

# Improving Value in Healthcare

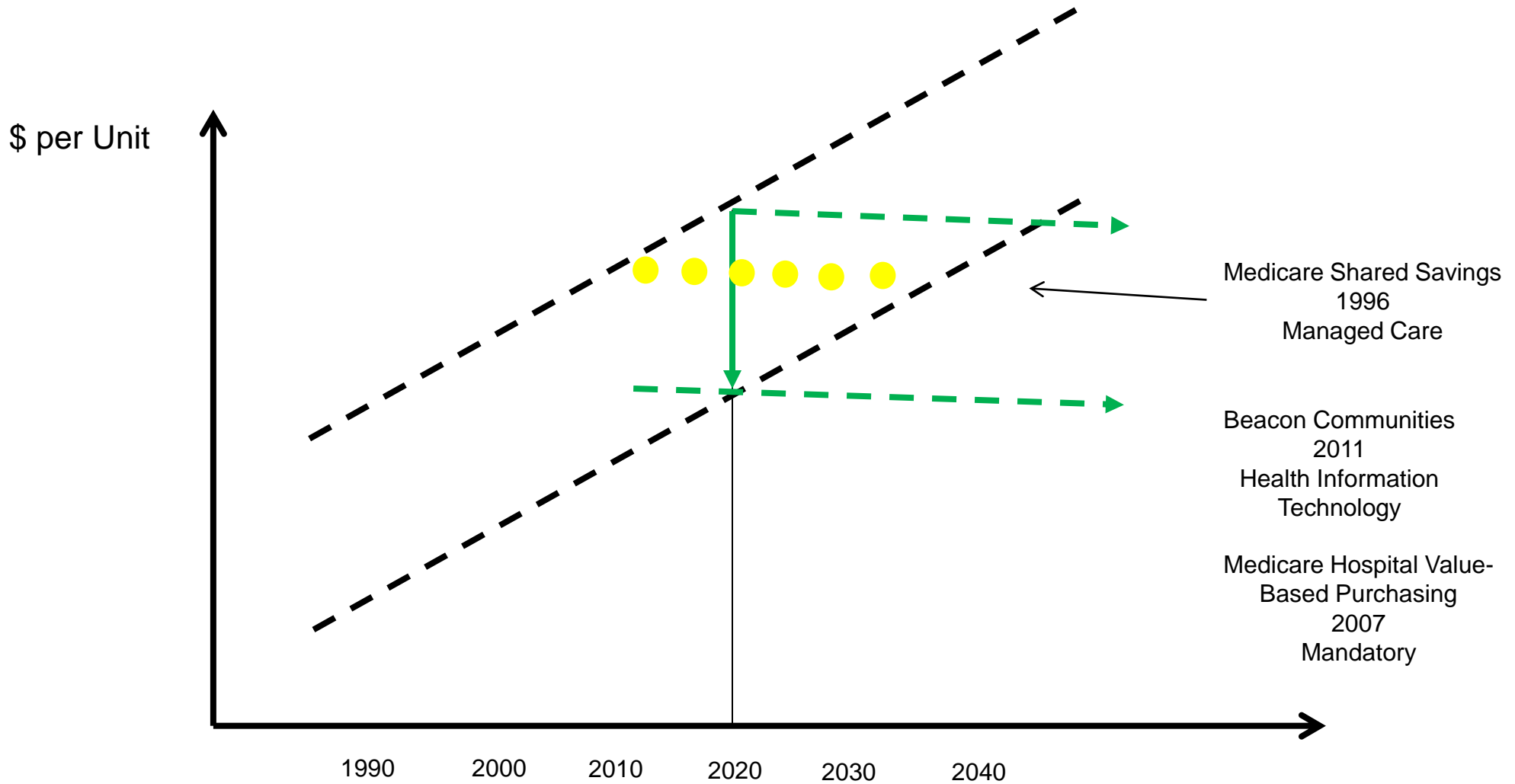
Christopher P. Tompkins, Ph.D.

THE 18TH PRINCETON CONFERENCE  
WHERE DO WE GO FROM HERE? THE FUTURE OF HEALTH REFORM

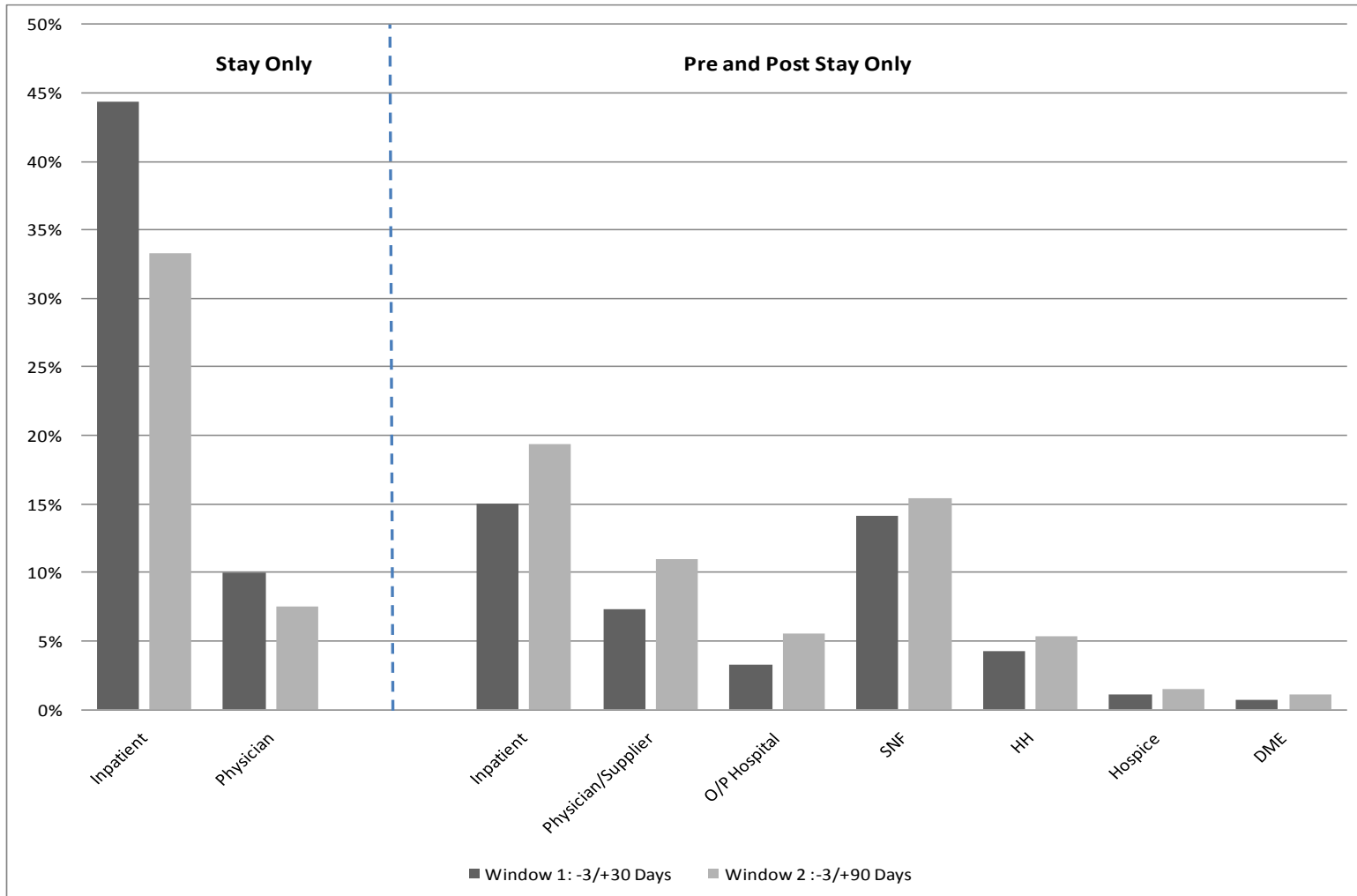
May 25, 2010



# Technology of Healthcare



# Distribution of Medicare Spending per Beneficiary







Excludes Medicare payments for Indirect Medical Education (IME) and Disproportionate Share (DSH)



**Patient-Centered Episode System  
(PACES)**

# The Brandeis Team

Brandeis Team		
Brandeis Team	 <p><b>Brandeis University</b></p>	<p>Christopher Tompkins, PhD (Project Director)            Grant Ritter, PhD, John Chapman, PhD, Timothy Martin, PhD,            Jennifer Perloff, PhD, Beth Mohr, MS</p>
	 <p><b>HEALTH CARE INCENTIVES IMPROVEMENT INSTITUTE®</b>  <i>Fair, Evidence-based Solutions. Real and Lasting Change.</i></p>	<p>François de Brantes, MS, MBA            Amita Rastogi, MD, MHA, CHE, Jenna Costley, BA</p>
	 <p><b>American Board of Medical Specialties</b>  <i>Higher standards. Better care.®</i>            Research and Education Foundation</p>	<p>Kevin Weiss, MD            Robin Wagner, RN, MHSA</p>
	 <p><b>THE PHYSICIAN CONSORTIUM FOR PERFORMANCE IMPROVEMENT®</b>  <small>CONVENED BY THE AMERICAN MEDICAL ASSOCIATION</small></p>	<p>Karen Kmetik, PhD            Gregory Wozniak, PhD, Beth Tapper, MA</p>
	<p><b>Booz   Allen   Hamilton</b></p>	<p>Kristine Martin Anderson, MBA            Dorothy Stam, BA (Project Manager)</p>

## Clinical Technical Advisory Committee (CTAC) and Clinical Working Group (CWG) Members:

Success of Brandeis Team = CTAC and CWGs	CTAC	Pulmonary CWG	Cardiac CWG
	<ul style="list-style-type: none"> <li>• 13 Members</li> <li>• 10 MDs</li> <li>• Specialties include Cardiology, Geriatrics, Pathology, and Infectious Disease</li> <li>• 2 QIO CMOs</li> <li>• Health Economist</li> <li>• Methodologist</li> <li>• Experts in Health Care Policy and Health Care Performance Measurement</li> </ul>	<ul style="list-style-type: none"> <li>• 8 Members</li> <li>• All MDs</li> <li>• Specialties include Emergency Medicine, Pulmonary Critical Care, Family Medicine, Radiology, Internal Medicine, Cardiopulmonary Rehab, Preventive Medicine, and Allergy, Asthma &amp; Immunology</li> </ul>	<ul style="list-style-type: none"> <li>• 10 Members</li> <li>• 9 MDs</li> <li>• 1 Cardiac Nurse</li> <li>• 1 Radiologist specializing in Cardiothoracic Imaging</li> <li>• Specialties include Emergency Medicine, Family Medicine, Cardiology, Geriatrics, Internal Medicine, and Radiology</li> <li>• Cardio specialties include Cardiovascular Diseases, Cardiopulmonary Rehabilitation, Interventional Cardiology</li> </ul>

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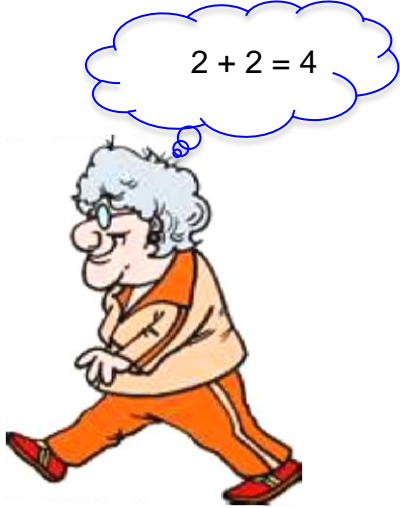
Success of Brandeis Team = CTAC and CWGs	CTAC	Pulmonary CWG	Cardiac CWG
	<p>James Burgess, Jr, PhD</p> <p>Kathryn Coltin, MPH</p> <p>Joseph Drozda, Jr, MD</p> <p>Jay Gold, MD, JD, MPH</p> <p>William Golden, MD, MACP</p> <p>Brian Hess, PhD</p> <p>Lee Hilborne, MD, MPH, FASCP, FCAP</p> <p>Lawrence Martinelli, MD, FACP, FIDSA</p> <p>Frank Opelka, MD, FACS</p> <p>Michael Painter, JD, MD</p> <p>Cary Sennett, MD, PhD, FACP</p> <p>Carl Tommaso, MD, FACC, FSCAI</p> <p>Thomas von Sternberg, MD</p>	<p>Dickson Cheung, MD, MBA, MPH, FACEP</p> <p>Andrew Bloschichak, MD, MBA</p> <p>Gerald Criner, MD</p> <p>Troy Fiesinger, MD, FAAFP</p> <p>Kira Geraci-Ciardulio, MD, MPH</p> <p>Lorna Lynn, MD</p> <p>Andrew Ries, MD, MPH</p> <p>Kay Vydareny, MD</p>	<p>Dennis Beck, MD, FACEP</p> <p>Andrew Eisenberg, MD, MHA, FAAFP</p> <p>Gordon Fung, MD, MPH, PhD, FACC, FACP</p> <p>Peter Hollmann, MD</p> <p>Marjorie King, MD, FACC, MAACVPR</p> <p>Jerre Lutz, MD</p> <p>Barbara Riegel, DNSc, RN, FAAN, FAHA</p> <p>Arthur Stillman, MD, PhD, FACR, FAHA</p> <p>Henry Ting, MD, MBA</p> <p>Carl Tommaso, MD, FACC, FSCAI</p>



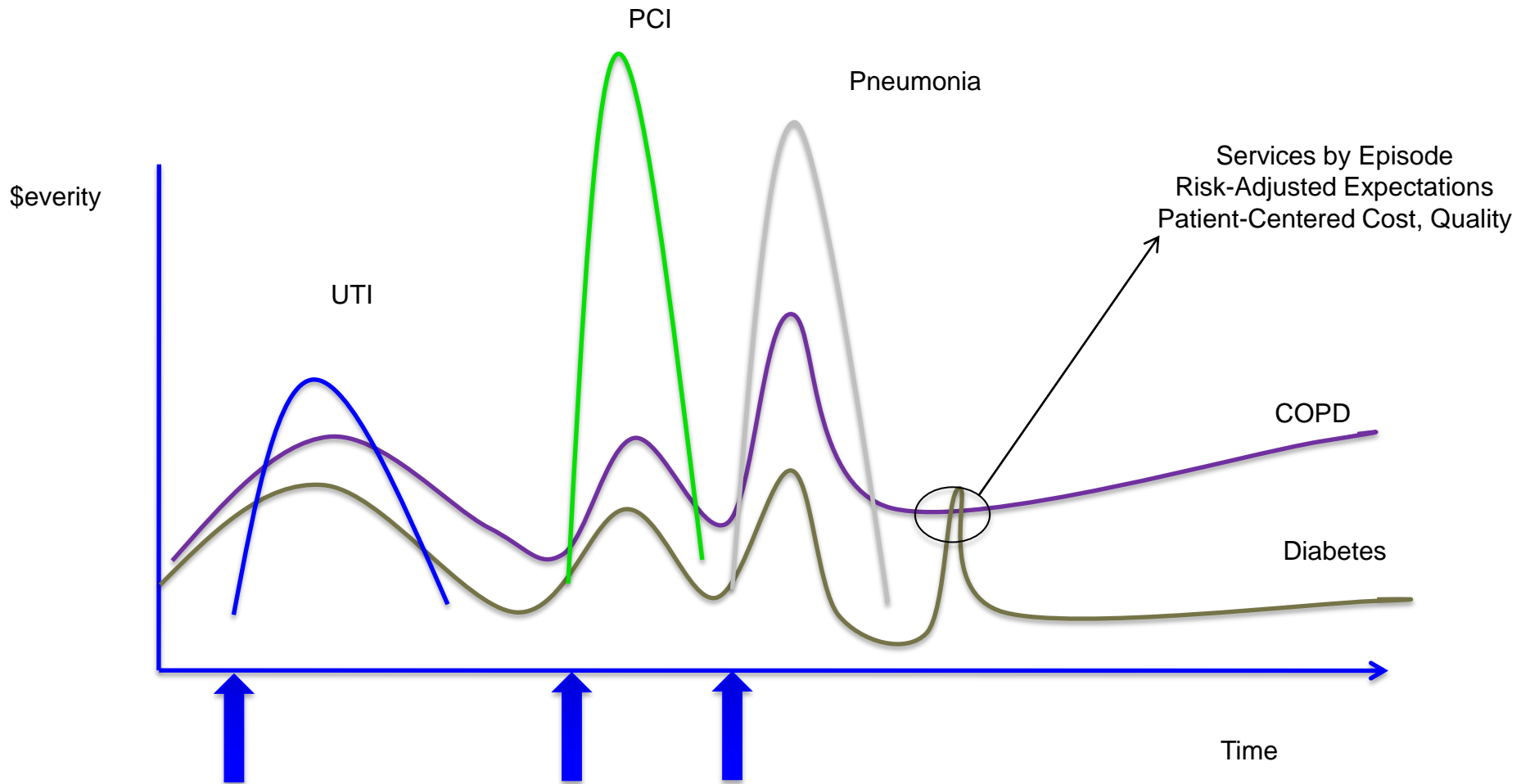
# The Brick Wall

H  
A  
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E  
L

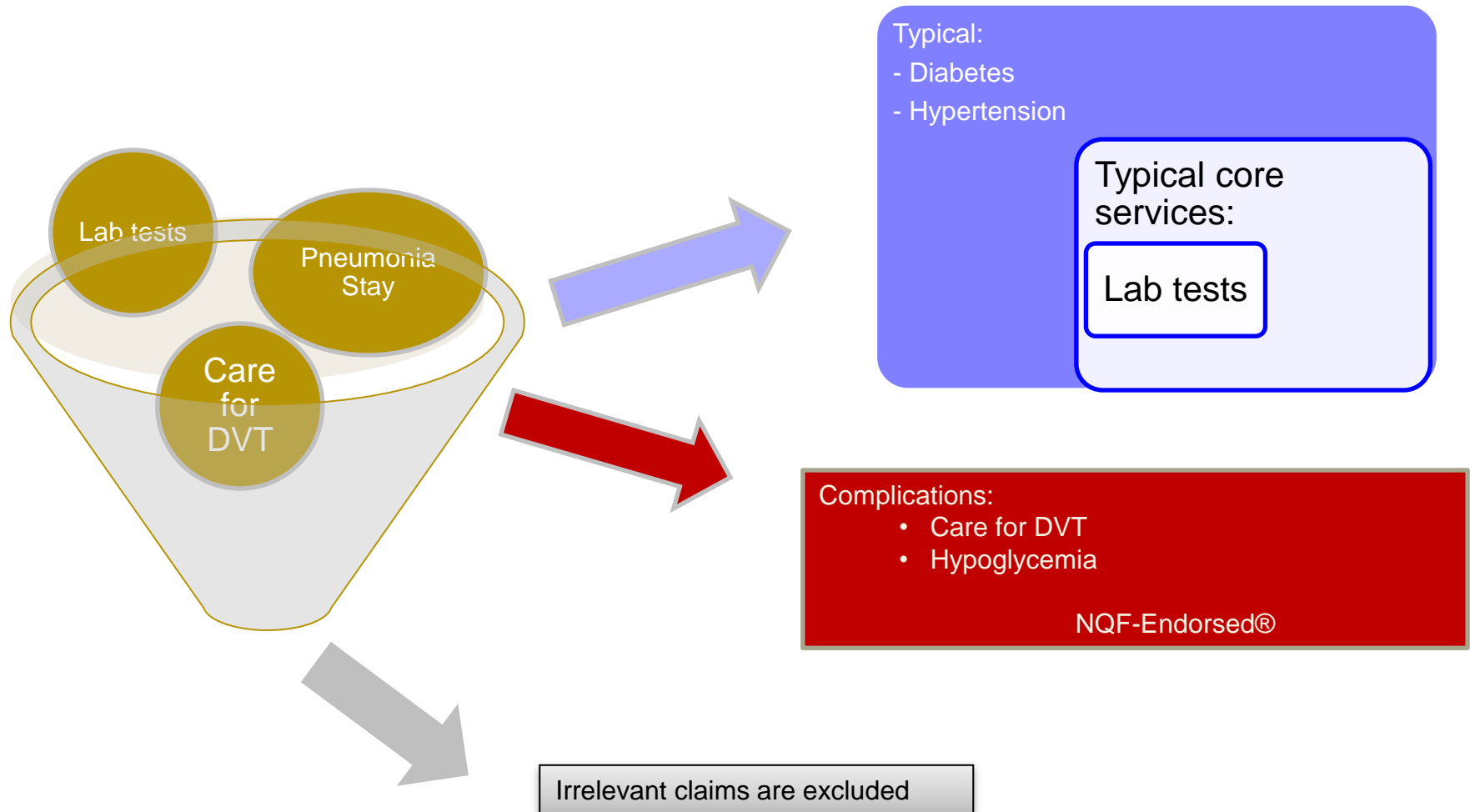
Clinical complexity



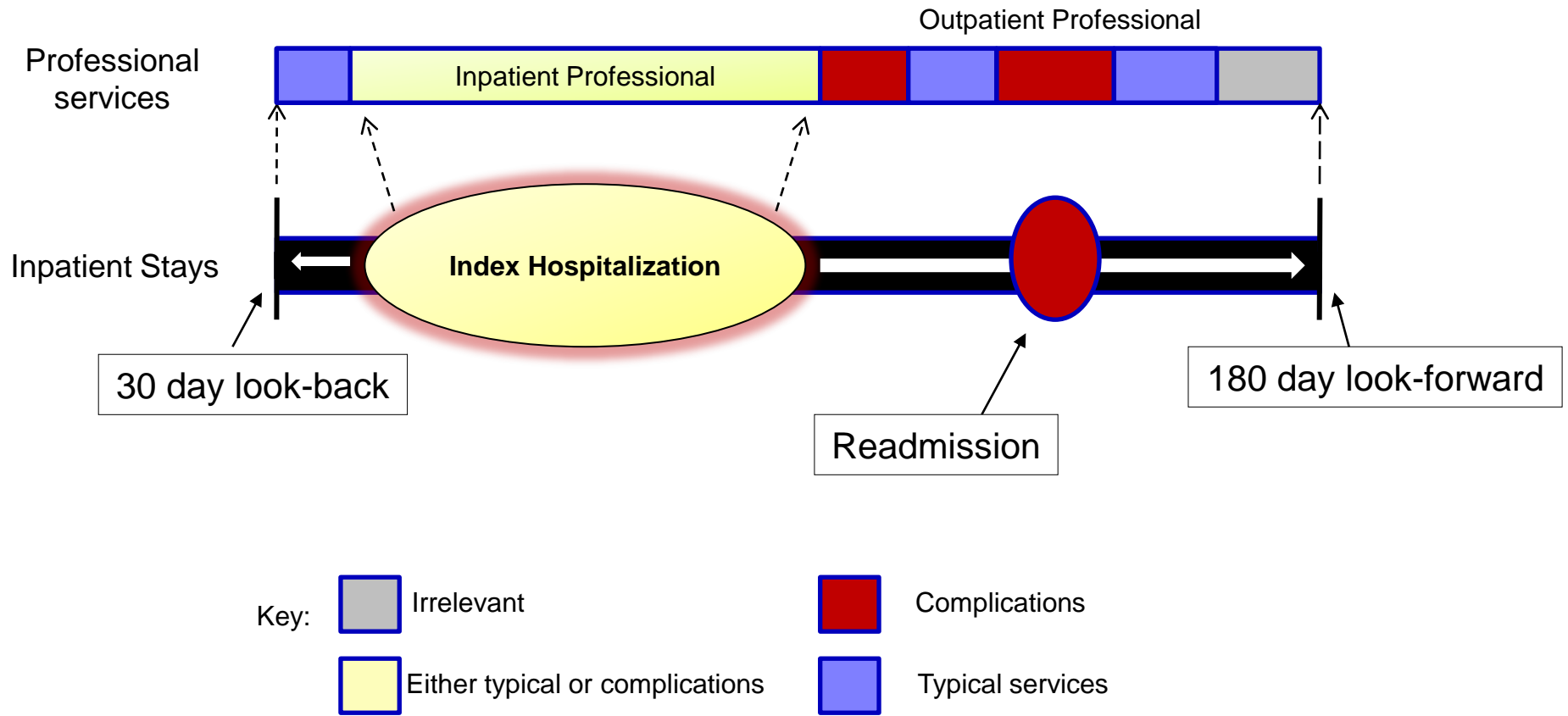
# Complex Patient Over Time



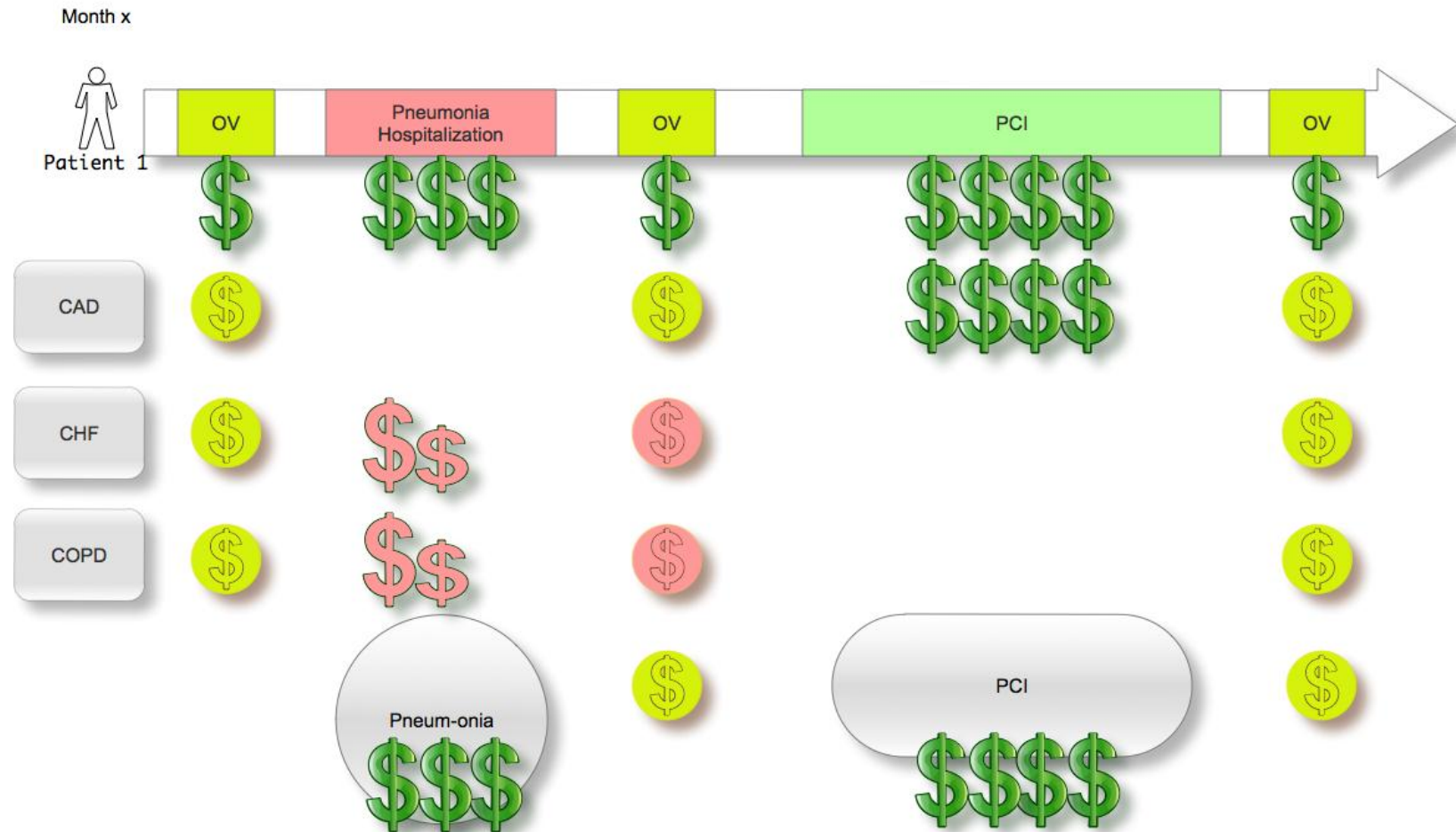
# We used these definitions to parse all claims into three categories for any episode: Basic, Typical, or Complications



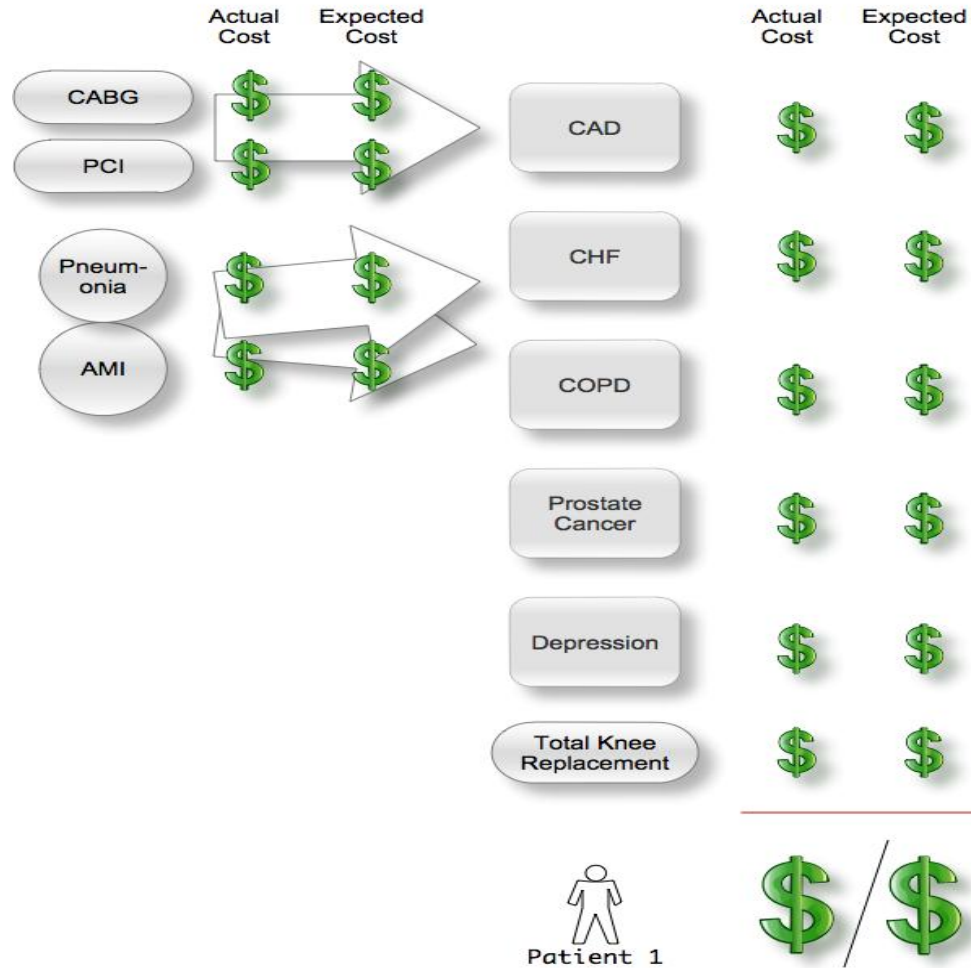
# Assembling an episode for an inpatient procedural episode



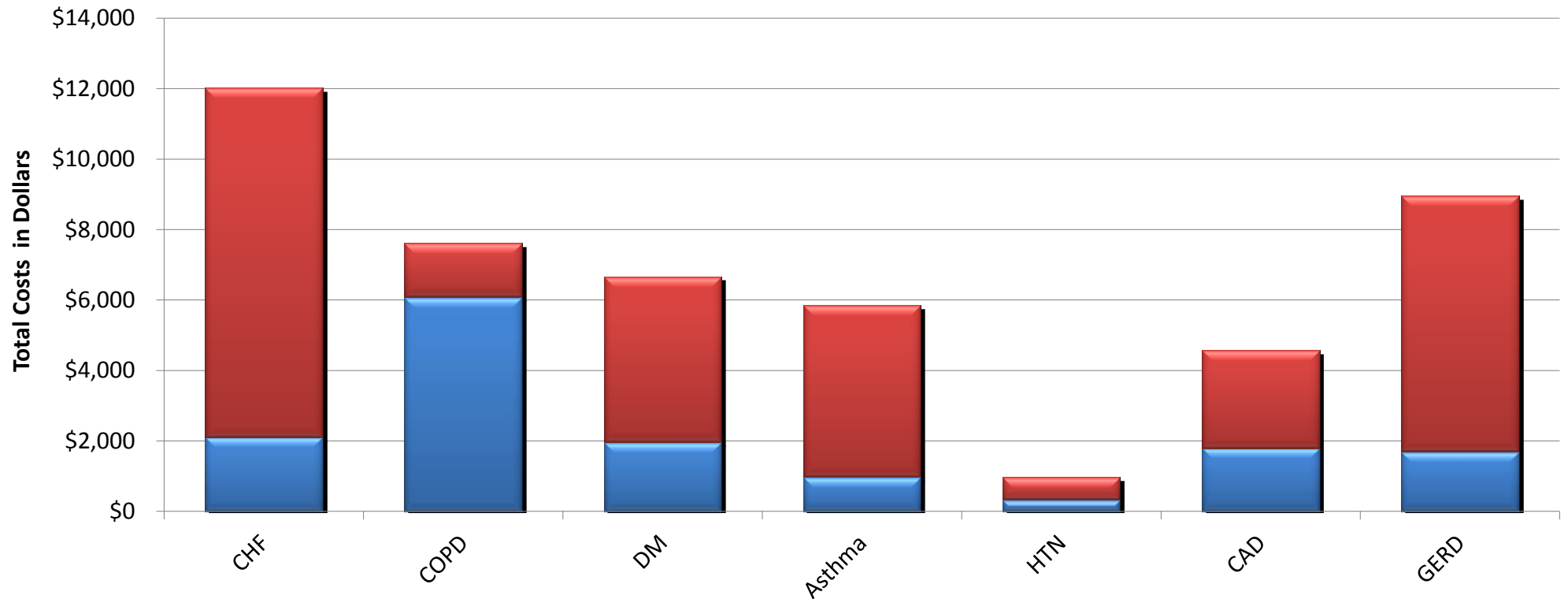
# Example of claim dollar allocation to multiple episodes



# Reconciliation of episodes at the patient level



## Total costs per episode split between Typical and Complications



Medicare Study Sample: Jan 2008 - July 2010.

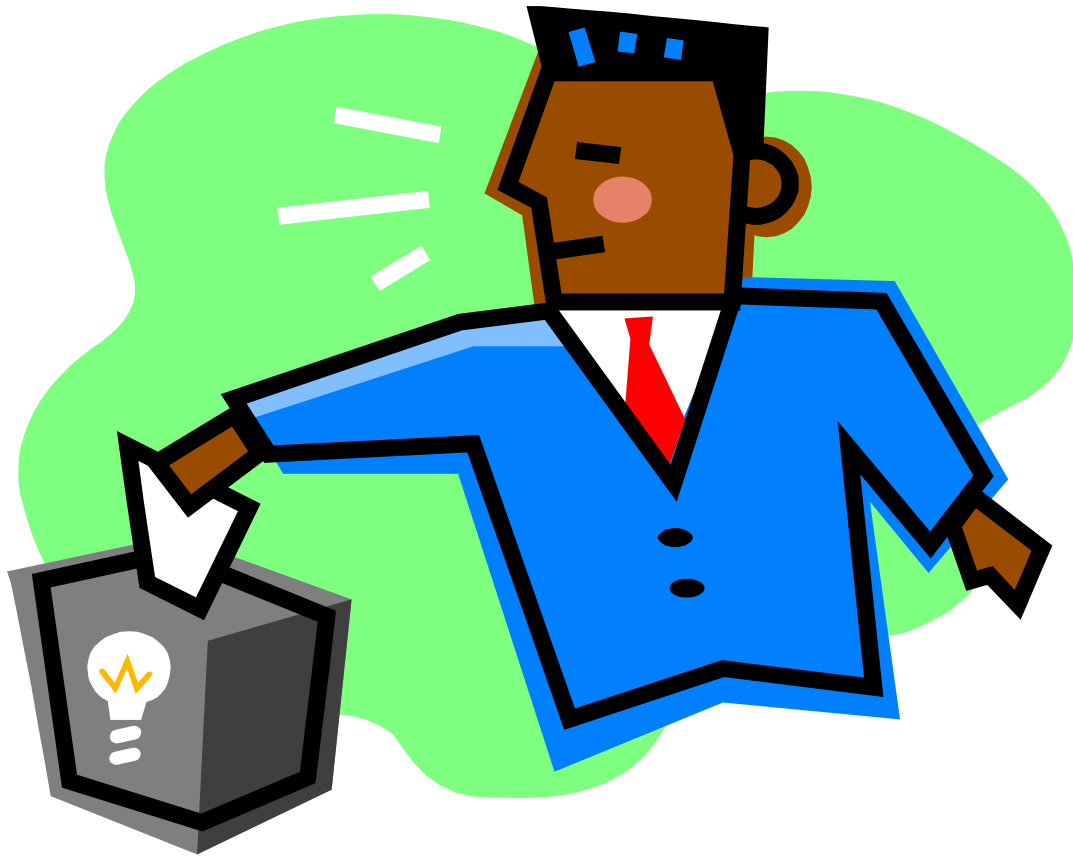
Patient 1	CAD	COPD	CHF	AMI	CABG	PCI	PNE	Prostate Cancer	DEPRESS	TKR	Total Actual	% Attrib	Over/Under
Internist	\$1,000	\$1,500	\$2,000	\$1,000	\$1,000	\$500	\$500	\$500		\$500	\$8,500	5.0%	\$(832)
Cardiologist	\$2,500		\$5,000	\$2,000	\$5,000	\$1,500	\$500				\$16,500	9.8%	\$(1,616)
Pulmonologist		\$6,000	\$500		\$500		\$3,000				\$10,000	5.9%	\$(979)
Cadiac Surgeon					\$10,000	\$5,000					\$15,000	8.9%	\$(1,469)
Orthopedist										\$5,000	\$5,000	3.0%	\$(490)
Ortho Surgeon										\$2,500	\$2,500	1.5%	\$(245)
Oncologist								\$5,500			\$5,500	3.3%	\$(539)
Therapist					\$500				\$1,500		\$2,000	1.2%	\$(196)
Hospital			\$5,000	\$8,000	\$32,000	\$14,500	\$7,500			\$14,000	\$81,000	48.1%	\$(7,932)
SNF/Rehab			\$2,500	\$9,000	\$5,000	\$2,500	\$500			\$3,000	\$22,500	13.4%	\$(2,203)
<b>Total Actual Episode Costs</b>	<b>\$3,500</b>	<b>\$7,500</b>	<b>\$15,000</b>	<b>\$20,000</b>	<b>\$54,000</b>	<b>\$24,000</b>	<b>\$12,000</b>	<b>\$6,000</b>	<b>\$1,500</b>	<b>\$25,000</b>	<b>\$168,500</b>		
<b>Total Expected</b>	<b>\$4,500</b>	<b>\$6,000</b>	<b>\$12,000</b>	<b>\$19,000</b>	<b>\$52,000</b>	<b>\$24,000</b>	<b>\$10,000</b>	<b>\$6,000</b>	<b>\$1,500</b>	<b>\$17,000</b>	<b>\$152,000</b>		
<b>Over/Under</b>	<b>\$1,000</b>	<b>\$(1,500)</b>	<b>\$(3,000)</b>	<b>\$(1,000)</b>	<b>\$(2,000)</b>	<b>\$-</b>	<b>\$(2,000)</b>	<b>\$-</b>	<b>\$-</b>	<b>\$(8,000)</b>	<b>\$(16,500)</b>		
Per Episode													
Internist	\$286	\$(300)	\$(400)	\$(50)	\$(37)		\$(83)			\$(160)			
Cardiologist	\$714	\$-	\$(1,000)	\$(100)	\$(185)		\$(83)						
Pulmonologist		\$(1,200)	\$(100)		\$(19)		\$(500)						
Cadiac Surgeon					\$(370)								
Orthopedist										\$(1,600)			
Ortho Surgeon										\$(800)			
Oncologist													
Therapist					\$(19)								
Hospital			\$(1,000)	\$(400)	\$(1,185)		\$(1,250)			\$(4,480)			
SNF/Rehab			\$(500)	\$(450)	\$(185)		\$(83)			\$(960)			



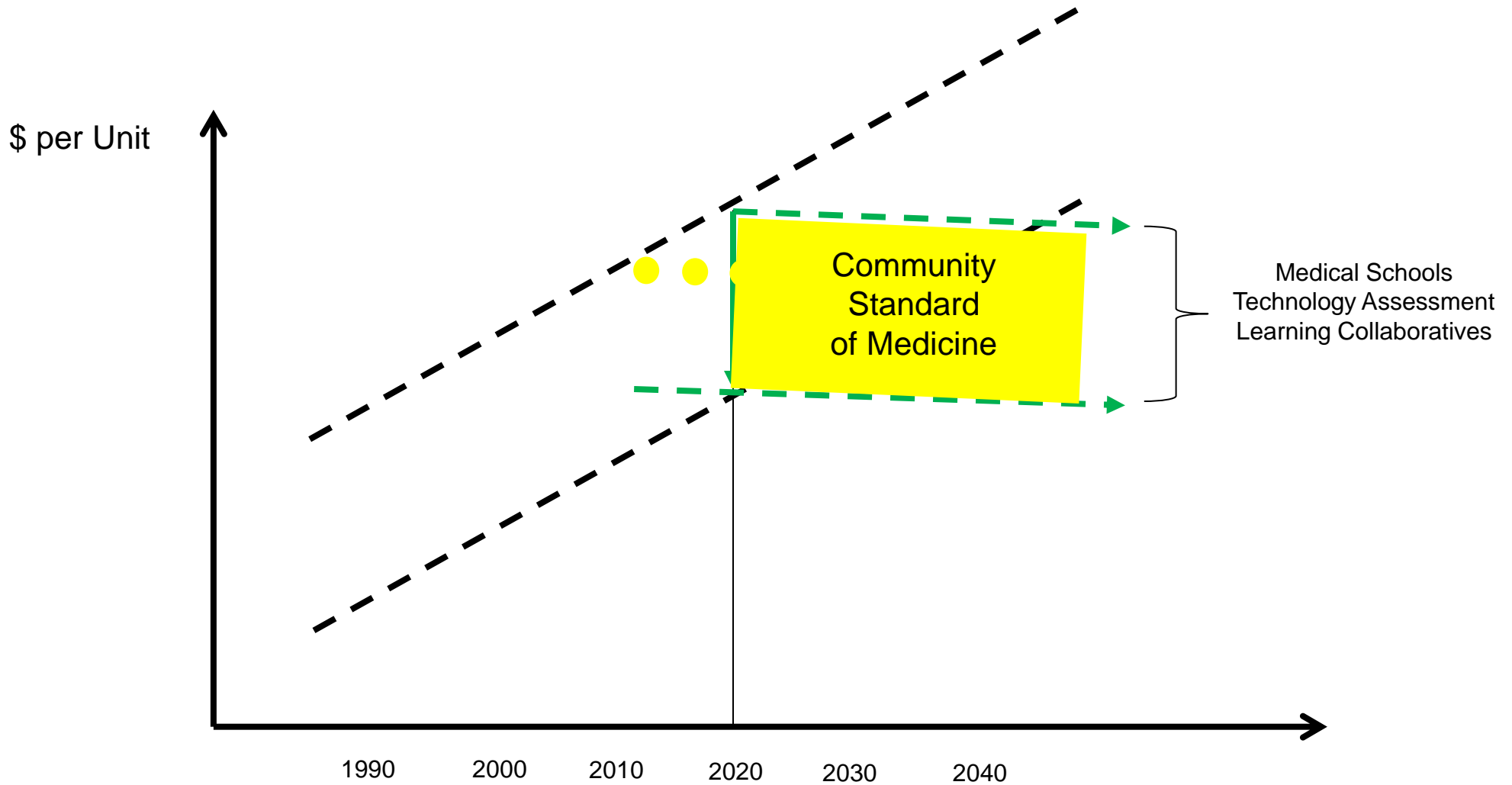
## My Suggestions...

1. Incentives for Quality and Efficiency During and After Hospital Admissions (HVPB)
2. Incentives to Manage Chronic Conditions and Avoid Complications (PACES)
3. Smart Adoption and Utilization of Technologies (Healthcare Innovation Zones, HIZ)
4. Fix ACOs
  - Annual and Cumulative Savings, in place of the “2% threshold”
  - Local not national rates of change
  - Multiple attribution of beneficiaries to providers recognizing specialists

Please, Your Suggestions...

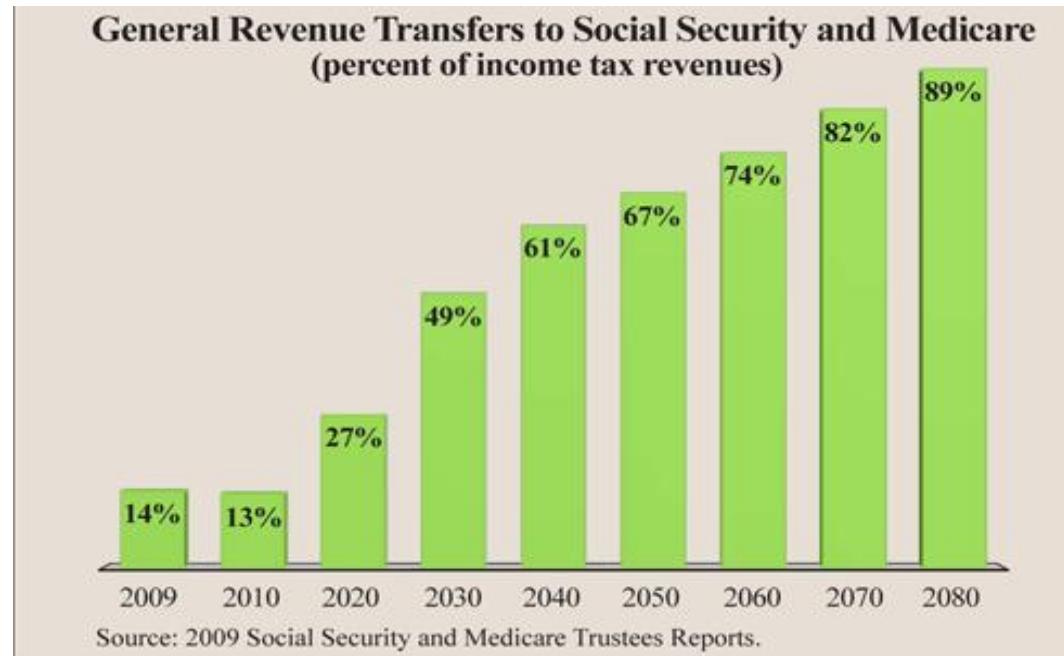


# Healthcare Technology





## Growth Trends



- ▶ **By 2050, Social Security, Medicare and Medicaid (health care for the poor) will consume nearly the entire federal budget.**
- ▶ **By 2082, Medicare spending alone will consume nearly the entire federal budget.**
- ▶ **10,000 people a day will become eligible for retirement**

# Computer Technology

