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AND MASSACHUSETTS GENERAL HOSPITAL



Living longer, living healthier – working towards integrated healthcare: Lessons from the US Experience at Partners Healthcare*

** WORK IN PROGRESS*

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Outline for Today

- Introduction to Partners
- Background on Population Health Management at Partners
- Specific Programs
 - iCMP
 - Care Continuum
 - Home Hospital
- Is It Working?

System Summary

FAST FACTS

Partners HealthCare System



6,500 physicians,
9,100 nurses



4 hospitals cited for
excellence in 2017
US News & World Report



100+ accredited physician
residency and fellowship programs



73,000 employees

1.5 Million Patients Served Annually



Patients who choose
Partners hospitals for their
care benefit from a broad
spectrum of services to
meet virtually any health
need, including primary
care, hospital/specialty care,
rehabilitation, and home
care.

\$1.6 Billion in Research Funding



Researchers at Partners
institutions advance
scientific research
breakthroughs into new
treatments for patients.

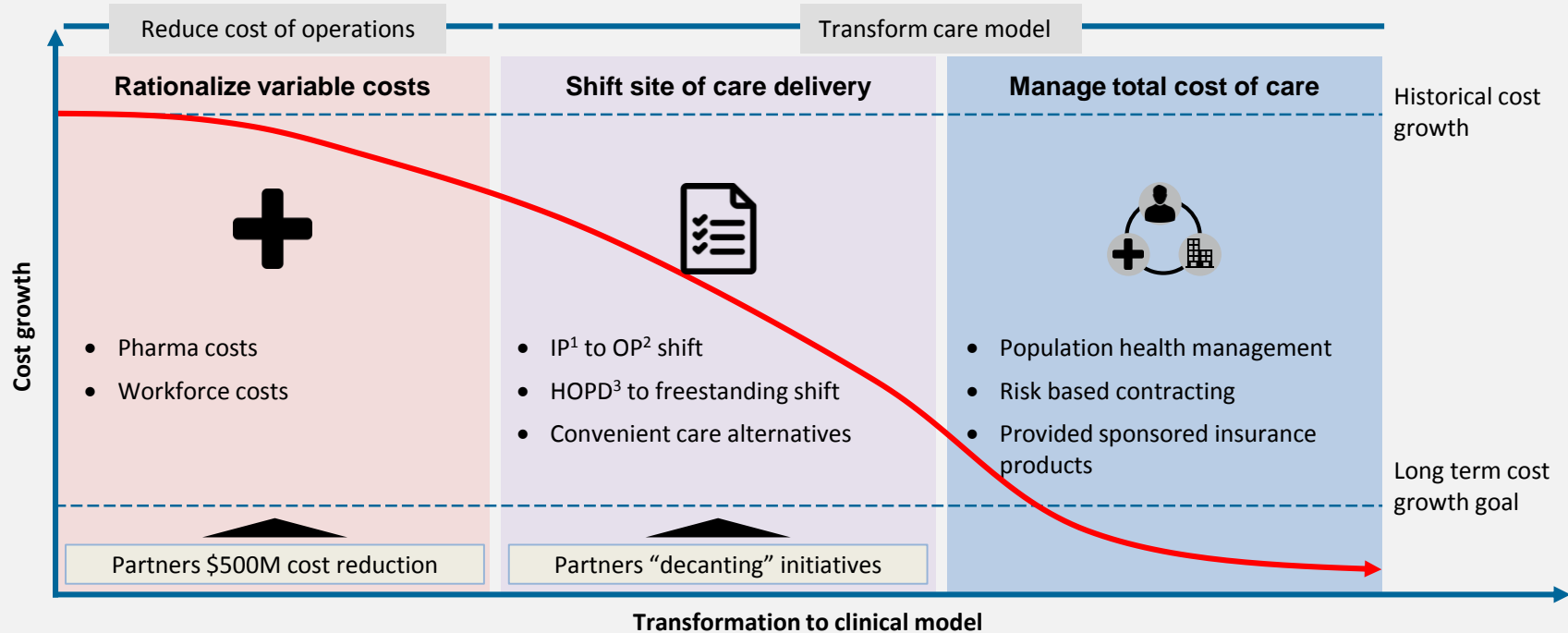
\$223 Million Invested in Community Programs in 2016



Through initiatives that
include access to health
care, prevention and
workforce development,
Partners and its hospitals
are making a difference in
the communities in which we
live and work.

Translating Cost Transformation into Delivering Value to purchasers and patients

Outlook for Cost Control

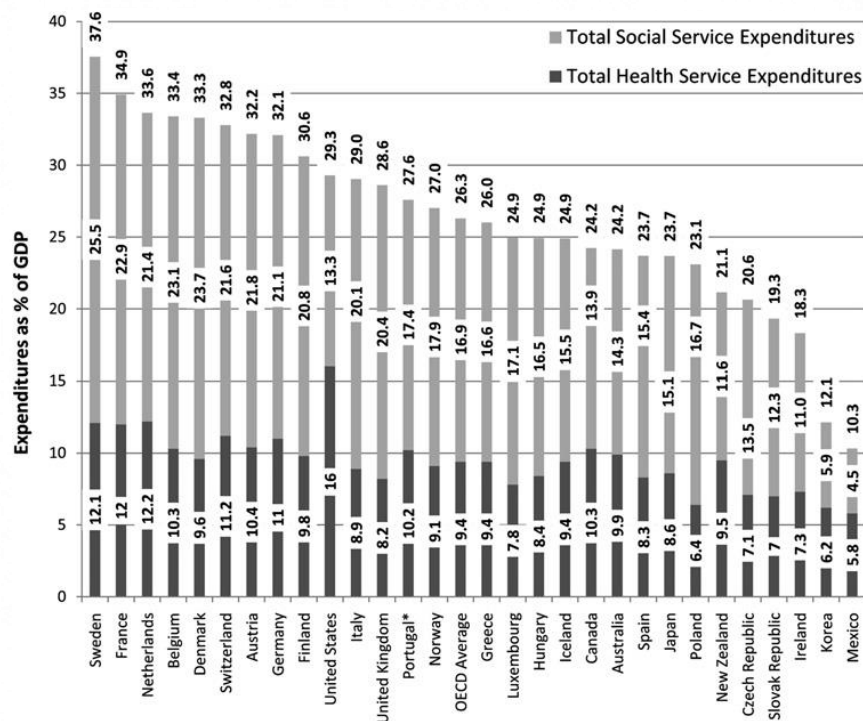


1. Inpatient 2. Outpatient 3. Hospital Outpatient Department 4. Provider Sponsored Health Plan

SOURCE: Joint Cleveland Clinic / Advisory Board presentation put together by BDC Partners

We in the US Have A Lot To Make Up For...

Total health-service
and social-services
expenditures
for Organization for Economic
Co-operation and Development
(OECD) countries, 2005.



Health and social services expenditures: associations with health outcomes Elizabeth H Bradley,¹
Benjamin R Elkins,¹ Jeph Herrin,² Brian Elbel³

BMJ Qual Saf 2011;20:826e831

Partners Population Health: Performance by the numbers

300k

**Commercial
Patients
Covered**

100k

**Medicaid
Patients
Covered**

90k

**Medicare
Patients
Covered**

100k

**Partners
Employee
Patients**

\$50M

**Commercial
Shared
Savings**

\$23M

**Medicare
Shared
Savings**

2%

**Under 2017
State Spending
Benchmark**

96%

**2017
Medicare
Quality Score**

*Data are rough numbers, and rounded, where appropriate.

Partners Population Health: Performance by the numbers

50+

**Coordinated
Care Activities**

1,000

**PCPs Engaged
in Population
Health**

96%

**PCPs
Achieving
NCQA Status**

12,500

**Patients
Enrolled in
Behavioral
Health**

14,000

**Patients
Enrolled in
High-Risk Care
Management**

12,000

**Provider
Completed
eConsults**

16,000

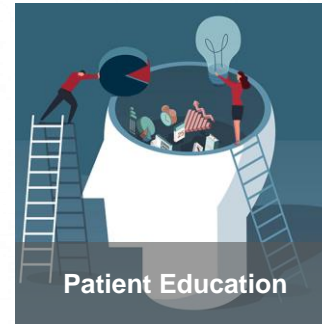
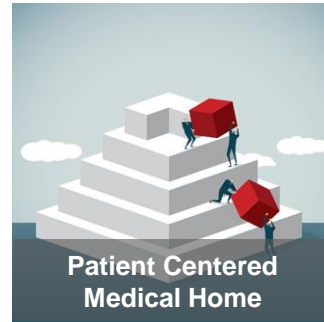
**Patient
Completed
eVisits**

1,500

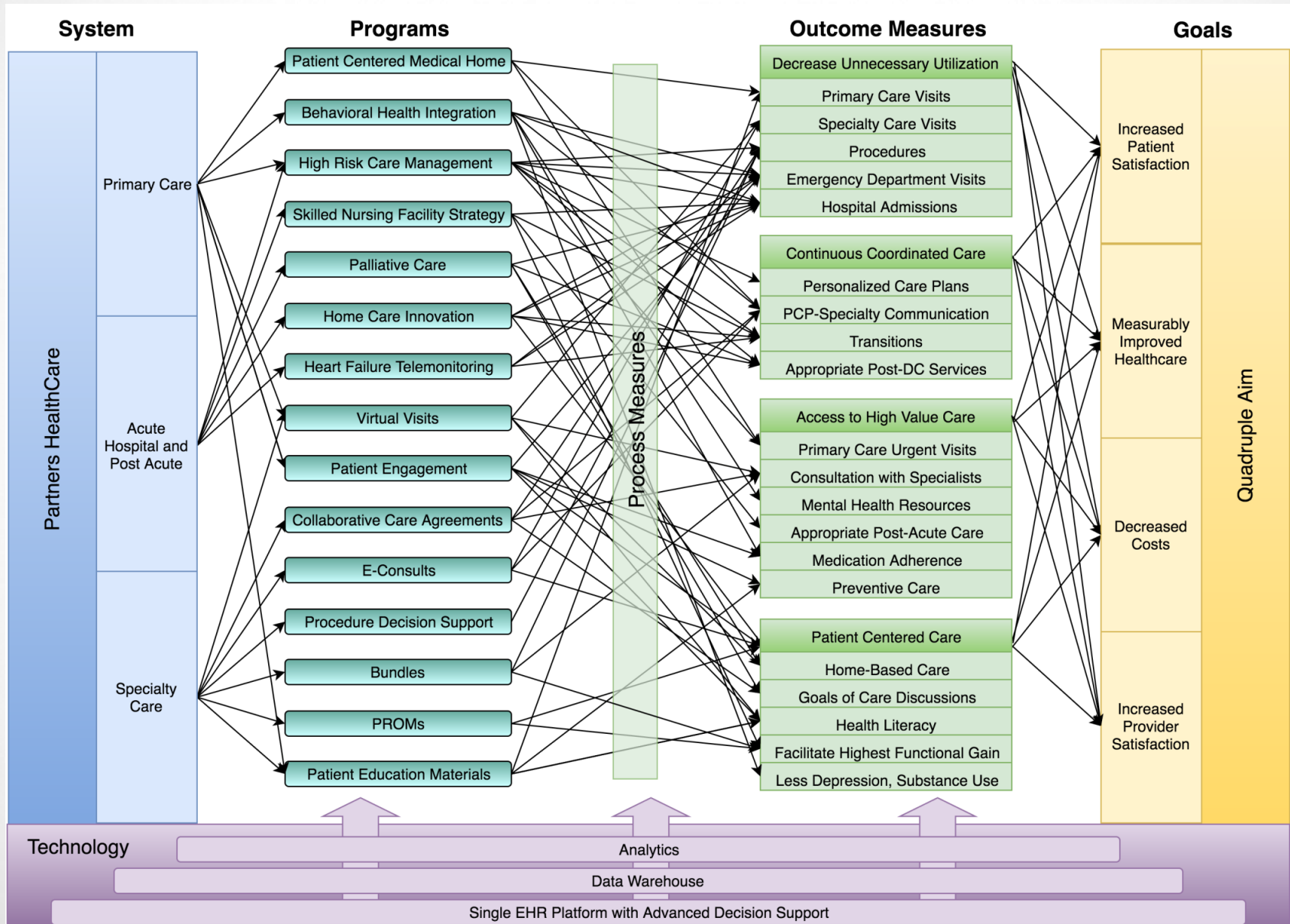
**ED Visits
Avoided with
Home Visits**

*Data are rough numbers, and rounded, where appropriate.

Population Health Management: A Patient-Centered Model



Population Health Management at Partners: Technology is Key to Ability to Scale Good Old Ideas



iCMP

High-Risk Care Management

Integrated Care Management Program (iCMP)

Guiding Patients with Complex Needs

- **More than 13,000 patients** enrolled
- **Focus Areas Include:**
 - Adult
 - Pediatric
 - Ultra High-Risk
 - End-stage-renal-disease (ESRD)



iCMP Care Management Team

- 100 Care Managers
- 20 Social Workers
- 5 Pharmacists
- 7 Community Health Workers
- 8 Community Resource Specialists
- Supported by robust IT

A Primary-Care Embedded and Longitudinal Program

iCMP is a primary care embedded, longitudinal care management program led by a Care Coordinator Lead working collaboratively with the PCP and care team.

Key elements:

Access to specialized resources including Mental Health, Community resources expertise, Pharmacy, Palliative Care

Integrate with other key primary care strategies and align with other Partners initiatives through the continuum of care with home visits, telemonitoring, integration with post-acute, specialty services,

Patient self-management with health coaching and shared decision making including end of life

IT enabled systems to improve care coordination leveraging real-time, automatic notification of admissions/discharges and EMR flags identifying iCMP patients

Data driven analytics to support strategic decision-making and operations

Intensive, on-going support and training for teams and staff

A payor-blind approach, with initial attention to Medicare, Commercial, and NHP

iCMP: Design

Care Team Leaders are integrated into all Primary Care Practices

- Specific panel size for Team Lead
- Follows patients longitudinally
- Assess Patients - Identifying gaps: risks for poor outcome.
- Develops proactive plan
- Coordinates care between providers, services
- Facilitates better communication/transitions
- Specialized training and ongoing team based learning

Foundations

- Embedded in Primary Care Practices
- Modifies classic care team
- Uses mass customization: configuring defined and available services to fit patient needs –
- Is iterative: Allowed to ‘evolve’ based upon experience
- Knows and uses available community and institutional resources
- Heavy reliance on IT/real time data

Version 2.0 Patient Identification Algorithm

Impact Pro Risk Score

ACO and Commercial Population (BCBS, Tufts, HPHC) 18yr or older

Conditions

Patient Complexity

Trigger Intensity

High Acuity

Renal Failure
Transplant
Osteomyelitis
Respiratory
HR CHF/Pulmonary
HR Liver Disease
Malignant Hypertension
Vulnerable Patients
Metastatic Cancer

1 or
more
high
acuity

1 +
Moderate
acuity

And
2+
Low acuity

3+ Low
Acuity



and

Level 1 Trigger

1 Medical Admit
2 or 3 ER visits

or

Moderate acuity

CVA/Hemorrhagic Stroke
Moderate COPD
Moderate MH
Moderate Diabetes
Hematology
Embolism and Thrombosis

1+
Moderate
acuity

2 +
Low
Acuity



and

Level 2 Trigger

3+ New Patient consults
2 +medical admits
7+ High risk medications
15+ Office visits
ICU /CCU
SNF stay
4+ ER visits
Complications of Care

Output

Low Acuity

LR diabetes
Colitis
Nephritis
Localized Cancer
LR MH or SA
LR Liver Disease
Dementia
LR COPD/Obstructive Asthma
Tobacco use
HIV/Aids
MS

Patients with risk score of ≥ 10

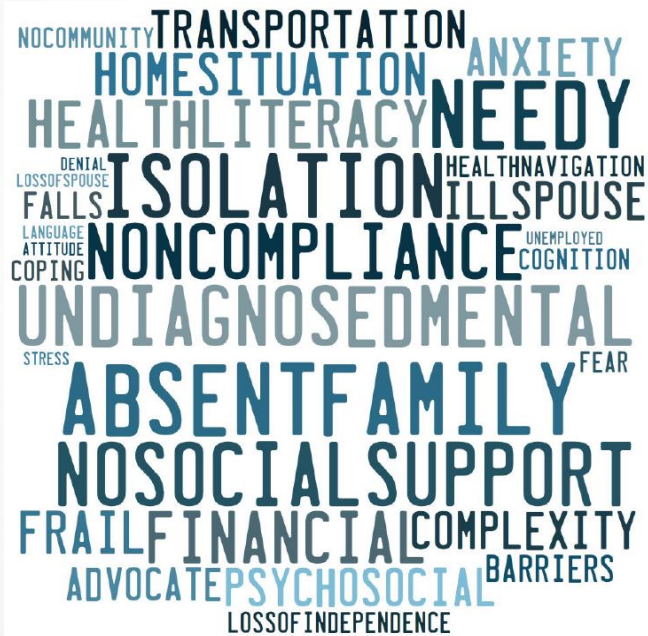
or

Patients 90 years or older (commercial only)

PCP and CM reviews list
and selects Patients
candidates iCMP program

Who Are iCMP Patients? You Need to Incorporate Multiple Views to Target Correctly

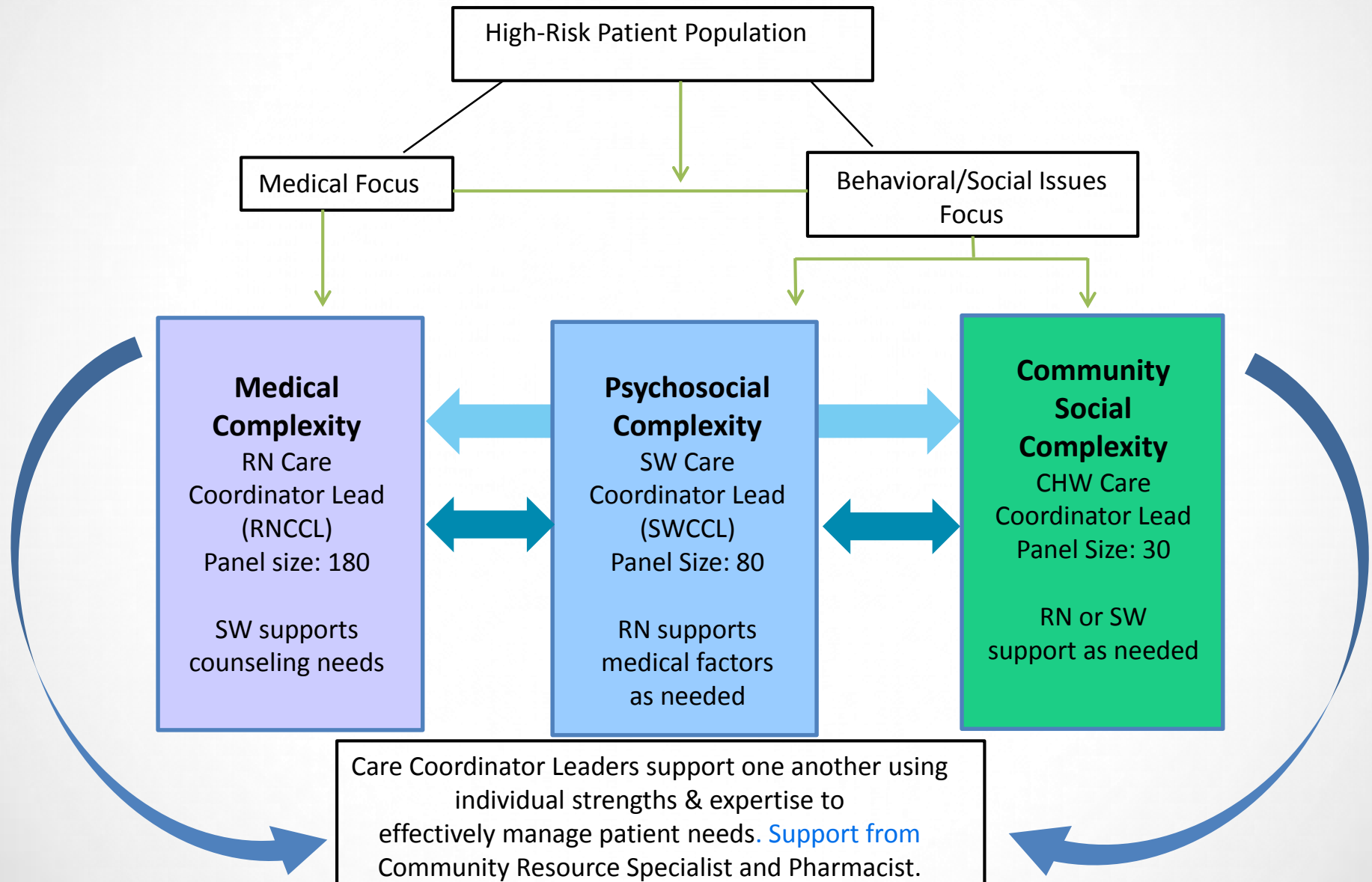
From Provider's Viewpoint



From Data



iCMP Team Lead Model – Not One Size Fits All



How do you staff the iCMP Team?

Role	Ratio
Care Team Leader- RN- maintains a patient panel	1 FTE: 180 pts
Care Team Leader- SW- maintains a patient panel	1 FTE: 100 pts
Community Health Worker- maintains a patient panel	1 FTE: 30 pts
Social Worker – consultant member of team	1 FTE: 1000 pts
Pharmacist- consultant member of team	1 FTE: 3000 pts
Community Resource Specialist- consultant member of team	1 FTE: 2000 pts
Medical Director	Team specific
Clinical Team Lead- traditionally RN	1 FTE per team
Project Manger	1 FTE per team
Other Team Members - need determined by local team Data Analyst, CHF RN, CM Anchor, Pharm Tech, Post Discharge RN	Not required

Foundational Requirements with local variation and innovation

Centralized System Supports

Analytics	Curriculum development and training	Enabling Tools
<ul style="list-style-type: none">▪ System-wide patient identification with practice level refinement▪ Measurement:<ul style="list-style-type: none">▪ Implementation, process, and performance metrics▪ Trend impact analyses▪ Generate standard, timely reports for this population▪ Develop and Manage measures for the Internal Performance Framework (IPF)	<ul style="list-style-type: none">▪ Develop and maintain PHS High Risk reference guide/ toolbox for practices<ul style="list-style-type: none">▪ E.g. templates, job descriptions▪ Practices use as needed▪ Create PHS-wide learning collaborative meetings (on-line and in-person) for practices and care team members▪ Established a strong Training program<ul style="list-style-type: none">▪ Team Input▪ CEU offerings	<ul style="list-style-type: none">▪ Patient care management system (IT solutions)<ul style="list-style-type: none">▪ Care Management module within our EHR system▪ Real-time, automatic notification of admissions/discharges/ED▪ EMR High Risk icon▪ Pt enrollment/ disenrollment capability▪ Developed and maintain a PHS community resource database▪ ICMPintel- online and interactive dashboard for iCMP performance

Multidisciplinary collaboration and guidance from convening forums

- Convened representative workgroups to inform the above system supports
- Developed system standards where appropriate
- Integrate and collaborate with the other PHM programs such as Behavioral Health/Collaborative Care and Patient Centered Medical Home

Lessons Learned

Most effective patients engagement when the Care Team lead is embedded in primary care practice

Ensure patients understand how to contact care team by various means of communication

PCP support is the key to successful patient engagement

Patient centered goals are a necessary part of the patient engagement road map

Regular monitoring of patient satisfaction with the program and care team to allow for ongoing program improvement in the areas of patient outreach and engagement

Continuous program evaluation and monitoring of key performance indicators to observe signals of patient engagement issues

Home Hospital

Care Continuum

Post-acute and home-based care programs

Creating alternative pathways to keep high-acuity patients out of the hospital

- Transitional Care Management **reduced SNF length of stay by 3 days**
- **~1,500 ED admissions avoided** through mobile observation home visits per year
- **~380 hospital admissions avoided** through SNF waivers
- Provide hospital-level care to patients at home as an alternative (more than 500 patients) – scaling up Dr. Bruce Leff's > 20 year vision of HaH



Care Continuum Programs

- Transitional Care Management Program
- Partners Mobile Observation Unit
- SNF Collaborative and SNF 3-day waiver program
- Home Hospital

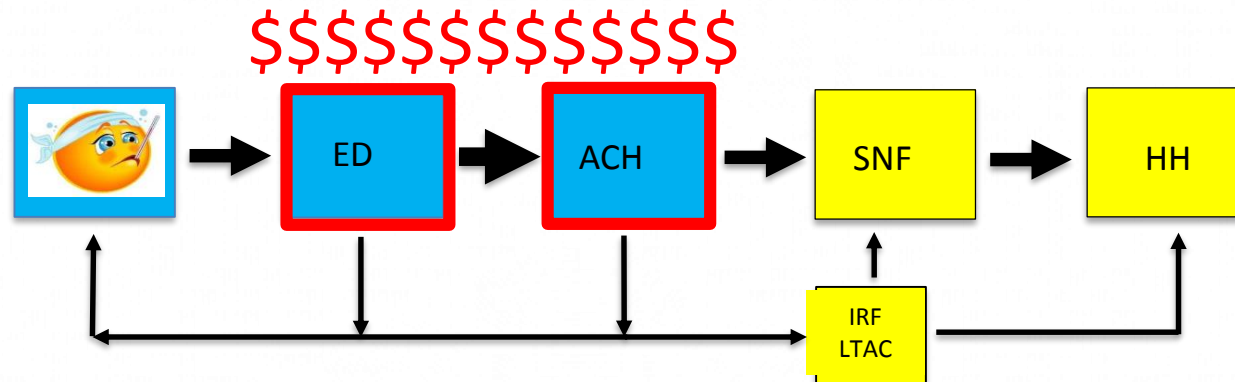
Problems with Inpatient Hospitalization



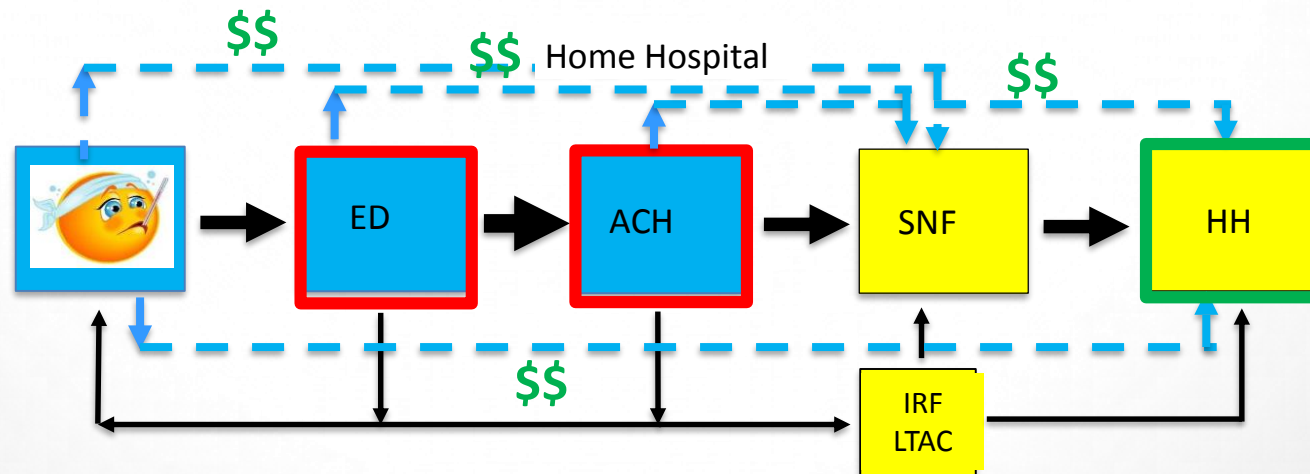
1: Creditor MC. Ann Intern Med. 1993.
2: Hung WH et al. JAMA Intern Med. 2013.

How Home Hospital Fits into Partners Overall Site of Care Redesign Strategy

Old Acute Care Pathway



New Alternative Care Pathways



Care Continuum

Strategic Vision: "Redesigning Care to Give Our Patients More Days at Home"

To deliver high-value care to Partners patients by redesigning [sites-of-care](#) into a cohesive framework of high-quality [care continuum](#) programs to meet [episodic](#) care needs in settings other than EDs and Acute Hospitals and give them more time at [home](#).

1. Improve Usual Care Pathways

- Better Hospital Care
- Better SNF Care
- Better Home/Community Care
- Better Palliative & EOL Care
- Better Care Transitions

Program	Better ED Care	Better Hospital Care	Better SNF Care	Better Home Care	Better Hospice Care
SNF Network			✓		
Hospice Network				✓	✓
SNF TCM		✓	✓		
CHF-TM				✓	
NP Urgent Home Visits	✓	✓		✓	

2. Build Effective Alternative/Avoidance Care Pathways

- Avoid ED
- Avoid Hospital
- Avoid SNF
- Avoid Home Health

Program	ED Avoidance	Hospital Avoidance	SNF Avoidance	Home Health Avoidance
SNF 3-Day Waiver	✓	✓		
SNF TCM			✓	
Hospice Network	✓	✓		✓
Home Hospital		✓	✓	
NP Urgent Home visits	✓	✓		

Home Health Care Continuum Collaborations

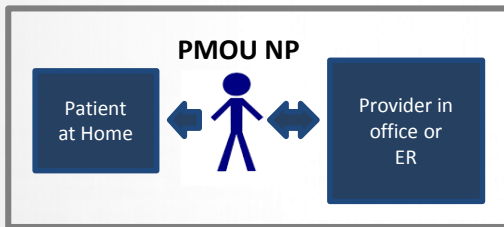
Advanced Home-Based Programs

CHF-TM (2012)



- Purpose: Advanced home-based disease-specific telehealth program
- PCC Stakeholders:
 - PHH Telemonitoring
- Accomplishments: Steady use; Updated TM equipment, Decreased long 'LOS' pts; Increased collaboration
- Goals: Relaunch of CHF-TM Program 2.0; Demonstrate effectiveness increase use to budgeted 'ADC'

PMOU (2014)



- Purpose: Pre-acute home-based NP urgent visits to reduce avoidable ED admissions
- PCC Stakeholders:
 - PHH NPs
- Accomplishments: Steadily increased adoption (> 30% annual growth); NP billing; Featured on PBS evening news; widely known
- Goals: Demonstrate effectiveness, Expand geographic & RSO service area

Home Hospital (2017)

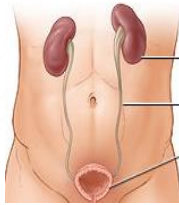


- Purpose: Hospital-level of care delivered in the home of acutely ill patients as an alternative to IP hospital care.
- PCC Stakeholders:
 - PHH, PHH NPs (MGH)
- Accomplishments: > 500 HH adms; Bowditch Award (MGH); CBS Evening News (BWH); 'Demonstrated' effectiveness
- Goals: Epic enhancement, HPHC Contract; Unify and better align both programs, utilize new monitoring technology

Home Hospital Conditions



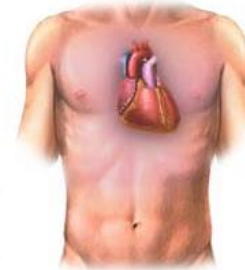
Cellulitis



Complicated
UTI



Pneumonia



Heart
Failure



Asthma
COPD

AF w RVR

DM +
Complications

Anticoagulation
Needs

Gout Flare

CKD
w volume
overload

HTN
Urgency

Desires only
Medical
Management

Previous Hospital at Home Work

Annals of Internal Medicine

IMPROVING PATIENT CARE

Hospital at Home: Feasibility and Outcomes of a Program To Provide Hospital-Level Care at Home for Acutely Ill Older Patients



Hospital-Level Care at Home for Acutely Ill Adults: a Pilot Randomized Controlled Trial

Equal safety
Equal quality
20-30% cost reduction
Improved patient experience

HaH Meta-Analysis

24% Reduction in Readmissions

21% Reduction in Mortality: NNT=50

Leff B et al. Ann Intern Med. 2005.
Cryer L et al. Health Aff. 2012.
Levine DM et al. JGIM. 2017.

Health Affairs

INNOVATION PROFILE

Costs For ‘Hospital At Home’ Patients Were 19 Percent Lower, With Equal Or Better Outcomes Compared To Similar Inpatients

- 61% chose HAH care
- High-quality care
- Fewer complications
- Better patient /family experience
- Lower costs of care
- Less CG stress
- Better function
- High provider satisfaction

Systematic reviews

A meta-analysis of “hospital in the home”

“H”ospital in the home (HITH) provides acute or subacute treatment in a patient’s residence (or a conditions that would normally require admission to hospital). It is also known as “hospital at home”, “home hospitalization” and “early supported discharge”.¹ and it has been speculated that HITH improves outcomes. This review is summarizing the evidence for HITH in reducing admission mortality for full admissions for hospitalization and early discharge followed by care at home.

Objective: To assess the effect of “hospital in the home” (HITH) versus other significantly available for the hospital time (inpatient, readmission rates, patient and care satisfaction, and costs).

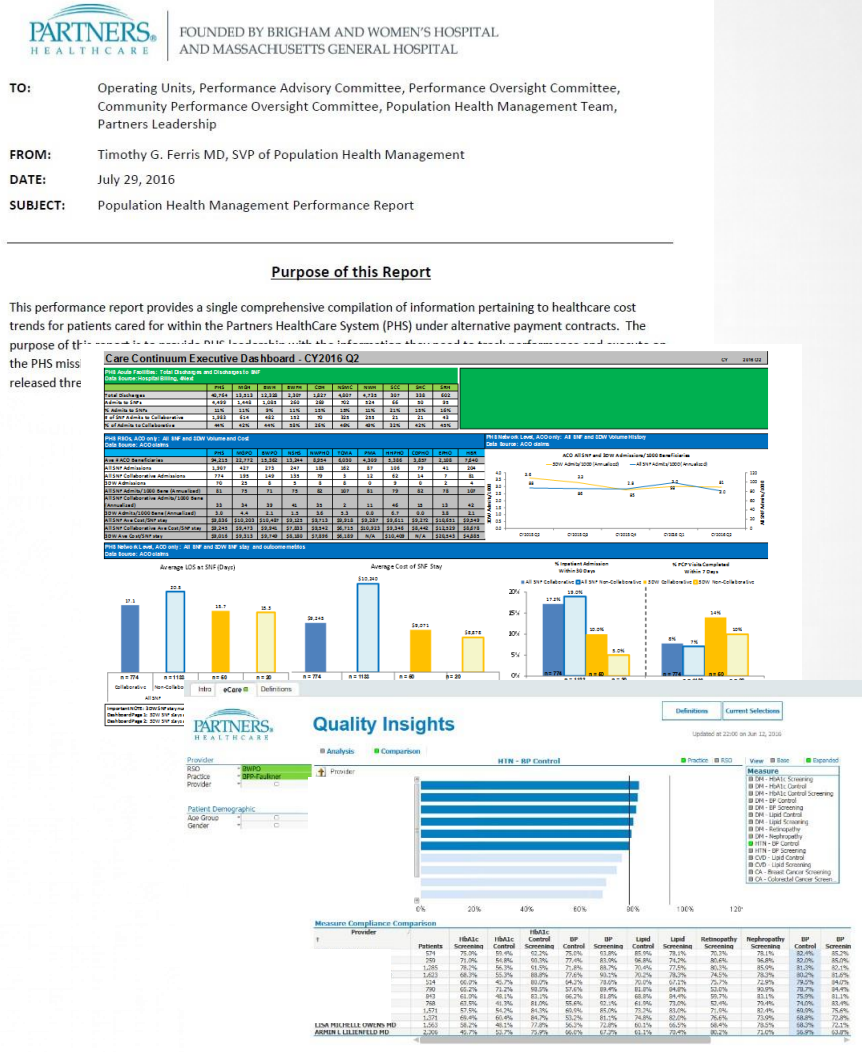
Data sources: MEDLINE, Embase, Social Science Citation Index, CINAHL, EMBASE, PsycINFO, and the Cochrane Database of Systematic Reviews. The search date was 15 April 2012.

Study selection: Randomized controlled trials (RCTs) comparing HITH to inpatient care.

Results: 10 RCTs were included. The number needed to treat (NNT) for mortality was 50 (95% CI 30-100). The number needed to treat (NNT) for readmission was 19 (95% CI 10-30). The number needed to treat (NNT) for patient satisfaction was 19 (95% CI 10-30). The number needed to treat (NNT) for caregiver stress was 19 (95% CI 10-30). The number needed to treat (NNT) for patient function was 19 (95% CI 10-30). The number needed to treat (NNT) for patient satisfaction was 19 (95% CI 10-30). The number needed to treat (NNT) for caregiver stress was 19 (95% CI 10-30). The number needed to treat (NNT) for patient function was 19 (95% CI 10-30).

Is It Working?

- **Executive Dashboard**
 - Contract Performance
 - Key Quality and Outcomes Indicators
 - Implementation Goals (rolled up view)
- **Management Dashboard**
 - Local Performance Comparisons
 - Quality and Outcomes Comparisons
 - Implementation Goals
- **Local Practice Dashboards**
 - Care Gap Registries (prevention, CVD, DM, etc)
 - Physician Utilization Variation



MGH Care Management Medicare Demonstration: Results

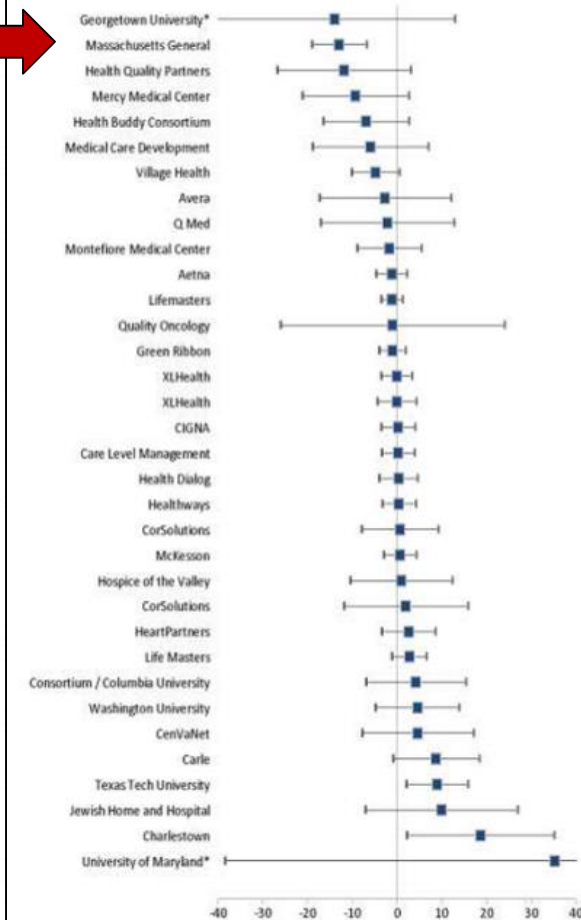
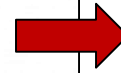
Patient Outcomes

- Hospitalization rate: 20% lower
- ED visit rate: 25% lower
- **Mortality rate: 4% lower**

Savings

- 7.1% net savings (12.1% gross)
- Approximately 4% annual savings for the total population
- For every \$1 spent, the program saved at least \$2.65
- *Overwhelming (>90% very satisfied) support from patients, caregivers, and providers*

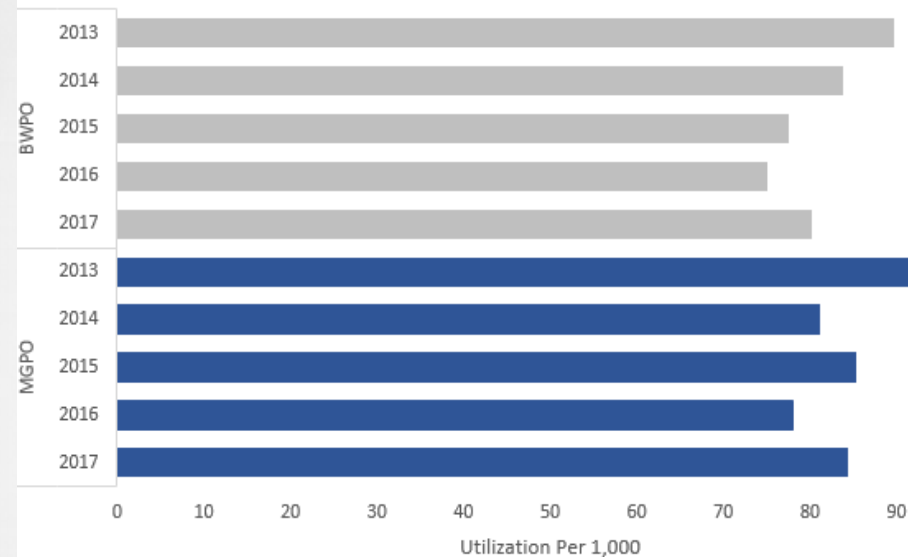
Figure 1.
Percentage Effect of Disease Management and Care Coordination Demonstrations on Regular Medicare Expenditures



Source: *Lessons from Medicare's Demonstration Projects on Disease Management and Care Coordination*, Lyle Nelson, Congressional Budget Office, January 2012, Working Paper 2012-01

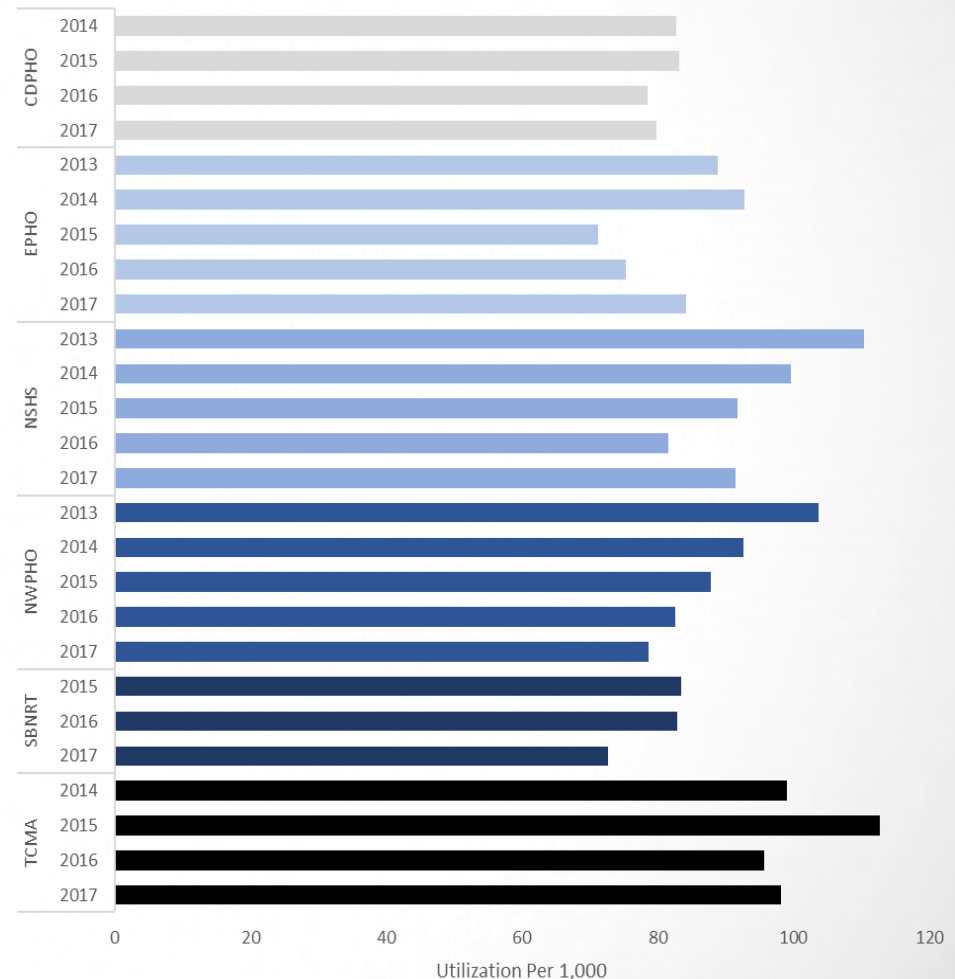
Downward trend in Medicare ACO SNF Admissions per 1000 (2013-2017)

Academic Medical Centers



- PHM programs designed for site-of-care optimization and managing post-acute length of stay having an impact on utilization trends

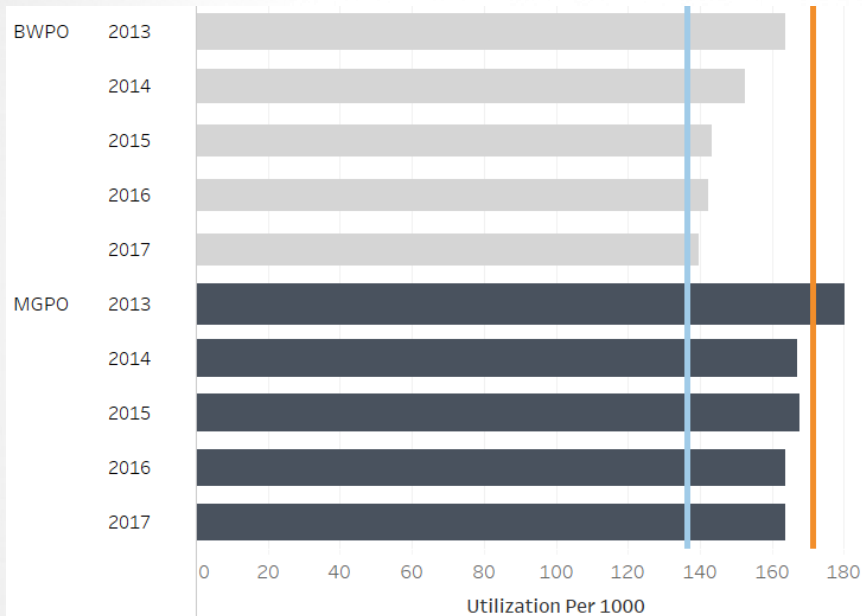
Community Providers



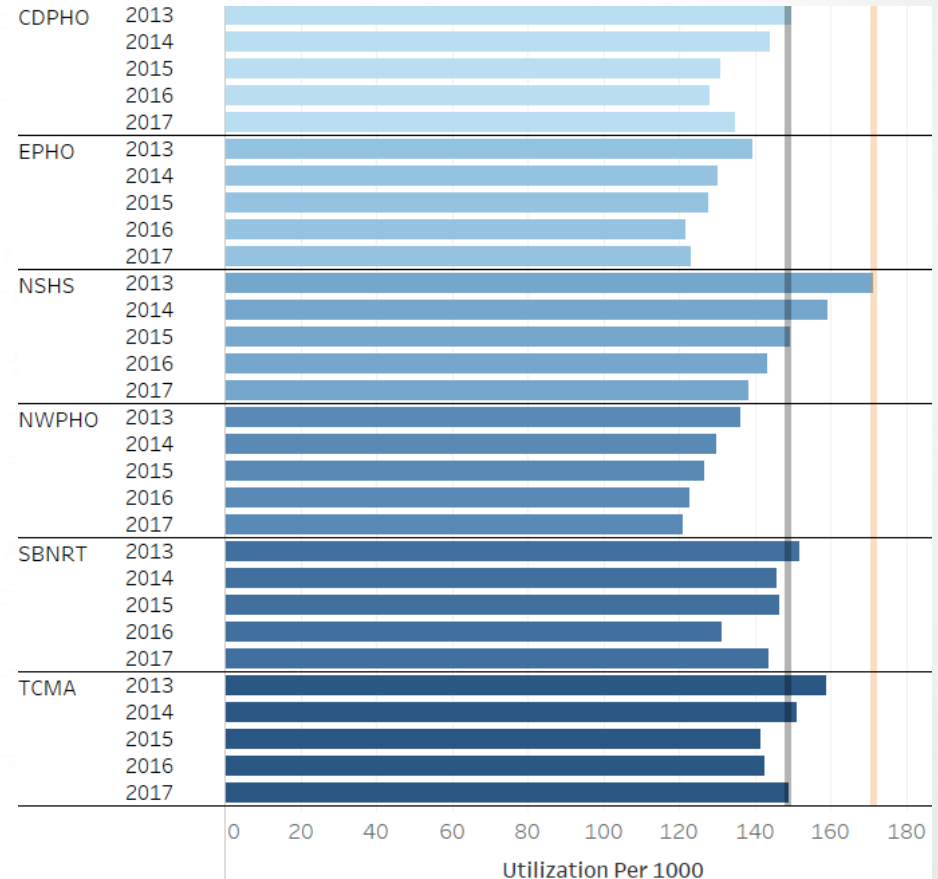
Commercial ED Admissions per 1000 (2013-2017)

	Benchmark (BCBS HMO)
	PHS AMC Rate
	PHS Community Rate

Academic Medical Centers



Community Providers



- Reduction in ED utilization far outpacing the insurer network



Thank You

Questions & Answers

