

# Population Health: Managing Total Medical Expense

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MASSACHUSETTS  
GENERAL HOSPITAL



MASSACHUSETTS GENERAL  
PHYSICIANS ORGANIZATION

# AGENDA

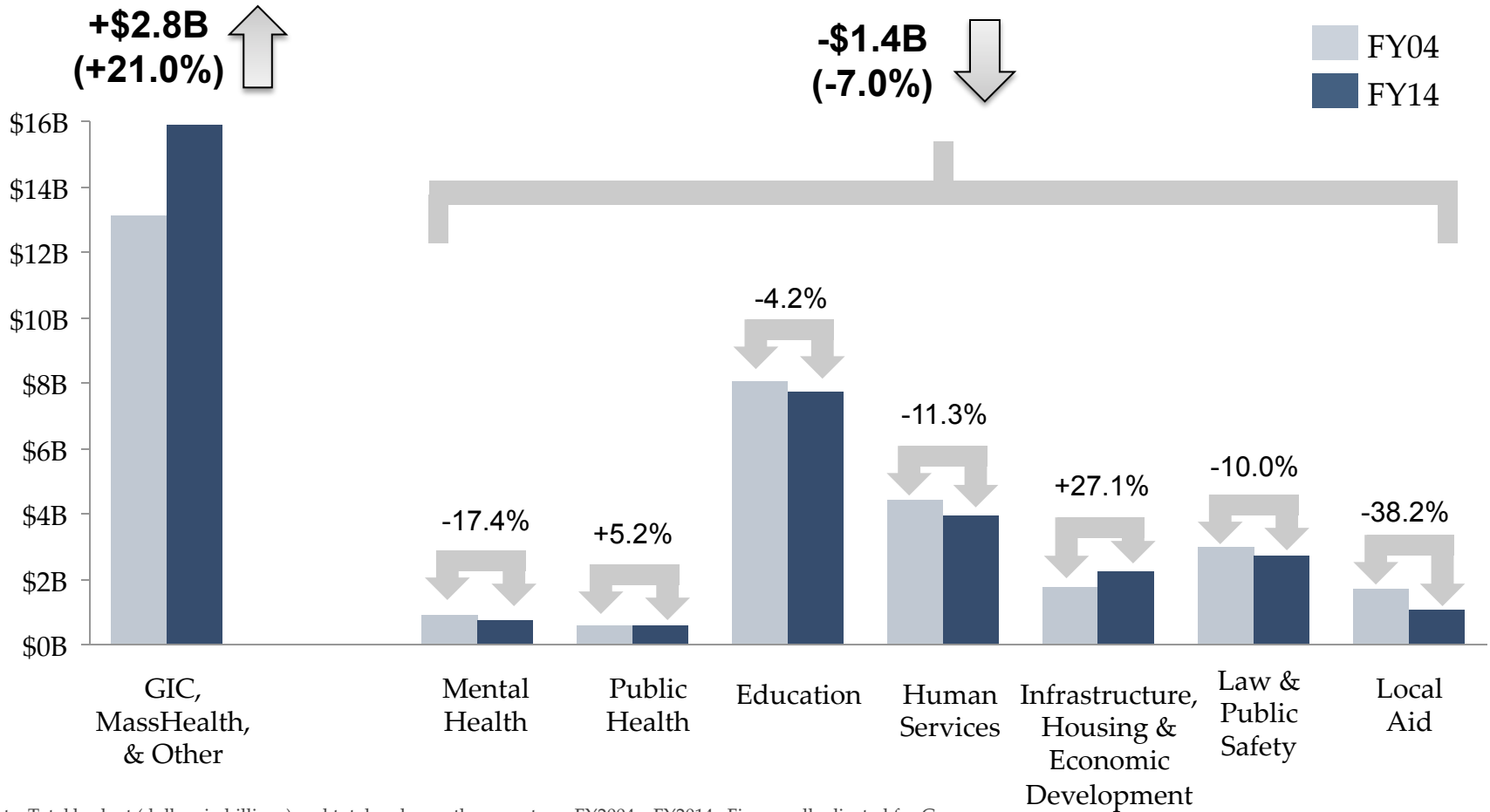
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**Massachusetts Trends**

**MGH – Population Health**

# Healthcare “Crowds Out” Other Spending

Massachusetts, FY 04 vs. FY 14, in billions



Note: Total budget (dollars in billions) and total real growth percentage, FY2004 – FY2014 . Figures all adjusted for Gross Domestic Product (GDP) growth; GIC = Group Insurance Commission. Source: Massachusetts Budget and Policy Center.

# Health Commission Findings

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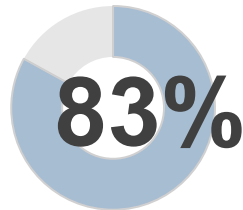
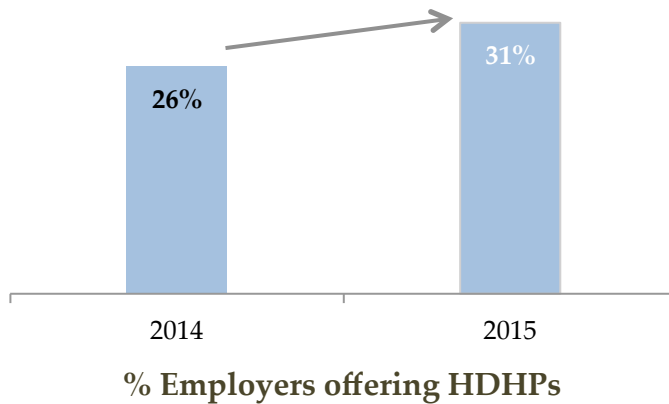
- **Consumers are**
  - Moving to tiered and limited networks
    - In 2013, 18% of the Big 3 and Fallon market
  - Moving away from HMO and toward PPO products
  - Choosing more high deductible products (\$1,000 annual deductible)
  
- **Plans are**
  - Still paying providers widely different amounts for care to patients of comparable health
  - Still tolerating variation in provider TME across the state and within regions
  
- **Providers are**
  - Taking on performance risk but the contracts are complex, hard to compare
  - Also taking on insurance risk without consistent protection against extraordinary claims and health status adjustment

<http://www.mass.gov/ago/docs/healthcare/2013-hcctd.pdf>

# High deductible health plans (HDHPs) continue to increase, however, at a faster pace nationally than locally

## National Trends

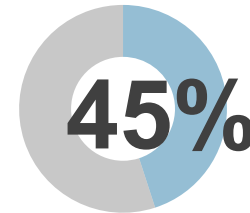
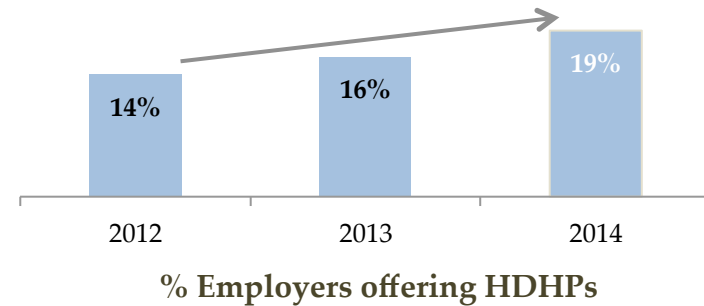
### HDHP Enrollment



Source: Pricewaterhouse Coopers. "Health and Well-being Touchstone Survey Results, June 2015"

## Massachusetts Trends

### HDHP Enrollment

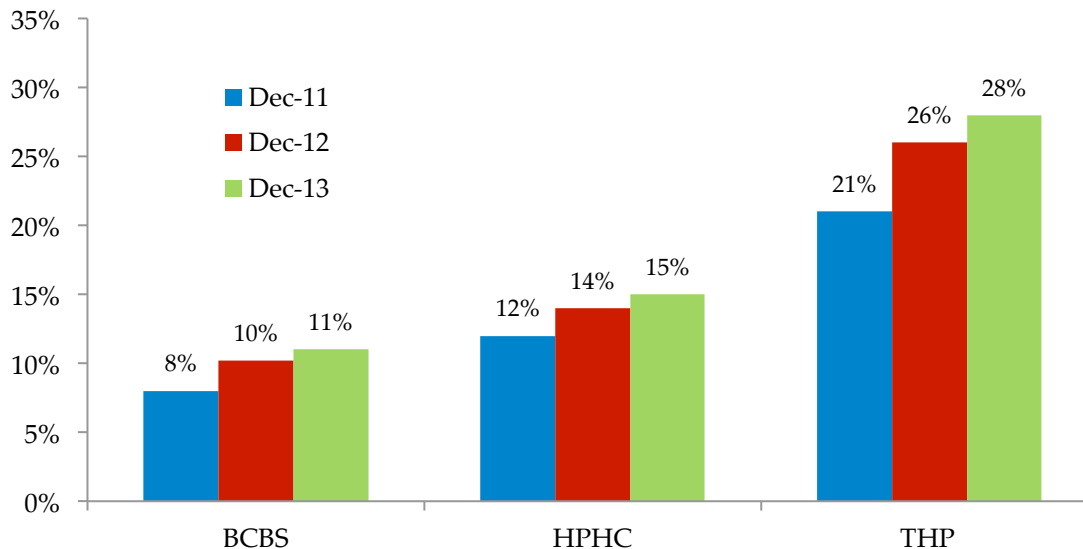


Source: CHIA Annual Report Series 2015: 'Massachusetts HDHP Plan Membership'

Source: <http://www.chiamass.gov/massachusetts-health-insurance-survey/>

# Growth of Tiered Products: Membership in tiered network products climbing, but not skyrocketing

**Percent Commercial Membership in Tiered Network Products at the Major Health Plans (2011-2013)**



Notes:

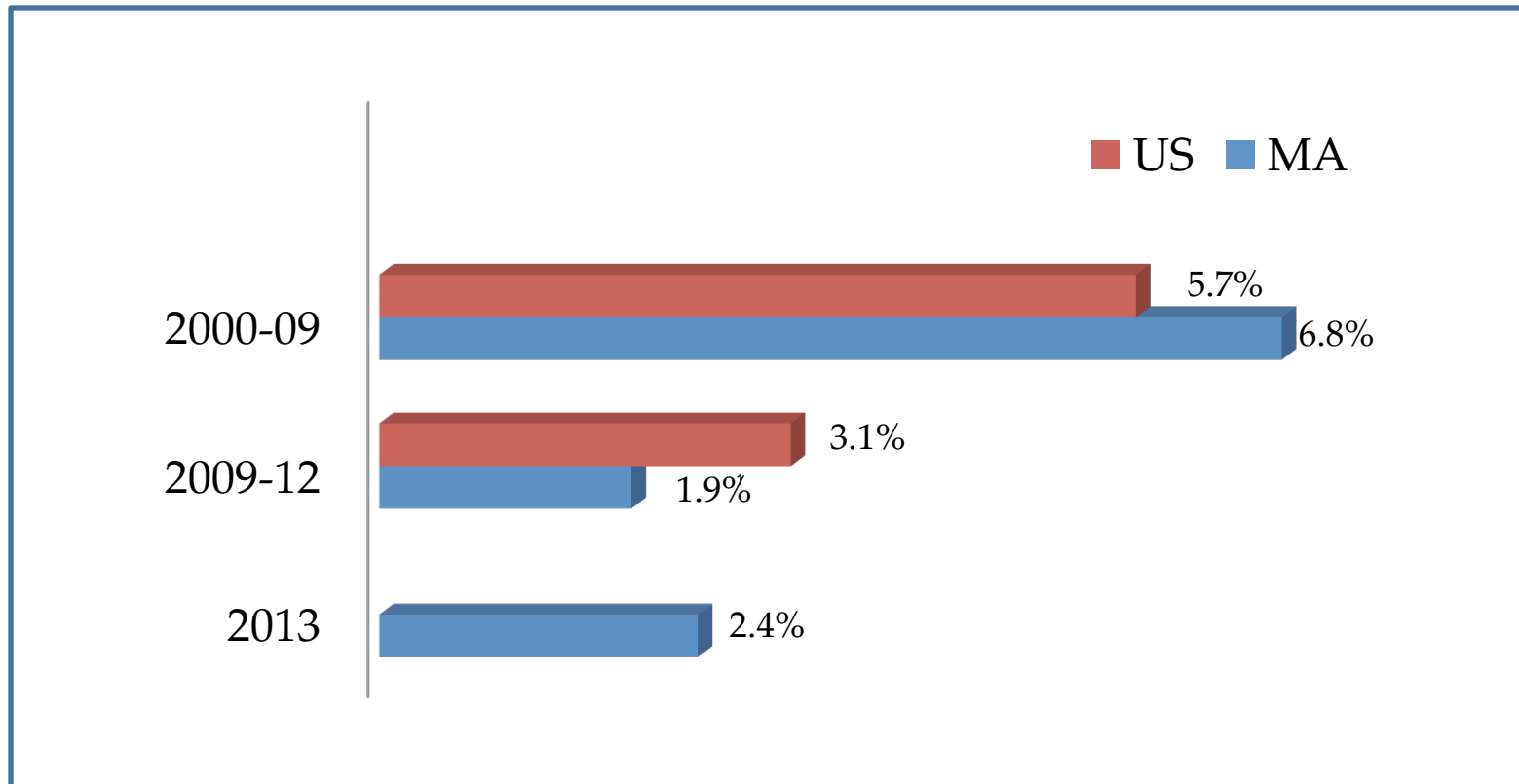
- Data taken from presentation given by the Office of the AG at the 2014 Cost Hearings on Tuesday, October 7th, 2014.

For Chart A:

- Tiered network membership reflects membership of MA residents in products that, in a given year, included financial incentives for hospital services (e.g. lower copayment or deductibles) for members to obtain in-network health care services from providers that are most cost effective.
- BCBS data reflects enrollment in Blue Options and Hospital Choice Cost Sharing.
- HPHC data reflects enrollment in Tiered Choice Net, GIC Independence, GIC Primary Choice (limited and tiered network) and Hospital Prefer to the extent the product was in place in a given year (e.g., HPHC introduced Hospital Prefer in 2012).
- THP data reflects enrollment in Your Choice, GIC Navigator and GIC Spirit (limited and tiered network).

# How Does Massachusetts Compare to the US?

Growth in personal health care expenditures per capita  
Nominal per capita compound annual growth rate



Source: <http://www.mass.gov/anf/docs/hpc/hpc-presentation.pdf>

# Population Health

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## What We're Facing...

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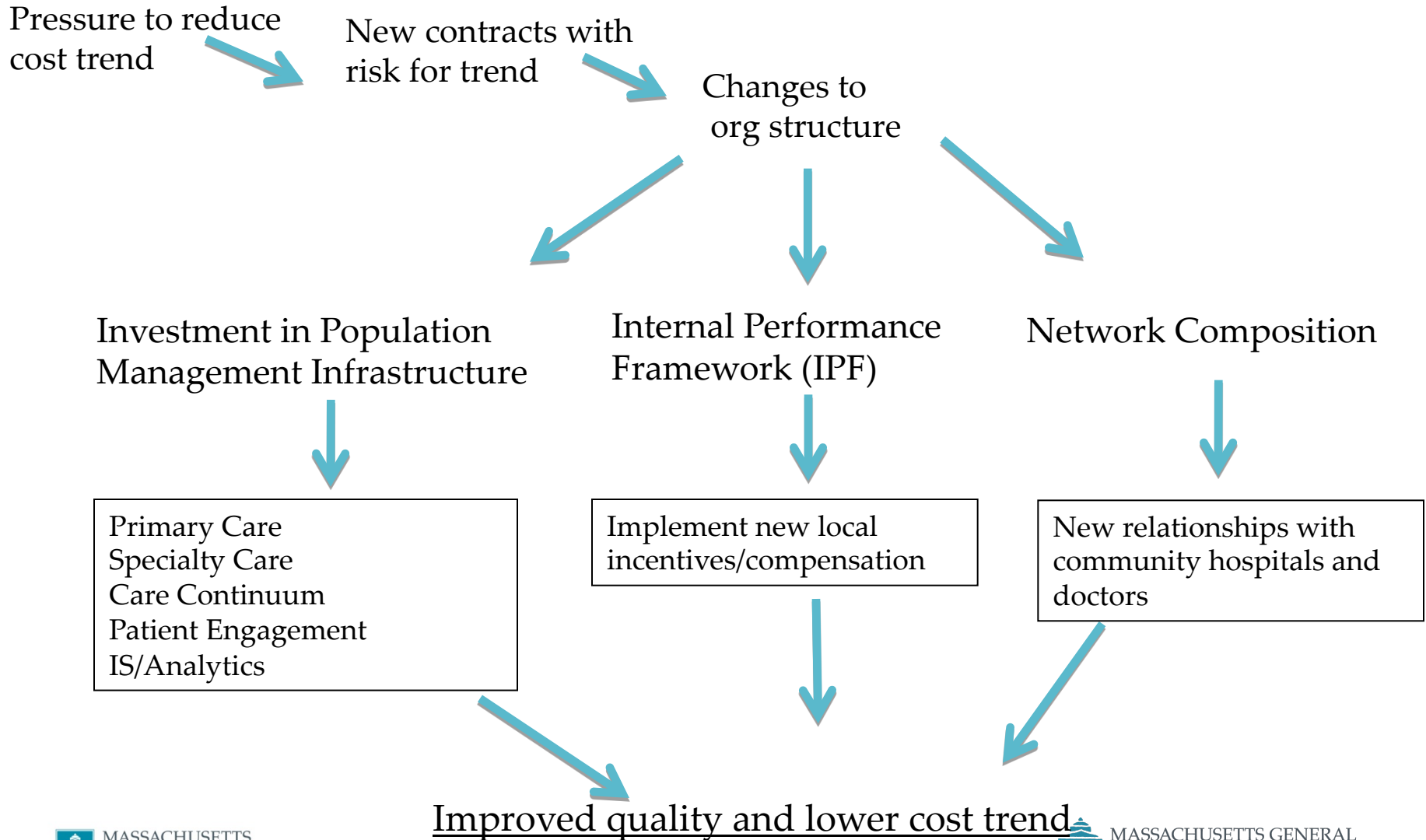
- The market is returning to techniques used during managed care in the 1990s [closed networks, budget-based risk, cost sharing, restriction of choice] – will this generate the same backlash?
- But...
  - The economic imperative is stronger
  - Government is proactive (Massachusetts 3.6% cap on healthcare cost growth)
  - Rate of change is slower (caps on increases, not cuts)
- And we have...
  - Better health IT and data for population management
  - Strategies and tactics that we know will improve care and reduce costs

# Implications for Providers

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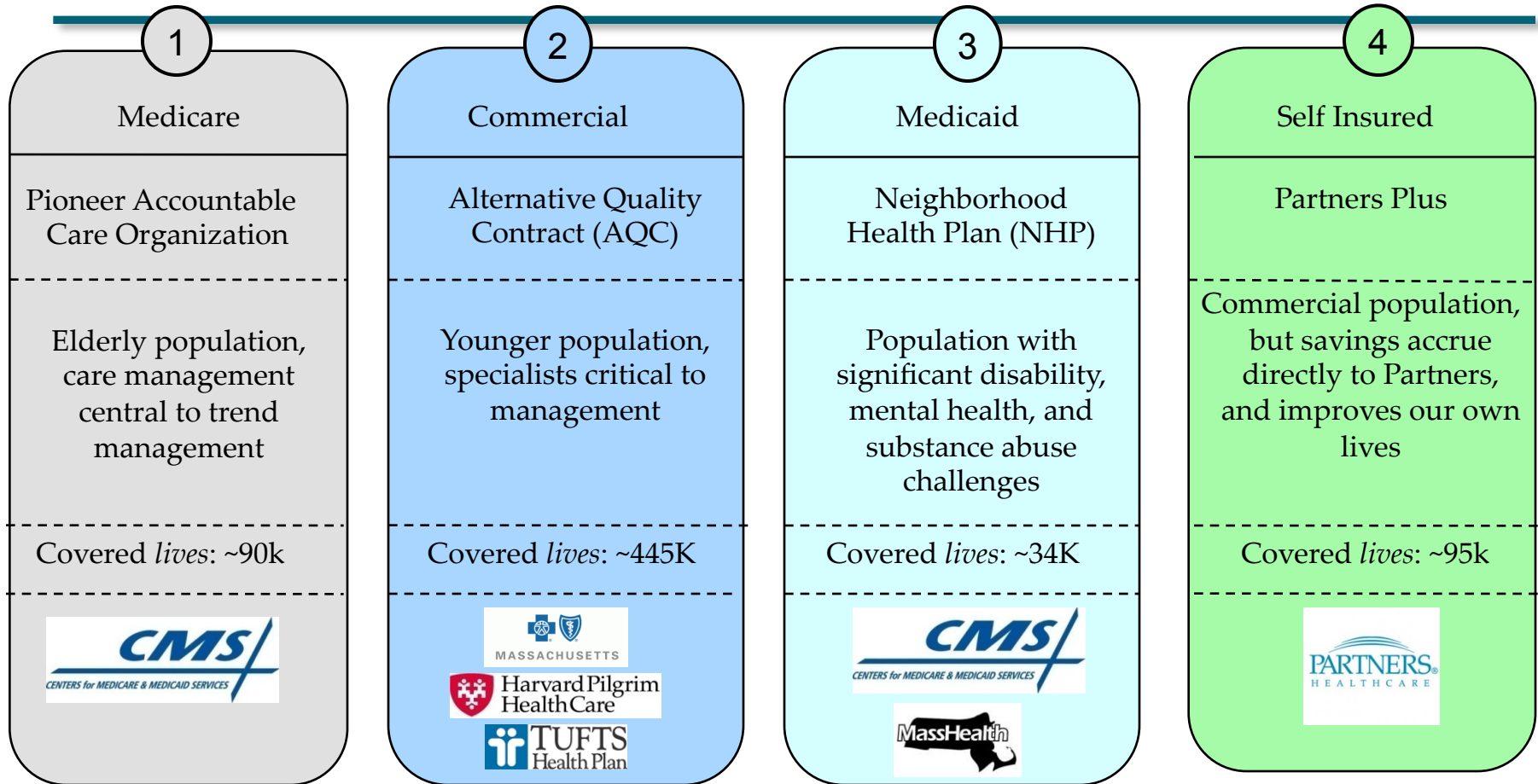
1. We need tactics that will be successful under any new payment model
2. How to make external incentives meaningful to our clinicians
3. Moving at the right pace
  - *Too fast:* we will lose the docs in the rush to implement – MDs attitude often creates the patient's attitude (managed care backlash)
  - *Too slow:* will mean not succeeding under the contracts and worsening the regulatory environment

# The Path We're Traveling



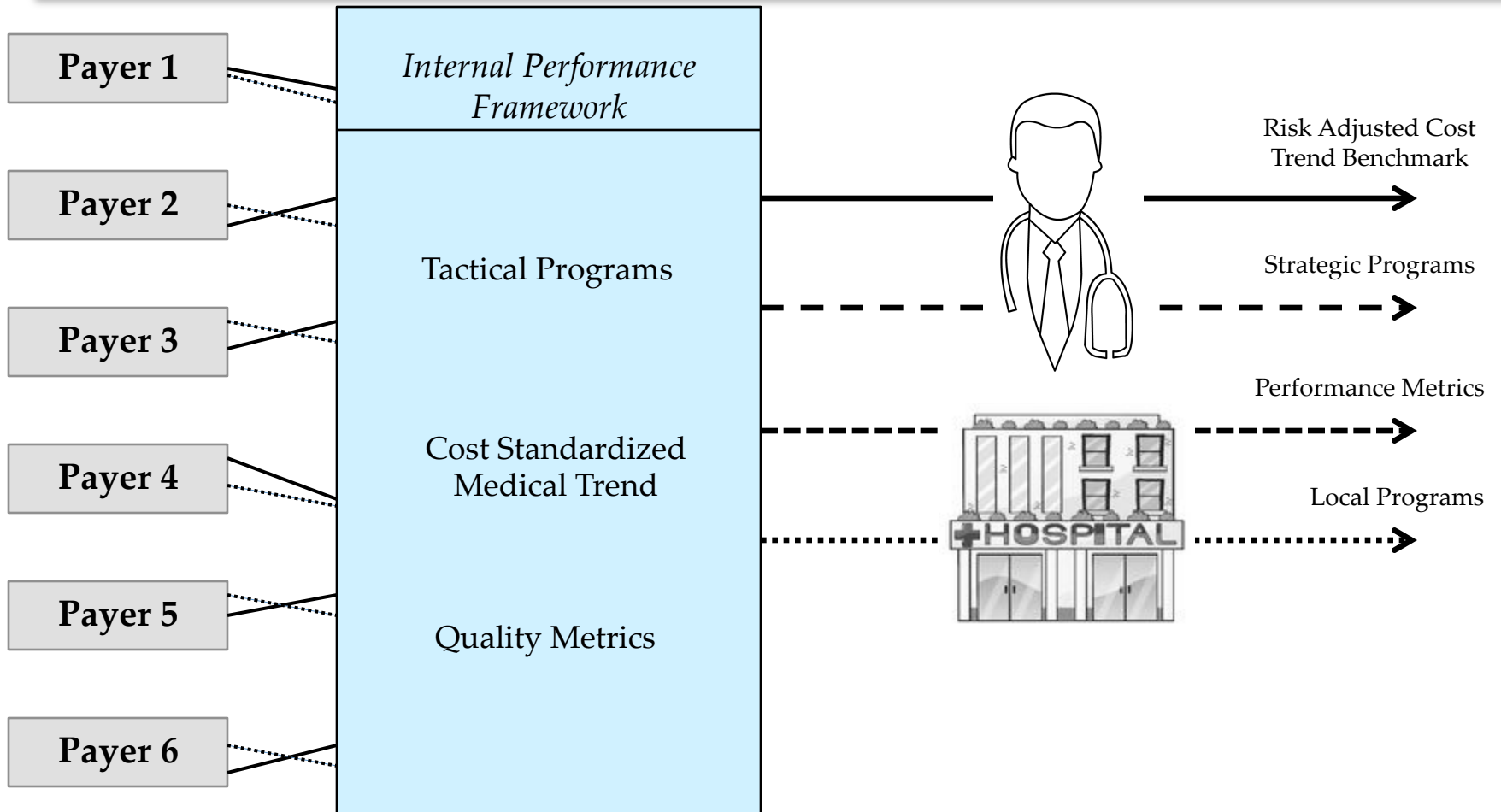
# Our Contracts

## *Lives under the Accountable Care Model*



Currently managing roughly 660,000 lives in various accountable care relationships

# How the Internal Performance Framework (IPF) Works



# 2015 Internal Performance Framework (IPF)

Implementing Tactical Programs (Quality/Efficiency)	Reducing Medical Trend	Quality Measures
40%	40%	20%
<ul style="list-style-type: none"> <li>▪ <b>Patient Centered Medical Home</b> <ul style="list-style-type: none"> <li>• Primed Status</li> <li>• NCQA Recognition</li> </ul> </li> <li>▪ <b>iCMP (High Risk Care Mgmt)</b> <ul style="list-style-type: none"> <li>• Process and outcome measures</li> <li>• Innovation</li> </ul> </li> <li>▪ <b>Specialty Programs</b> <ul style="list-style-type: none"> <li>• PCP/Specialty Collaborative Care Agreements and E-Consults</li> <li>• Specialty Programs (virtual visits, PrOE, PROMs)</li> <li>• Innovation</li> </ul> </li> <li>▪ <b>Hospital Metrics</b> <ul style="list-style-type: none"> <li>• Readmissions: Warm Hand-Offs</li> <li>• Timelines of Discharge</li> <li>• Completeness of Patient Instructions</li> </ul> </li> <li>▪ <b>Post-Acute Care Measures</b> <ul style="list-style-type: none"> <li>• Readmissions</li> <li>• Care Transitions</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ <b>Trend Target (adult &amp; pediatrics)</b> Big 3 Commercial: Cost Standardized Medical Expense (CSME)</li> </ul>	<ul style="list-style-type: none"> <li>▪ <b>Shared Risk: Hospitals and MDs</b> <ul style="list-style-type: none"> <li>• Adult Diabetes Outcomes (3)</li> <li>• Adult CVE and HTN Outcomes (2)</li> <li>• HCAHPS</li> </ul> </li> <li>▪ <b>Adult MD Only</b> <ul style="list-style-type: none"> <li>• Diabetes Screenings Composite (1)</li> <li>• Cancer Screenings Composite (2)</li> <li>• Depression Screening</li> <li>• Patient Experience Composite</li> </ul> </li> <li>▪ <b>Pedi MD Only</b> <ul style="list-style-type: none"> <li>• Asthma Composite</li> <li>• Well Child Visits</li> <li>• Patient Experience Composite</li> </ul> </li> <li>▪ <b>Hospital Only</b> <ul style="list-style-type: none"> <li>• HCAHPs (Hospital Patient Experience)</li> <li>• AHRQ Patient Safety Indicators (PSIs)</li> <li>• National Hospital Quality Measures</li> <li>• Hospital Acquired Infection Measures</li> </ul> </li> </ul>

# PHM Priority Programs

## Primary Care

Patient Centered Medical Home (PCMH)

High risk care management

Mental health integration

Virtual visits

## Specialty Care

Active referral management (e-consults)

Virtual visits

Procedural decision support (appropriateness)

Patient reported outcomes (PROMs)

Bundles (episodes of care)

## Care Continuum

Urgent care

SNF care improvement (network/waiver/SNFist)

Home care innovation (mobile observation)

## Patient Engagement

Shared decision making

Customized decision aids and educational materials

## Infrastructure

Single EHR platform with advanced decision support

Data warehouse, analytics, performance metrics, including variation

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# Integrated Care Management Program (iCMP)

## Problem

- Expenses are concentrated in a small % of patients with multiple chronic conditions (9% of Medicare, 3% of Medicaid, 1% of commercial)
- Self-managing multiple chronic conditions challenging without assistance

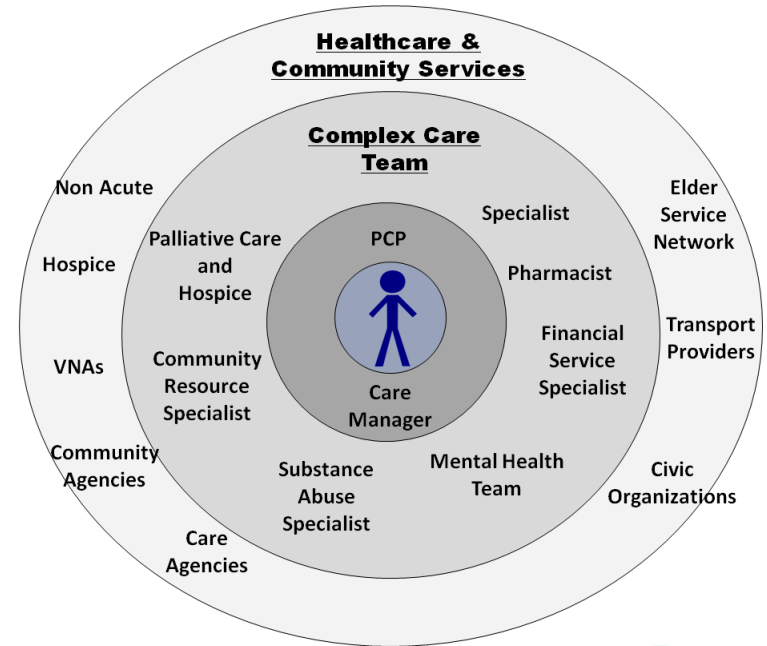
## Approach

- Identify high-risk patients and provide care management and individualized care management plan
- Demonstrated 7% cost reduction, reduced admissions, and 4% lower mortality

## Progress

- 10,560 high-risk patients actively enrolled with a care plan (total iCMP patients)

- Team
- 84.5 care managers
  - 20 social workers
  - 5 pharmacists
  - 10 community resource specialists



## Evaluation

- *Patient outcomes:* 20% lower hospital use than comparison and 25% lower use of ED
- *Savings:* For every \$1 spent, the program saved at least \$2.65
- *The Congressional Budget Office concluded it was the most effective of 34 programs evaluated*

# E-Consults

## Problem

- Increase in demand for specialist services has led to long wait times for appointments.
- 20% of referrals are for relatively simple questions that can be addressed by email.

## Approach

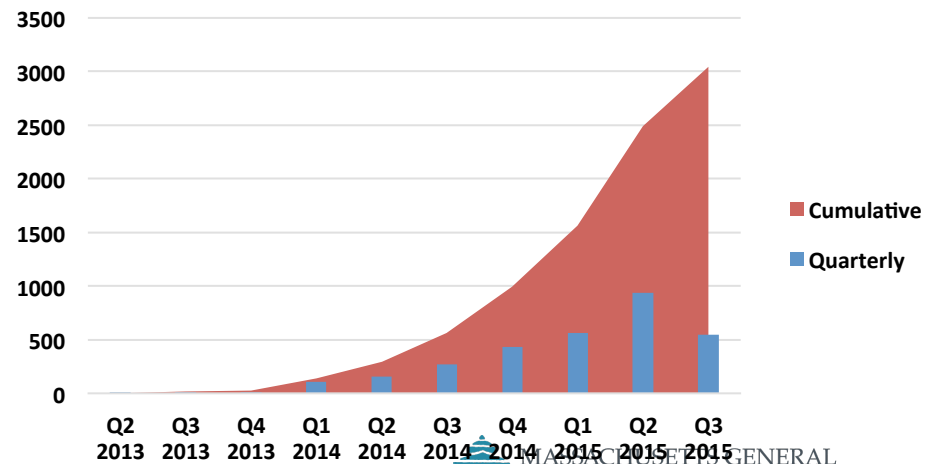
- Develop clinician to clinician consult program in which referring physicians can obtain input from specialists directly and rapidly, without requiring a face-to-face visit.
- Participating MDs are paid for their time.

## Progress

- 28 active specialty practices
- 3,022 E-Consults performed
- ~2,390 visits avoided (~\$599k in savings)
- 4-7 min per triage of referral

The screenshot shows a web-based form for an ambulatory referral to BVH Neurology. The form is titled 'Ambulatory referral to BVH Neurology' and has buttons for 'Accept', 'Cancel', and 'Remove'. It includes fields for 'Class' (Internal Ref.), 'Referral' (To provider:), 'Reason' (Specialty Services, with a sub-link for 'Specialty Services Required'), and 'Priority' (Within 2 weeks, Within 3 days (urgent), Within 2 weeks, Within 1 month, Elective). The 'Questions' section contains a table with columns for 'Priority', 'Answer', and 'Comments'. The table has 7 rows of questions, with the first row being '1. Subspecialty' and the second row being '2. Referral reason'. The 'Comments (F6)' field at the bottom is highlighted with a red circle.

**E-Consult Program Growth**



# Virtual Visits

## Problem

• Increase in demand for in-person follow-up visits results in long wait times and inconvenience (e.g. travel, time from work) and cost (e.g. parking, co-pays)

## Approach

- Develop two alternatives for in-person follow-up visits for patients:
  - Virtual Visits – real-time interactions between patients and providers using video
  - e-visits – web-based interactions using questionnaires to manage low acuity issues (e.g cold, ear ache, etc.) and chronic disease

## Progress

- 249 clinicians conducted virtual visit/e-visit
- 7,217 e-visits performed
- 4,386 virtual visits performed
- \$3M savings



Virtual Visits

e-visits

**Interview - Sore Throat**

**NOT FOR EMERGENCIES.**  
A webVisit is not for use for medical emergencies or urgent situations. If you think you or your family member may have a medical emergency, call your doctor or 911 immediately.

Have you been exposed to strep throat and/or mononucleosis?

Yes  
 No  
 Don't know

What have you done to treat your sore throat symptoms?

Over-the-counter cold/flu remedy (name and dose): \_\_\_\_\_

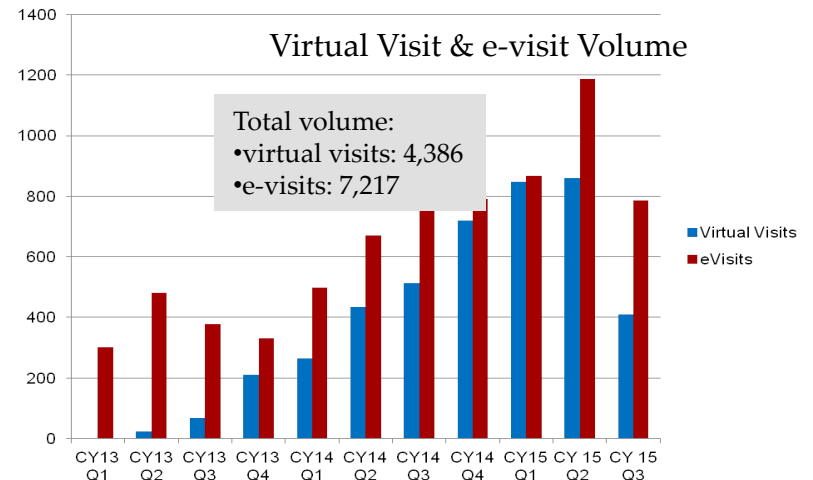
Over-the-counter pain medication (Tylenol, Advil, Aleve, etc.) (name and dose): \_\_\_\_\_

Herbal remedies or other supplements (name and dose): \_\_\_\_\_

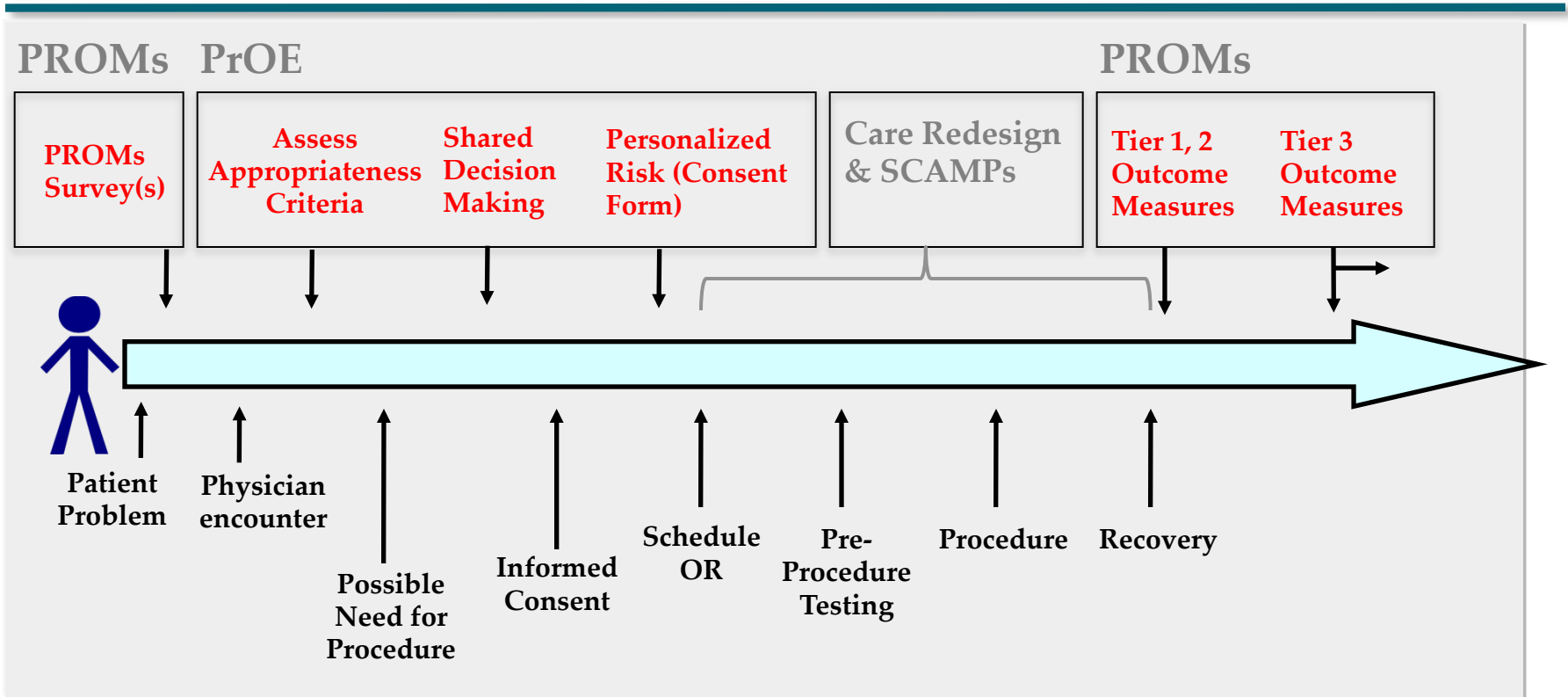
Gargle with warm salt water

Getting more rest, drinking more fluids

Other (please describe): \_\_\_\_\_



# The Idealized Patient Journey



## Measures that will distinguish us:

PrOE  
PROMs

- Appropriateness of procedure
- Symptoms (Pain, dyspnea, incontinence)
- Functional Status (ADL, Mobility, Recovery time/return to work)

Milford, CE, Hutter, MM, Lillemoe, KD, Ferris, TG. "Optimizing appropriate use of procedures in an era of payment reform." Submitted to Annals of Surgery 2014.

# Patient Reported Outcome Measures (PROMs)

## Problem

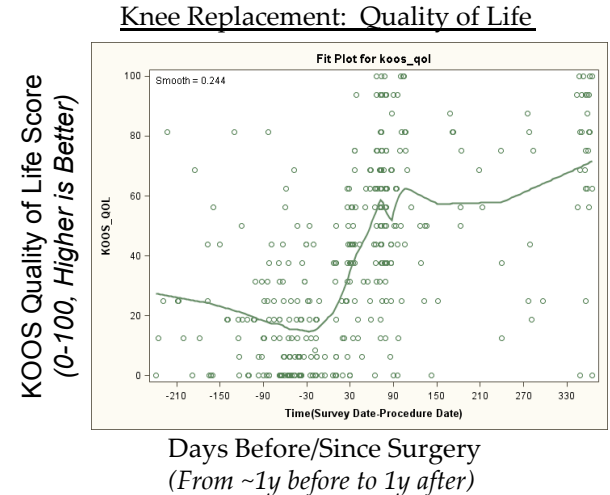
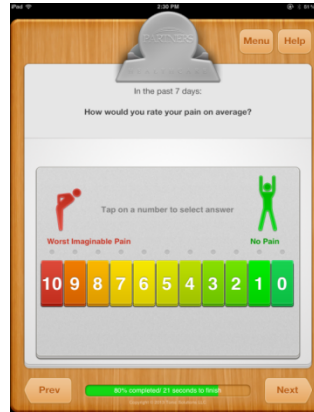
• Traditional measures (readmissions, infections) fail to measure value and improve symptoms, activities of daily living, and quality of life following an intervention

## Approach

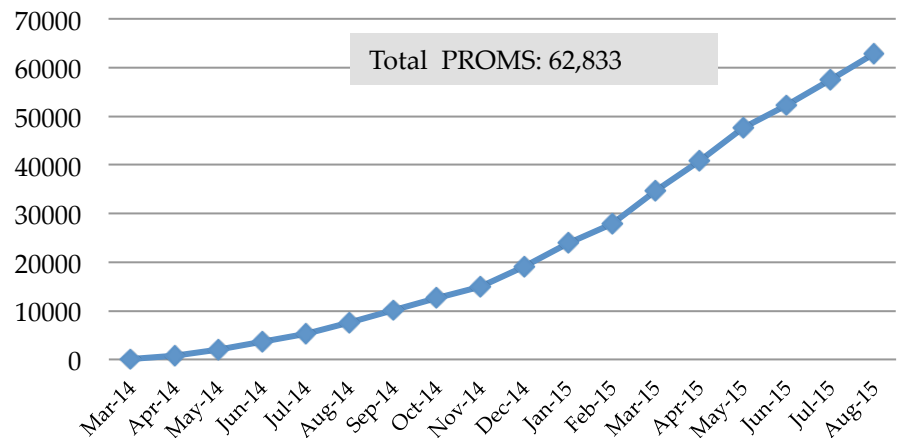
• Collect measurement of patient-reported outcomes on mobile devices in clinics and from home  
 • Use real-time trend data to inform patient care and aggregate data for decision-making, quality improvement, and demonstration of value

## Progress

• Nearly 63,000 surveys collected  
 • ~21 specialties, ~52 clinics across Partners



**Total PHS PROMs Collection**  
 March 2014-August 2015



# Procedure Decision Support (PrOE)

## Problem

- Overuse of surgical procedures, which is difficult to track and document, is costly and may not result in providing the highest quality of care to patients
- Payer utilization process burdensome and ineffective

## Approach

- Develop web-based decision support tool to assess the appropriateness of surgical procedures
- Improve decision-making process for patients and provide personalized consent form with risks/benefits
- Reduce administrative burden associated with prior authorization

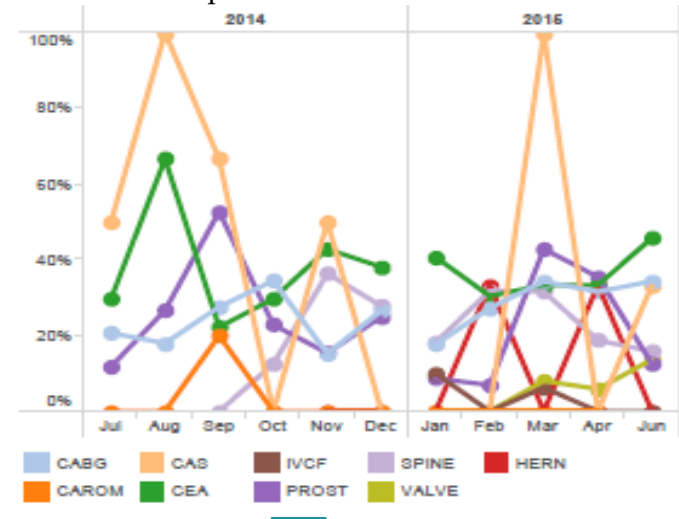
## Progress

- 15 practices implemented PrOE
- 6,264 PrOE assessments performed

PrOE Procedures	
Carotid Artery Stenting	Lumbar Spine
Carotid Endarterectomy	Total Hip/Knee Replacement*
Vena Cava Filter Placement	Prostate Biopsy
Coronary Artery Bypass Graft	Prophylactic Mastectomy*
Valve Replacement	Mohs*
Diagnostic Catheterization	Weight Loss Surgery*
Percutaneous Coronary Intervention	Incisional Hernia Repair
ICD/CRT Implantation*	

\*Recently completed, in process of launching to practices.

PrOE Adoption for Select Procedures



# Today, PrOE Assesses 7 of the 20 Most Costly Procedures

**Table 4. Most costly first-listed operating room (OR) procedures performed in U.S. hospitals, 2011**

Rank	First-listed OR procedure*	Aggregate costs for hospital stays, \$ in millions	Percent of aggregate costs for stays with OR procedures, %	Mean cost per hospital stay, \$	Number of stays, in thousands
<b>First-listed OR procedures</b>				<b>600</b>	<b>10,867</b>
1	Spinal fusion			7,600	465
2	Arthroplasty of knee			5,900	711
3	Percutaneous coronary angioplasty (PTCA)			3,800	517
4	Hip replacement, total and partial			7,200	464
5	Cesarean section			5,900	1,269
6	Colorectal resection			3,400	289
7	Coronary artery bypass graft (CABG)			3,700	166
8	Heart valve procedures			3,400	114
9	Cholecystectomy and common duct exploration			2,600	400
10	Treatment, fracture or dislocation of hip and femur			5,800	255
11	Procedures related to cardiac pacemaker or cardioverter/defibrillator			3,200	122
12	Hysterectomy, abdominal and vaginal			9,300	351
13	Debridement of wound, infection or burn			0,700	128
14	Amputation of lower extremity			1,200	121
15	Appendectomy			9,200	265
16	Small bowel resection			4,500	70
17	Laminectomy, excision intervertebral disc			4,500	203
18	Treatment, fracture or dislocation of lower extremity (other than hip or femur)			3,700	162
19	Lobectomy or pneumonectomy			3,000	84
20	Circumcision	1,885	1.0	2,000	955

**Nationally, these 7 procedures account for \$56.6 billion, or 55% of the total costs of the 20 most costly procedures in the US:**

- Spine fusion
- Spine laminectomy
- Knee arthroplasty
- Hip replacement
- PCI
- CABG
- Heart valve repair

\* Clinical Classifications Software (CCS), which groups procedures into clinical categories, was used in this analysis.

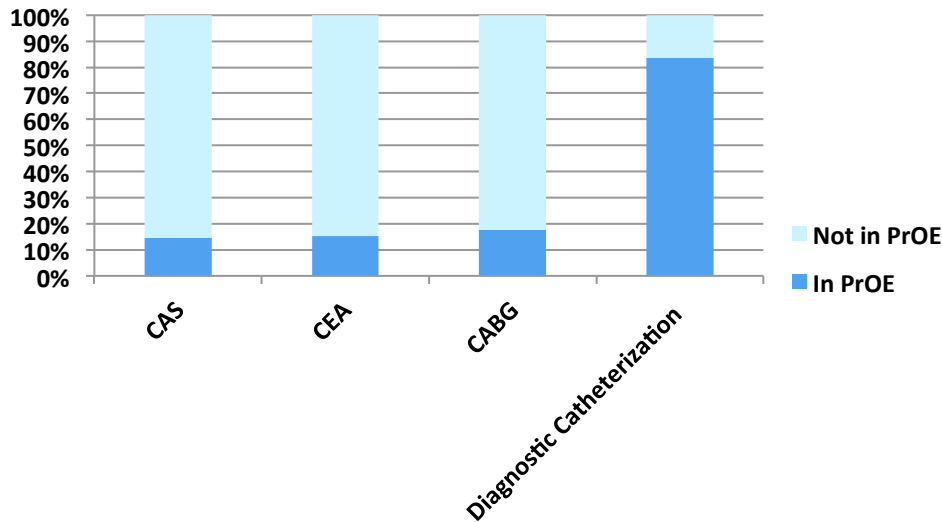
Source: Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), Nationwide Inpatient Sample (NIS), 2011



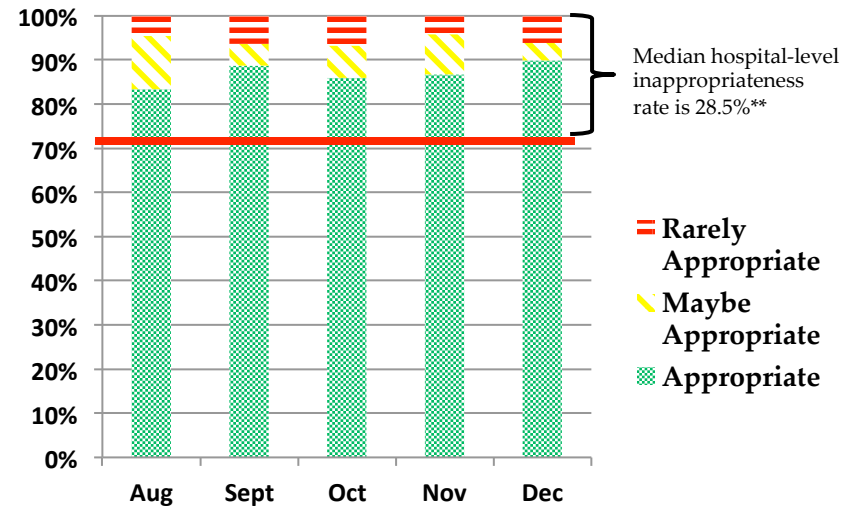
# Diagnostic Catheterization Appropriateness

## Pilot results in Cardiology

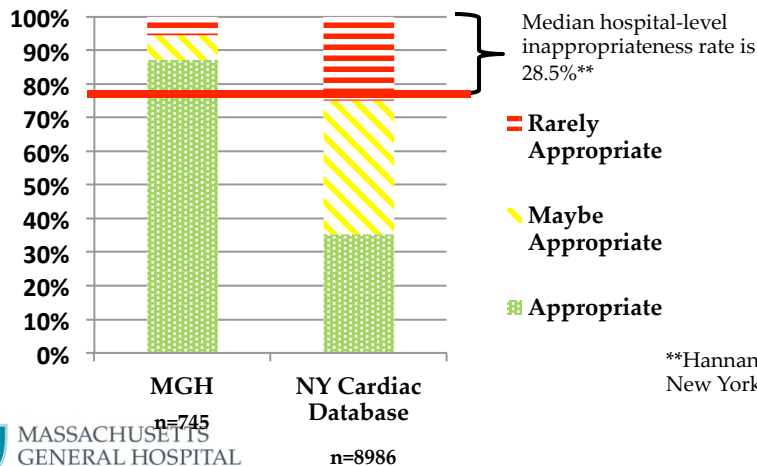
Percent of Procedures with a PrOE Assessment



Appropriateness Scores for Diagnostic Catheterization by Month



Appropriateness Scores for Diagnostic Catheterization at MGH vs. NY Cardiac Database \*\*



\*\*Hannan, EL, et al. Appropriateness of Diagnostic Catheterization for Suspected Coronary Artery Disease in New York State. CIRC INTERVENTIONS. January 28, 2014. 113.000741



# Partners Mobile Observation Unit (PMOU)

## Problem

•Some emergency department visits and admissions do not require such a high level of service, but alternatives may not be available

## Approach

•Provide patients with prompt evaluation and treatment at home by a nurse who monitors disease progression, pain, and treatment over short (2-3 day) periods

## Progress

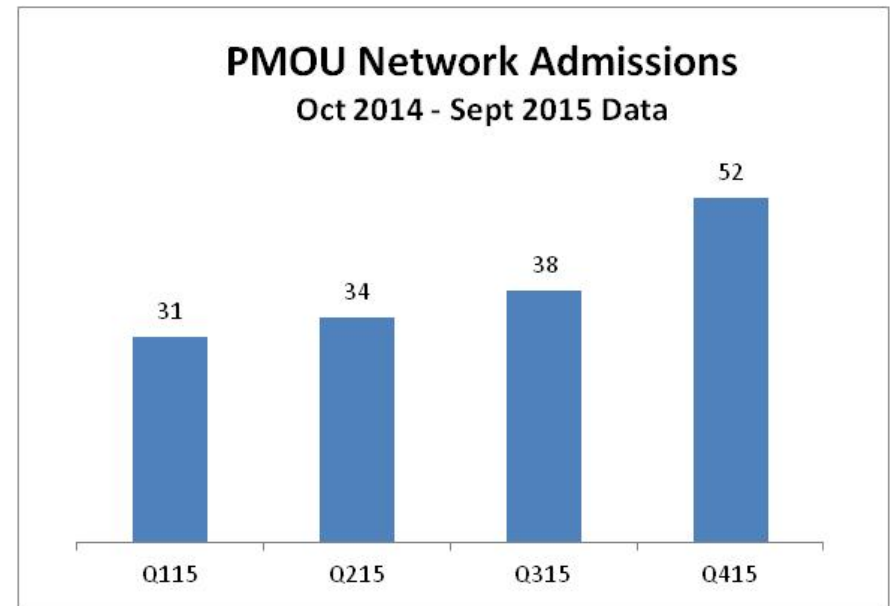
•158 patients admitted to program from Oct 2014-Sept 2015 (84% of referred patients)  
•~15% bounce back rate for hospitalization or emergency department within 30 days of referral

*Primary Diagnosis for PMOU patients include:  
Cardiac/Heart failure, Infections, Diabetes, Penal and GI/GU complaints*

PMOU Nurse



- Medication Reconciliation
- Coordinates with Provider/Care Manager
- Conduct/follow-up on labs/test results



# How Are We Measuring Progress -PHM Implementation Dashboard

Focus Area	Initiative	#	Metric	Type	Total	Prev Qtr	BWH	MGH	NSHS	NWH	Comm
Primary Care	iCMP	1.11	% of active patients with a Care Plan (adult)	Process	99.4% ↓	99.7%	99%	99%	100%	100%	99%
		1.12	# of patients discharged and removed (adult)	Process	5% -	5%	6%	1%	6%	2%	3%
		1.13	Medical admits per 1000 (adult ACO Only)	Outcome	635 ↓	640	690	578	648	668	
	PCMH	1.21	% of PCP practices engaged in culture advancement	Process	74% ↑	22%	100%	80%	65%	62%	75%
		1.22	% of PCPs passing full chart review	Outcome	26% ↑	25%	19%	18%	58%	15%	23%
		1.23	% of PCPs achieving NCQA recognition	Outcome	27% ↑	25.4%	22.2%	17.5%	57.5%	16.3%	25.6%
	Mental health Integration	1.31	# of active patients in Collaborative Care / covered lives	Process	0.07% ↑	0.06%	0.00%	0.11%	0.13%	0.03%	0.07%
		1.32	% of PCPs in Collaborative Care practice	Process	15% ↑	9%	11%	29%	21%	16%	8%
		1.33	Average D-Care encounters by PCP (Total encounters/Total PCPs)	Process	3.06 ↑	1.86	3.84	3.57	1.05	5.67	1.63
Specialty Care	Active Referral Mgmt/e-consults	2.11	Total # of active specialty practices	Structure	28 ↑	27	12	16	0	0	0
		2.12	Total # e-consults performed	Process	3,022 ↑	2,076	1,070	1,952	0	0	0
		2.13	Total # of avoided visits	Outcome	2,390 ↑	1,270	696	1,694	0	0	0
	Virtual Visits	2.21	Total # of clinicians who performed a virtual visit/evisit)	Structure	249 ↑	179	24	223	0	0	0
		2.22	Total # asynchronous visits (evisits)	Process	7,217 ↑	6,203	53	7,164	0	0	0
		2.23	Total # synchronous visits (video)	Process	4,386 ↑	3,712	102	4,275	0	0	0
	MyCare / PrOE	2.31	Total # of practices implemented	Structure	15 ↑	14	2	12	0	0	0
		2.32	Total # of PrOE assessments performed	Process	6,264 ↑	5,752	78	5,674	0	0	0
		2.33	% of PrOE assessments at MyCare Sites	Process	N/A -	19%	N/A	N/A	0	0	0
	Patient Reported Outcomes (PROMs)	2.41	# of PROMs collections	Process	63,877 ↑	41,595	34,802	13,382	5,174	7,104	3,415
2.42		# of PROMs collections at home	Process	1426 ↑	1055	928	337	93	68	0	
2.43		# of specialties using PROMs	Structure	21 -	21	16	8	4	4	2	

# PHM Implementation Dashboard

Focus Area	Initiative	#	Metric	Type	Total	Prev Qtr	BWH	MGH	NSHS	NWH	Comm
Care Continuum	CHF Tele monitoring	3.11	Total # of unique covered lives w/ telemonitoring (Since Sept 2014)	Process	173 ↑	155	38	76	37	18	4
		3.12	Avg patients per month enrolled	Process							
	PMOU	3.21	# of admissions (Since Jan 2015)	Process	103 ↑	90	74	29	0	0	0
		3.22	Program effective rate: (# of admits avoided)/Total # of admissions	Outcome							
	SNF Network	3.41	Length of Stay (ACO patients only)	Outcome	17.9 -	17.9	17.5	15.8	19.5	18.3	
		3.42	% of patients referred to network SNFs (ACO Only)	Process	48% ↓	52%	45% ↑	39% ↑	66% ↑	61%	
	SNF Wavier	3.51	Waivers per 1000 Bene (April 2014 - April 2015)	Process	3.4 ↑	3.1	2.3	5.4	2.3	3.4	1.8
	Palliative Care	3.61	Cumulative # of unique patients engaged in home-based palliative care	Process	166 ↑	146		166			
		3.62	# of completed goals of care conversations	Process	219 ↑	184	117	102			
	Patient Engagement	Vidscrip	4.11	Total # of Participating providers	Structure	200 ↑	113	57	74	0	1
4.12			Total # of Vidscrips videos recorded	Process	228 ↑	147	94	86	0	1	8
4.13			Total # of Vidscrips viewed	Process	13,076 ↑	8,997	2,923	3,556	0	225	245
Shared Decision Making		4.21	Total # of PHS practices visited	Structure	40 ↑	36	0	1	2	1	0
		4.22	Total # of clinicians trained	Process	548 ↑	493	0	46	1	7	0
		4.23	Total # of Decision Aids provided to patients	Outcome	9,893 ↑	7,905	0	1,739	52	179	17
PCOI		4.32	Total # of PCOI Website Enrollees (quarterly)	Structure	8,079 ↓	14,861	1,258	4,953	250	332	1,286
		4.33	Total # PCOI Patient Inquiries (Defined as # Sessions/Hits)	Outcome	366,481 ↑	304,257	39,831	252,024	11,733	13,978	48,915

# **MGH Strategy:** *We will be in two segments of business*

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## Population Health Management

**Improve the value of care by providing high-quality, cost-effective longitudinal care for a defined set of patients**

- Managing total medical expenses
- Revenue drivers becoming cost drivers
- Level of investment required (information systems, care coordination, mental health services, etc)
- Increasing # PCPs (expand access)

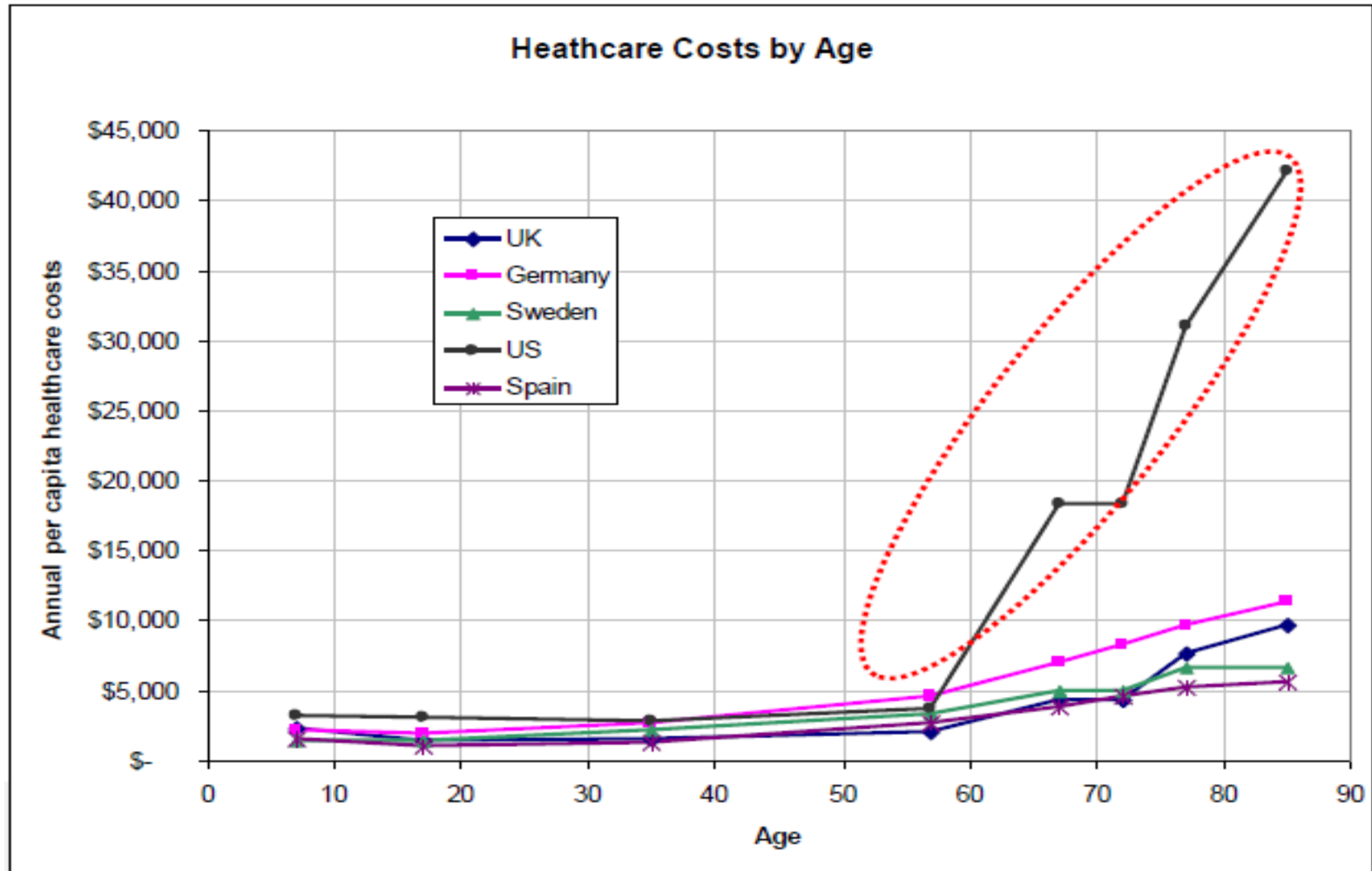
## Referral / Episodic Care Business

**Effectively and efficiently care for patients seen by our specialists for a defined episode of care**

- Other provider's population management efforts
- Provider and patient price sensitivity
- Developing pricing and marketing strategies to mitigate volume loss

### Keys Factors

# U.S. is Spending Much More for Older Ages



Source: Fischbeck, Paul. "US-Europe Comparisons of Health Risk for Specific Gender-Age Groups," Carnegie Mellon University; September, 2009.