)

### Actions

- Improve adoption and use of central data system (ProCORE)
- Expand ProCORE to include new MSSP metrics in point-of-care alerts





### Alignment Opportunity

- Data and system integration
- Gap closure measure 'playbooks'

# Case study: quality performance



## Current – Q4 2016 Year / Year Results (MSSP segment)

Per Capita Costs		Hospital Admissions		Skilled Nursing Facility		Emergency Room	
	Cost per Covered Patient		<b>Admits:</b> -14.3%  <b>Re-admits:</b> -14.4%		<b>Admits:</b> -30.8%  <b>LOS:</b> -44%		<b>ER Visits:</b> -8.4%

### Future State

#### Reduce:

- MSSP SNF admits by 1.5% to reach 71 admits/k
- MSSP SNF LOS by 10% to achieve 18 day goal

### Actions

- Utilize acute care engagement specialists in key hospitals to influence discharge status & direct to preferred home health agencies
- Utilize SNF UMs in preferred

### Alignment Opportunity

- Integration of clinical data into Aerial, OptumOne
- Bi-directional interfaces with Allscripts
- Care management platform

Samples shown

# OptumCare – a new kind of delivery system

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- **Whole Person Care – Whole Population Care**
- **Transforming primary care and improving coordination of care**
- **Ambulatory, community based, physician led**
- **Multi-generational population health models**
- **Meeting local markets where they are – and developing a common platform**
- **Recognize social determinants and expand services**
- **Leverage the accumulation of health services, data and technology and apply it for meaningful use**

## Quadruple Aim

**Quality**

**Affordability**

**Patient  
Experience**

**Provider  
Experience**





## R&D for Value at Scale

Our research starts  
with the **Problems  
Expressed by Our  
Customers and  
Demonstrated in Our  
Data ...**



## Leading to Real World Solutions

Chronic  
Conditions



High-Cost Drugs  
and Treatments



Disruptive Care  
Models



Research and  
Data Analytics



Engage  
Consumers





# A Disciplined Approach to Innovation

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**ID specific patient population**

**Test consumer and provider adoption**

**Evaluate clinical and economic outcomes**

**Drive adoption**

# Phase 5 research

## THE CHALLENGE

- Data on drug/device effectiveness is cornerstone of pipeline
- Populations studied in clinical trials can differ greatly from those who eventually use the drugs
- Substantial need to understand effect of treatment regimens
- Desire to evaluate the real-world effectiveness, duration of impact and the costs of care.

## Our Approach



Develop data infrastructure to develop insights about new drugs/devices and inform clinical/policy decisions



Develop registry framework using existing secondary data assets (i.e., administrative claims, lab data and prior authorization)



Academic partnerships to examine pharmaceutical use and effectiveness in driving real-world outcomes

# Type 1 diabetes care transformation

## THE CHALLENGE

- T1D is a chronic illness that affects children and adults
- It is difficult to manage - patients, parents and physicians all struggle to keep under control
- Providers normally make changes to a patient's diabetic care plan at a quarterly visit
- Based on retrospective data from pumps, meters, and hemoglobin A1c (HbA1c) levels
- Not able to make just-in-time adjustments

## Our Approach



Partnership with Children's Hospital of Minnesota (CHOM) - Pediatric Insulin Pump Study



Next- study adult Insulin injections



Development of a T1D monitoring service

# Evidence-based weight loss program

## THE CHALLENGE

- Over the next two decades:  
Obesity will increase by 33%;  
Severe obesity will rise by 130%
- Obesity increases risk of heart disease, stroke, type 2 diabetes and certain types of cancer
- Leading to higher spending for obese individuals: 42% more (~\$1,400 per year)



## Our Approach



Holistic –  
Health and  
weight loss

Patient  
Engagement

Social-based 16  
week program with  
12 mth follow-ups

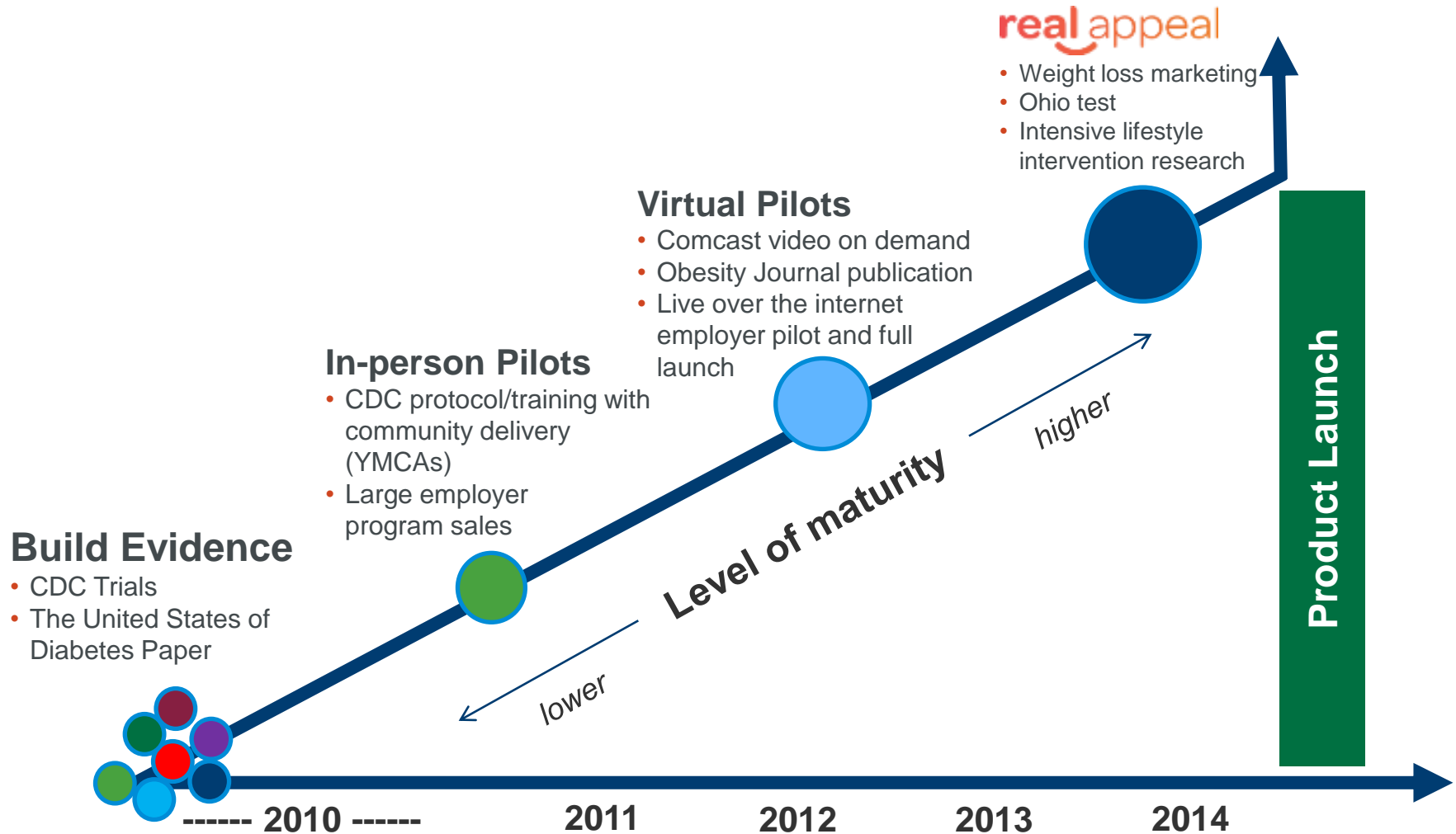
Small actionable  
changes with tools  
and resources

## TARGET OUTCOMES

- Weight loss (5-7% or more)
- Leads to 50-60% reduction in risk of conditions like pre-diabetes and type 2 diabetes
- Reduced medical spending by patient

# Real Appeal Product Development

From science to a scalable solution that people will engage in

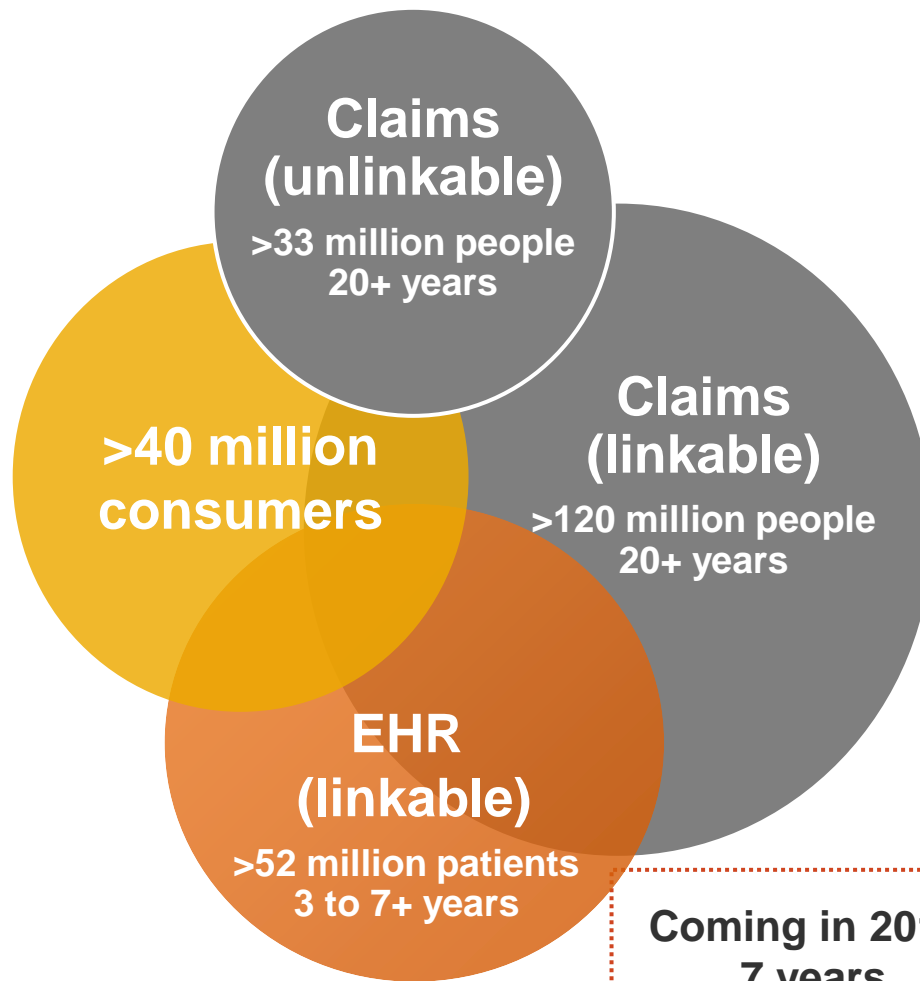




## The great enabler – applied analytics



# Data for the personalization of health care



## DEMONSTRATIONS

### Health Plan Manager

- Sponsor (Client) Analytics

### Natural History of Disease

- E.g. Diabetes

### Natural Networks

- Relationship optimization

Coming in 2017:  
7 years  
Medicare claims





Data expertise



Analytics & visualization



Convening people



Thought leadership

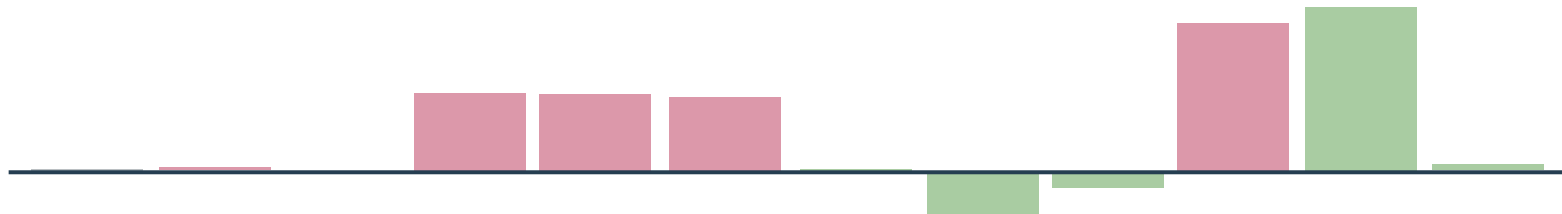




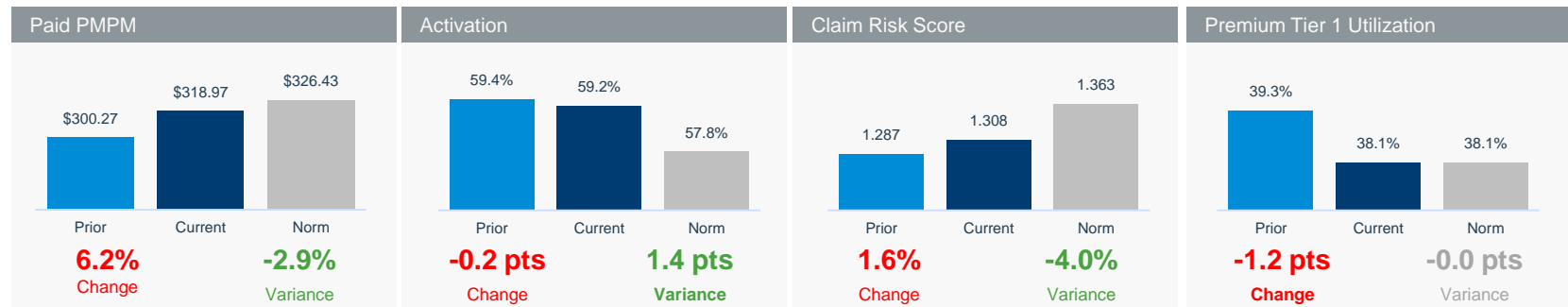
# Population health analytics for employer sponsors



## Summary of Changes



	Members	Age/Gender factor	Plan cost share	Paid	Paid PMPM	Covered PMPM	Network discount %	Days per 1000	ER Visits per 1000	Paid PMPM (CC)	Touched members	Nurse engagement
Prior	2.03M	1.047	84.2%	\$8.29B	\$300.27	\$363.97	53.5%	206.1	176.2	\$111.66	706,299	5.5%
Current	2.31M	1.052	84.1%	\$8.85B	\$318.97	\$387.34	52.6%	198.4	174.1	\$125.12	803,196	6.2%
Change	0.4%	0.5%	-0.1 pts	6.6%	6.2%	6.4%	0.3 pts	-3.7%	-1.2%	12.1%	13.7%	0.7 pts



Highly visual

Story telling

Integrated

Drill-down


# Alternative and dynamic visualization / customization

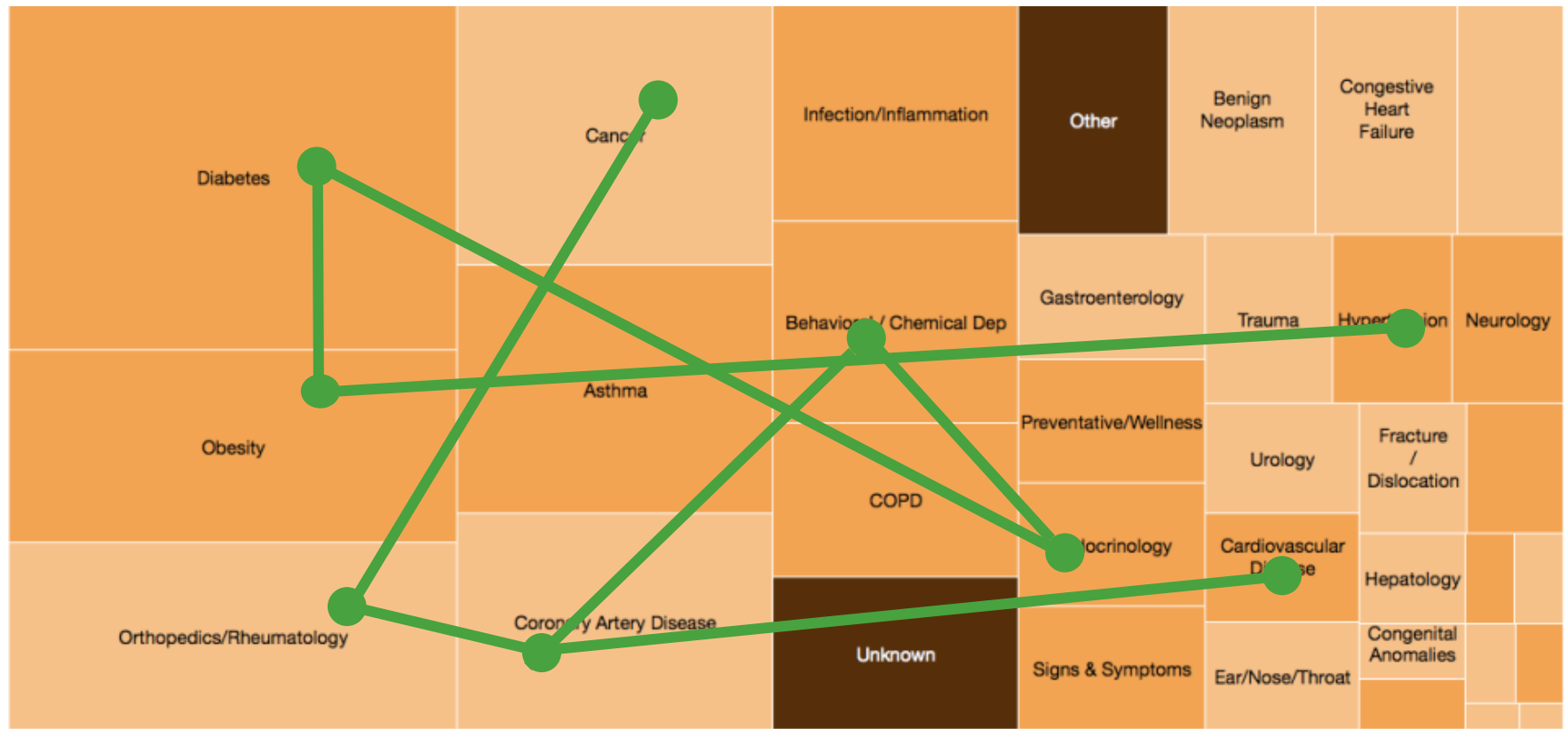


<b>11.70M</b> Members  11.52M in the prior period • 1.5% from prior	<b>1.124</b> Age/gender factor  1.119 in the prior period • 0.4% from prior • 3.4% from norm	<b>161.5</b> ER visits per 1000  159.0 in the prior period • 1.6% from prior • -20.8% from norm	<b>1.395</b> Claim risk score  1.400 in the prior period • -0.4% from prior • -1.3% from norm
<b>\$279.11</b> Paid PMPM  \$261.25 in the prior period • 6.8% from prior • -14.6% from norm	<b>\$340.34</b> Covered PMPM  \$318.20 in the prior period • 7.0% from prior • -13.9% from norm	<b>82.0%</b> Plain cost share (net)  82.1% in the prior period • -0.1 pts from prior • -0.7 pts from norm	<b>4.5%</b> Nurse engagement  4.2% in the prior period • 0.3 pts from prior • 0.6 pts from norm
<b>\$70.58</b> Pharmacy paid PMPM  \$70.42 in the prior period • 0.2% from prior • -4.1% from norm	<b>176.3</b> Days per 1000  181.9 in the prior period • -3.1% from prior • -23.5% from norm	<b>\$72.06</b> Paid PMPM (CC)  \$63.16 in the prior period • 14.1% from prior • -16.7% from norm	<b>38.4%</b> Premium provider utilization  39.7% in the prior period • -1.3 pts from prior • -0.2 pts from norm
<b>Interactive</b>	<b>Customized</b>	<b>Monthly trends</b>	<b>Norms</b>

# Addressing metabolic / weight related conditions – Typical large employer medical spend

\$ Spend by primary condition.

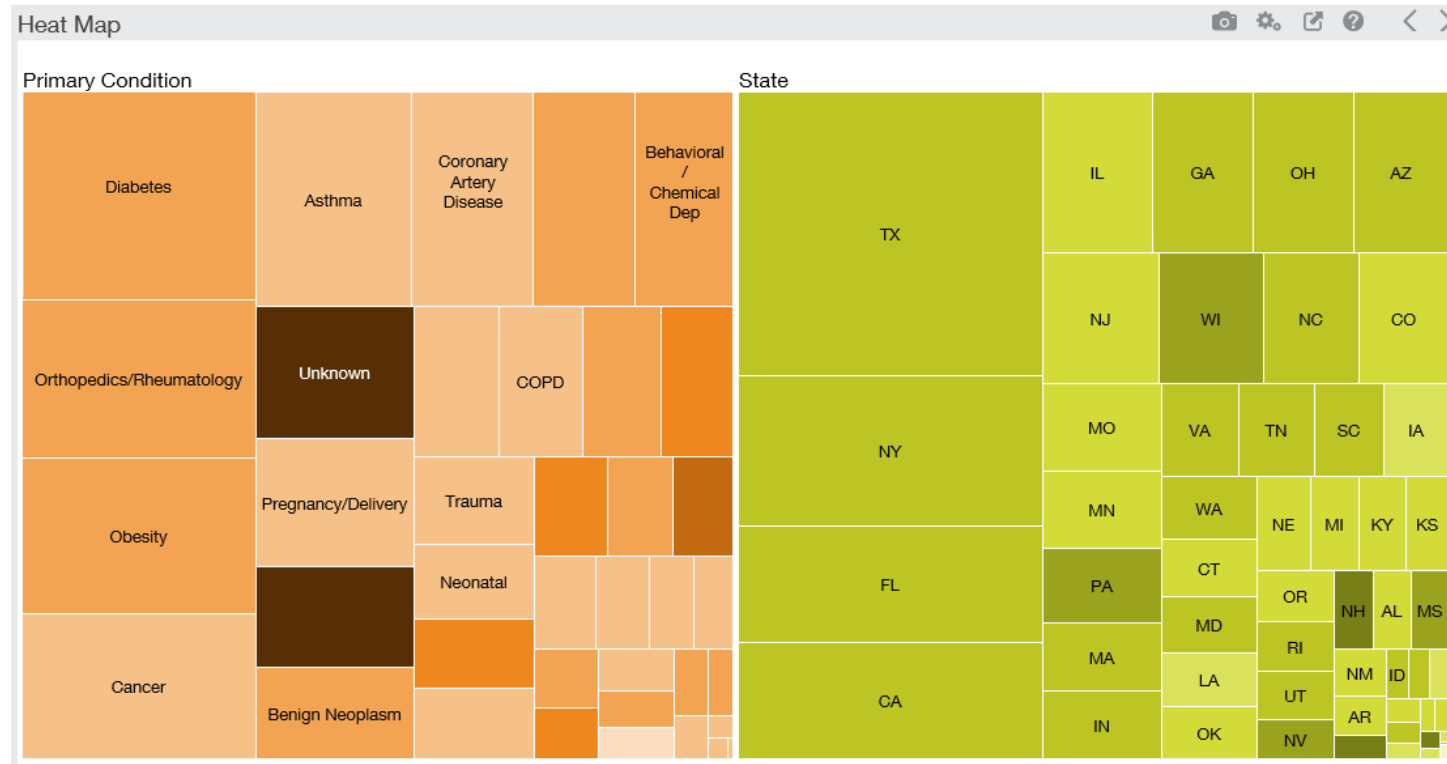
 >50% of Medical Costs



Size of square = \$ spend.

Coloring represents intensity of cost growth year of year.

# Real time identification of emerging costs and risks



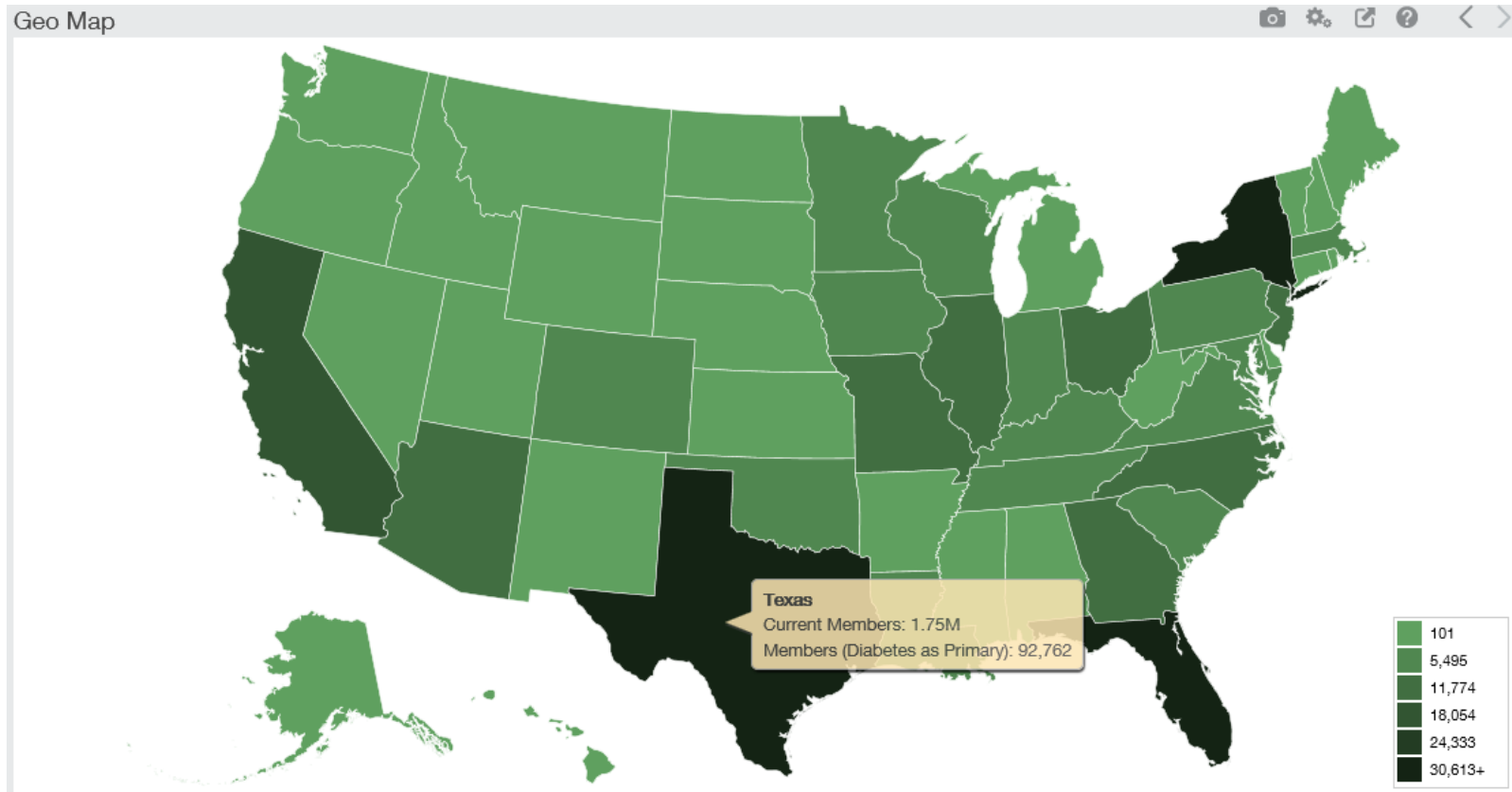
Heat mapping

Segmentation

Risk / costs

Markets

# Real time drill down to specific market opportunities



Diabetes

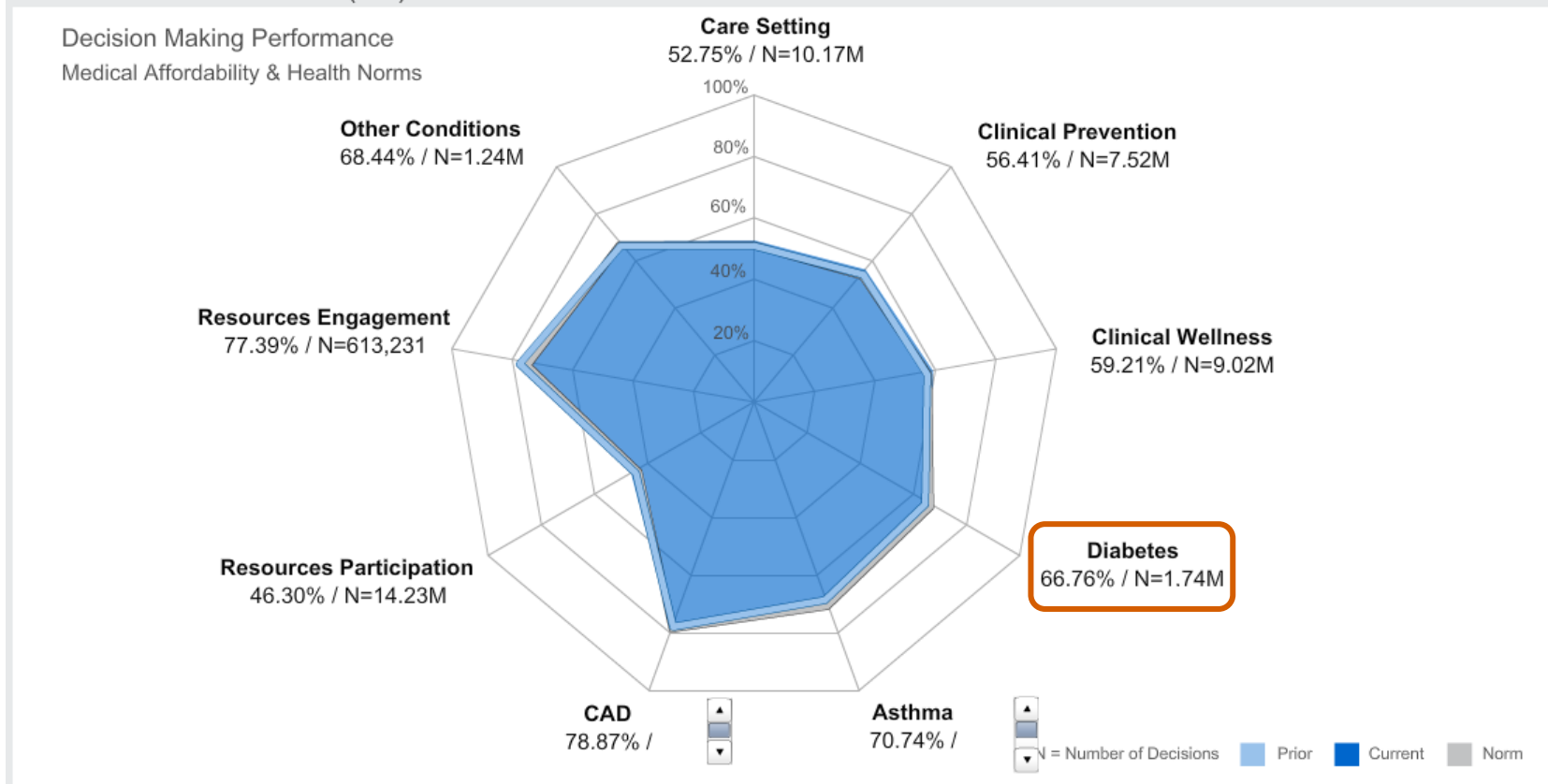
Zip code /  
county

Targeted  
populations

Monitoring of  
impact

# Member level decision-making measurement

## Consumer Activation Index™ (CAI)



Member  
decisions

Clinical

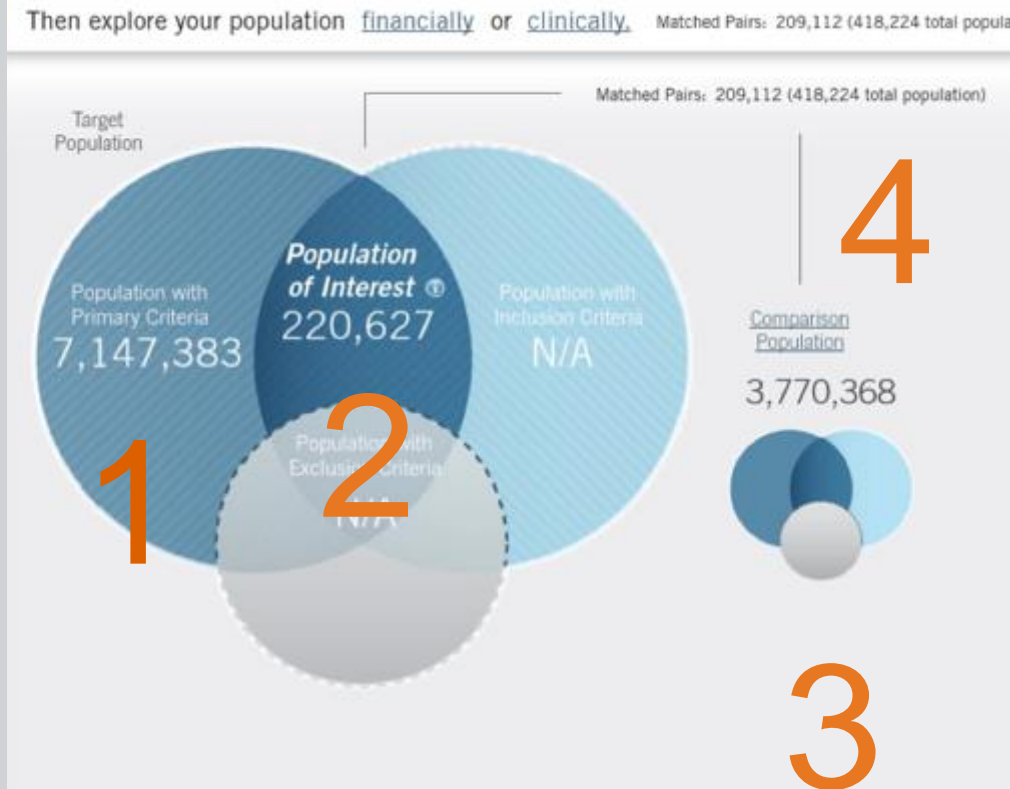
Financial

Evidence-based  
care

# Natural History of Disease - Analytics

## Identify the Population of Interest

- 1) Individuals with a diagnosis of Diabetes
- 2) Subset with 3 years of claims



- 3) Find a comparison population
- 4) Match at the individual level for age, gender, geography and coverage

# Natural History of Disease - Analytics

## Identify the Population of Interest

Show:

GENDER

AGE BAND

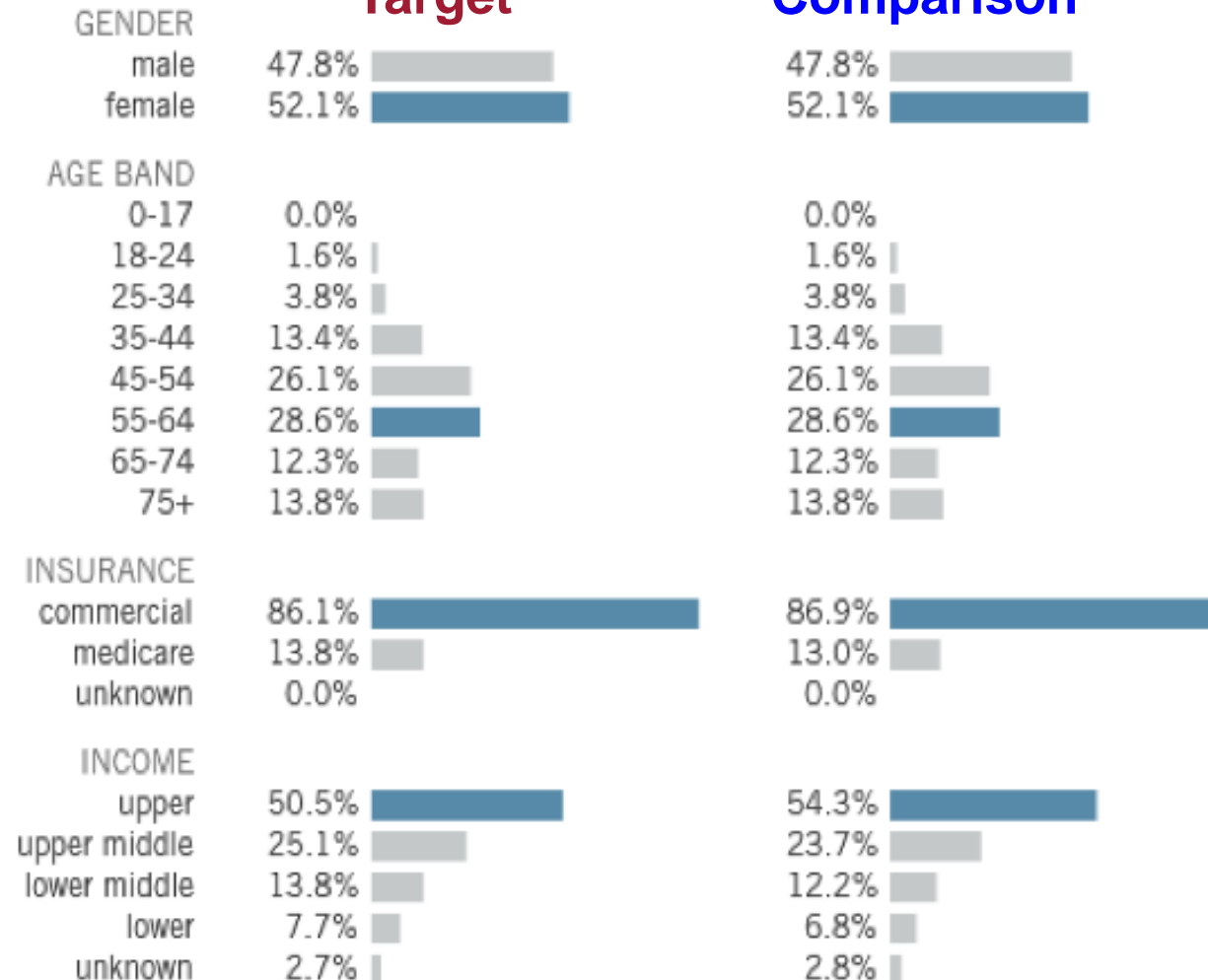
INSURANCE

INCOME

Population of Interest compared to Comparison Population

Target

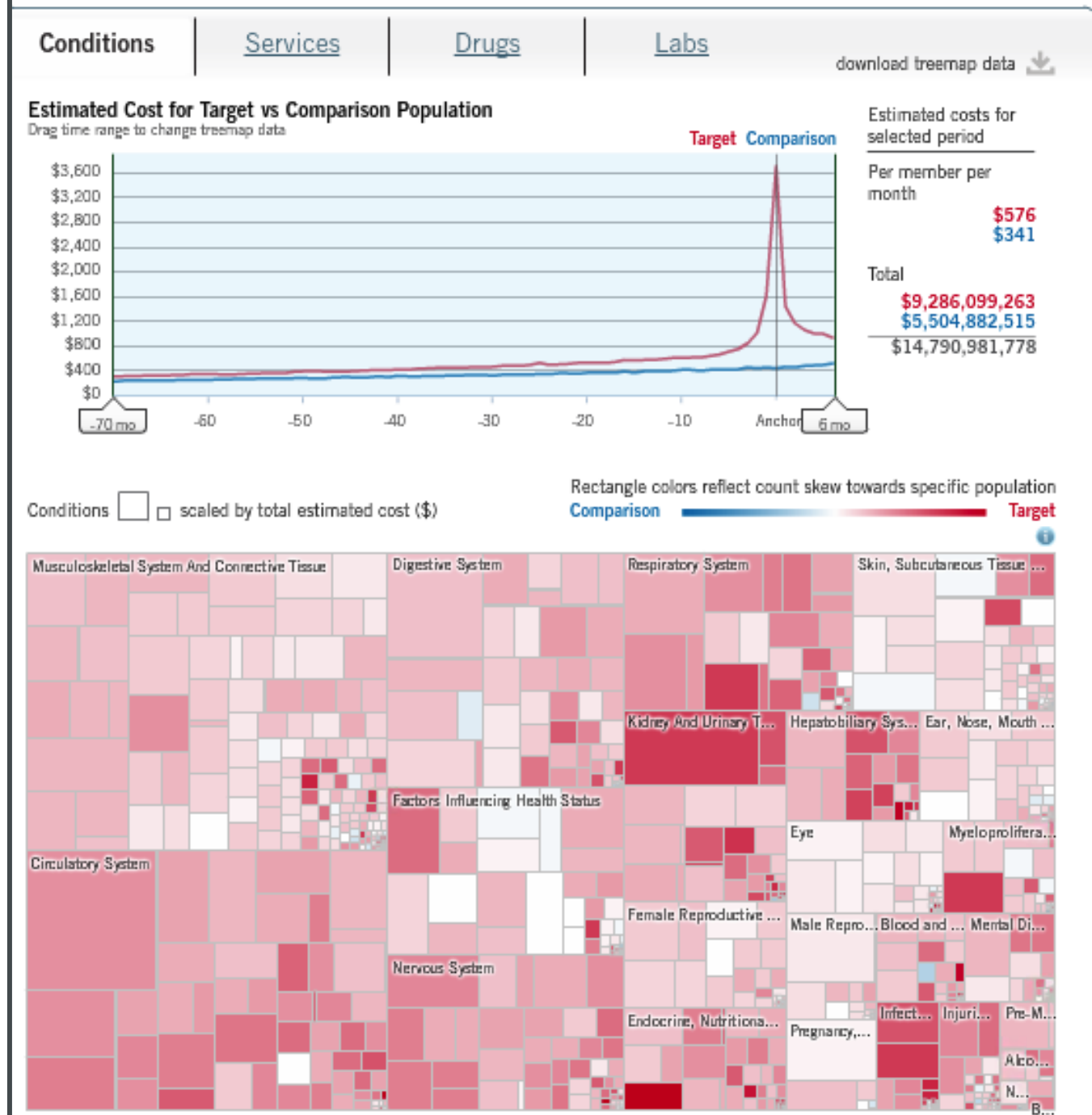
Comparison





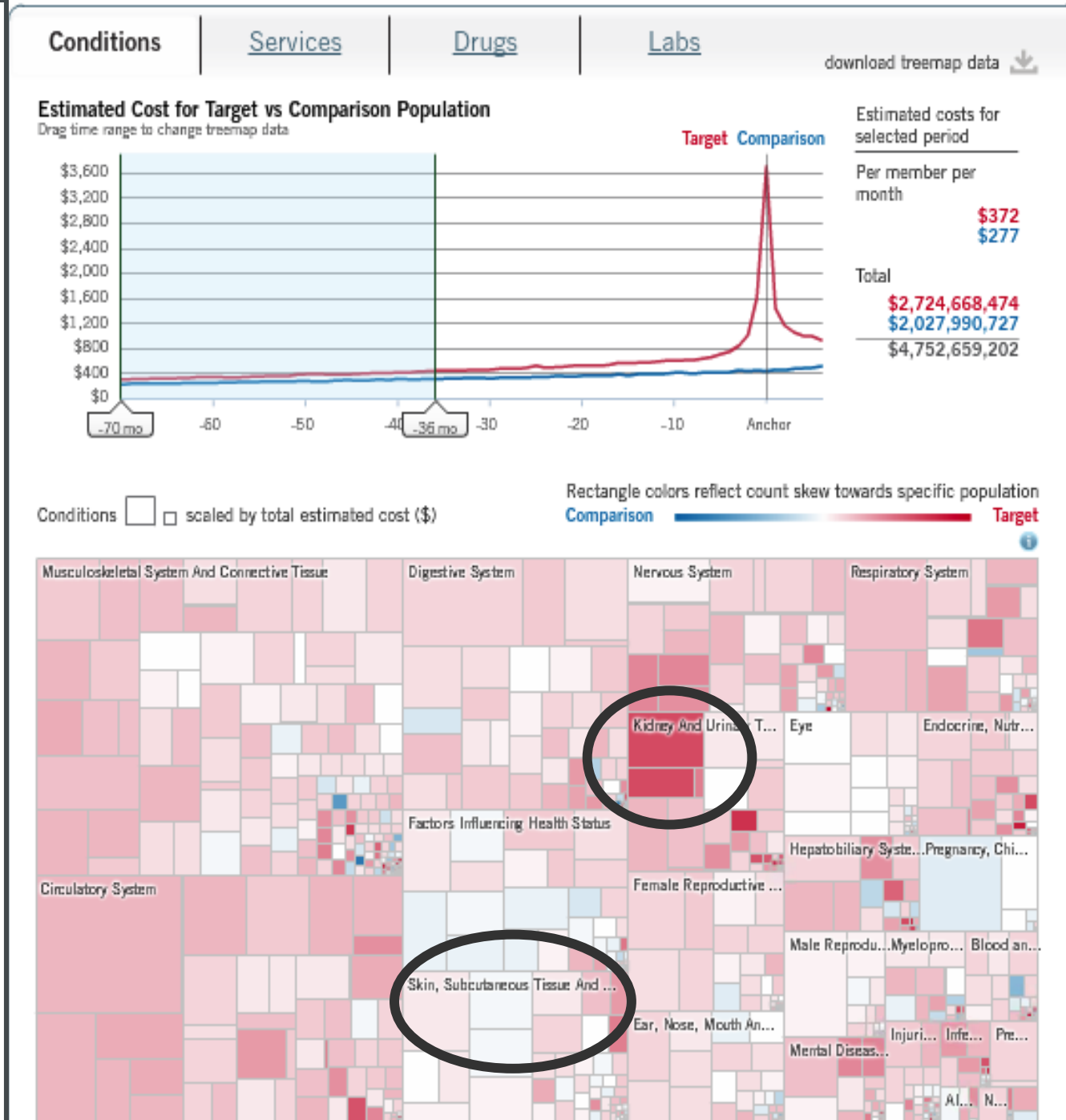
# History of 6 years to Diabetes onset and 6 months after

Average cost  
**\$576 / mth**  
vs  
**\$341 / mth**  
over total  
period



# Review [-6 Years to -3 Years] View

## Early Claim Markers



# Anchor Event Analysis

## High Cost Episode

Average cost  
**\$2,260 / mth**  
vs  
**\$455 / mth**

Conditions

Services

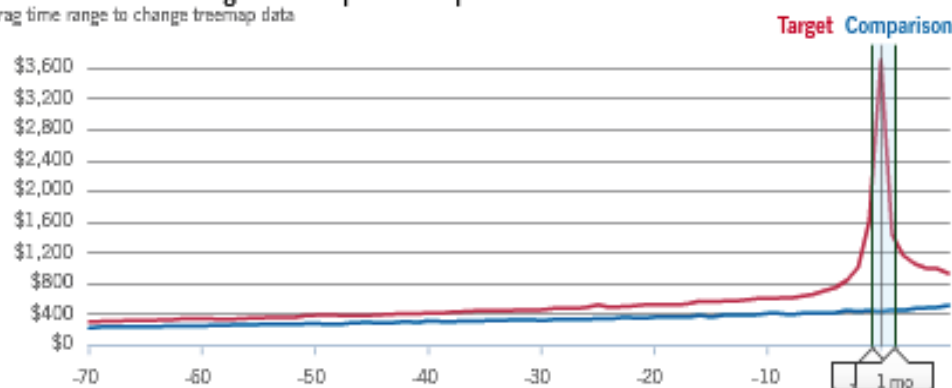
Drugs

Labs

download treemap data 

### Estimated Cost for Target vs Comparison Population

Drag time range to change treemap data



Estimated costs for selected period

Per member per month

**\$2,260**

**\$455**

Total

**\$1,417,807,813**

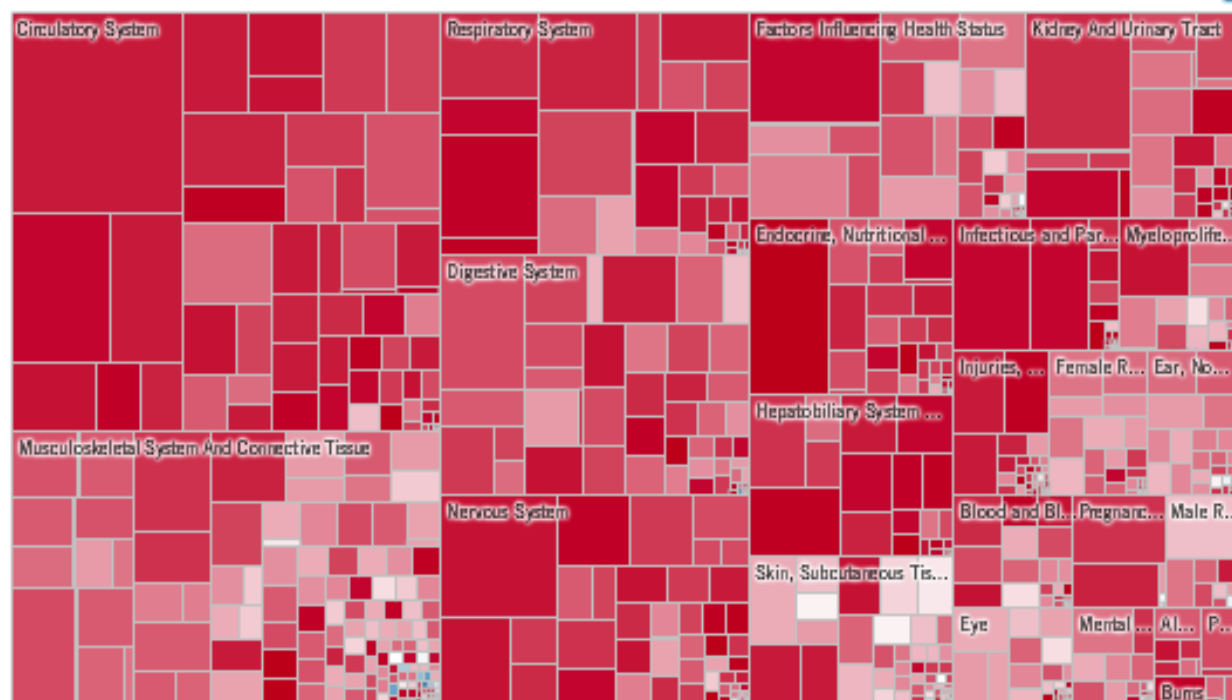
**\$285,767,660**

**\$1,703,575,473**

Conditions ☐ scaled by total estimated cost (\$)

Rectangle colors reflect count skew towards specific population

Comparison  Target



# Graph Analytics: Natural Networks™

Identify high performance physician referral patterns



## Situation

- Physician networks are critical to successful health plan operations
- Network performance relies on individual provider performance and hierarchies like practices and hospitals

## Opportunity

- How might we leverage informal networks of physicians and specialists to improve cost and quality for members?

# Closing thoughts – Value Driven Health Care

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- **Identify and scale what works best. De-promote what doesn't. Repeat.**
- **Redesign (simplify) clinical practice to maximize resource allocations and improve outcomes (Quadruple Aim).**
- **Build shared accountability with aligned incentives: Doctor – Patient – Sponsor - Policy.**
- **Invest in research that leads to scalable solutions that solve real world problems and that people want to use.**
- **Apply data to better inform the performance of the system and improve design features to drive higher quality choices.**



**Thank you,**

*Jean-François*

*Deneen*

*Todd*