Potential for Demand to Slow Spending Growth

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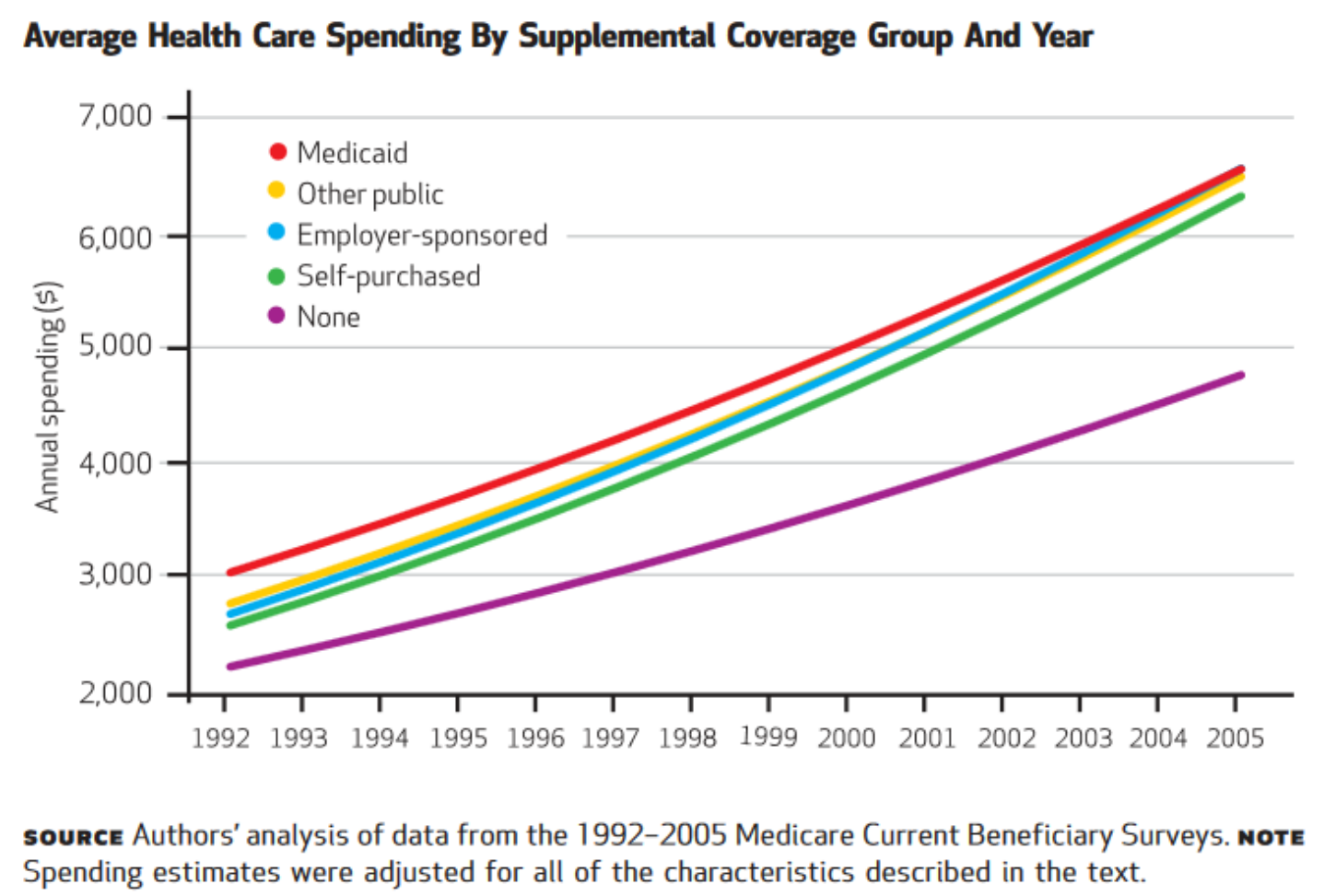
Medicare Coverage Incomplete

Gaps in coverage	Cost Sharing	Separate deductibles
• Long term care services • Dental care • Eyeglasses • Hearing aids	• Hospital services (>60 days) • Outpatient hospital services	• Part A • Part B • Part D

➔ No Out of Pocket Maximum

Higher Cost-Sharing could Slow Growth



Source: Golberstein et al. 2013. "Supplemental Coverage Associated with More Rapid Spending Growth for Medicare Beneficiaries. *Health Affairs* 32(5).

Slutsky Decomposition

$$e_{p_X} = \varepsilon^{c}_{x,p_X} - S_X \cdot \varepsilon_M$$

e_{p_X} : price elasticity

ε^{c}_{x,p_X} : compensated own price elasticity

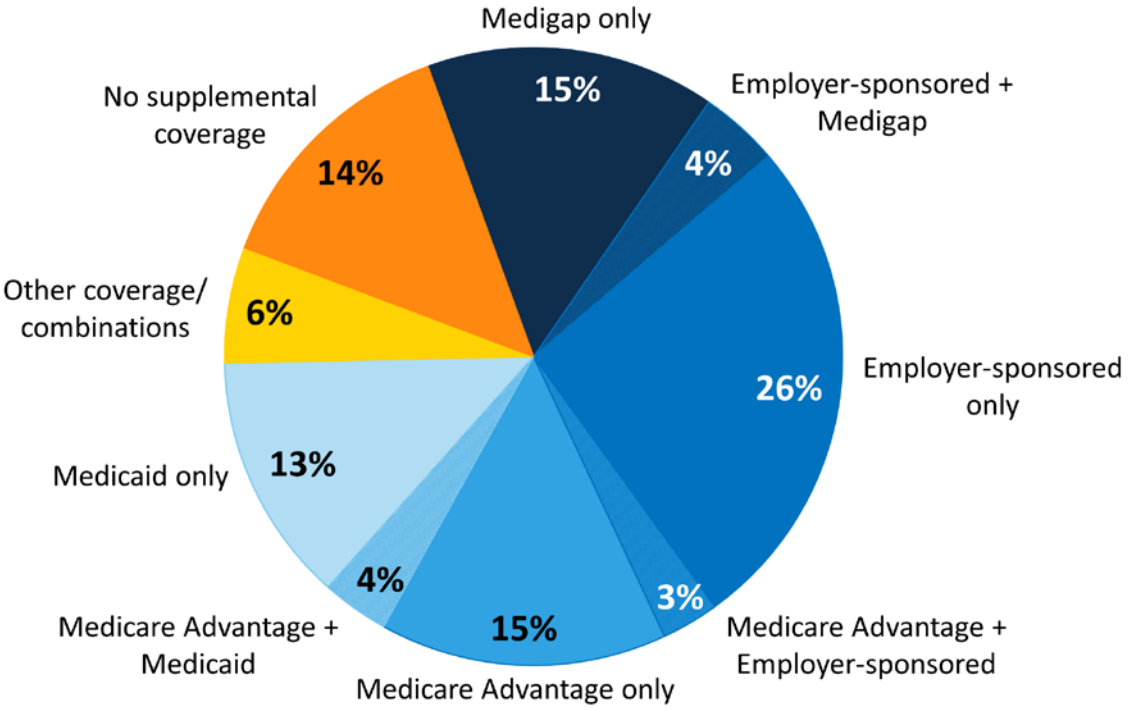
S_X : share of income spent on health

ε_M : income elasticity

Most Medicare Beneficiaries have Supplemental Coverage

Figure 12

Distribution of Sources of Supplemental Coverage Among Medicare Beneficiaries, 2010



Total Medicare Beneficiaries, 2010 = 48.4 Million

SOURCE: Kaiser Family Foundation analysis of the Medicare Current Beneficiary Survey 2010 Cost and Use file.

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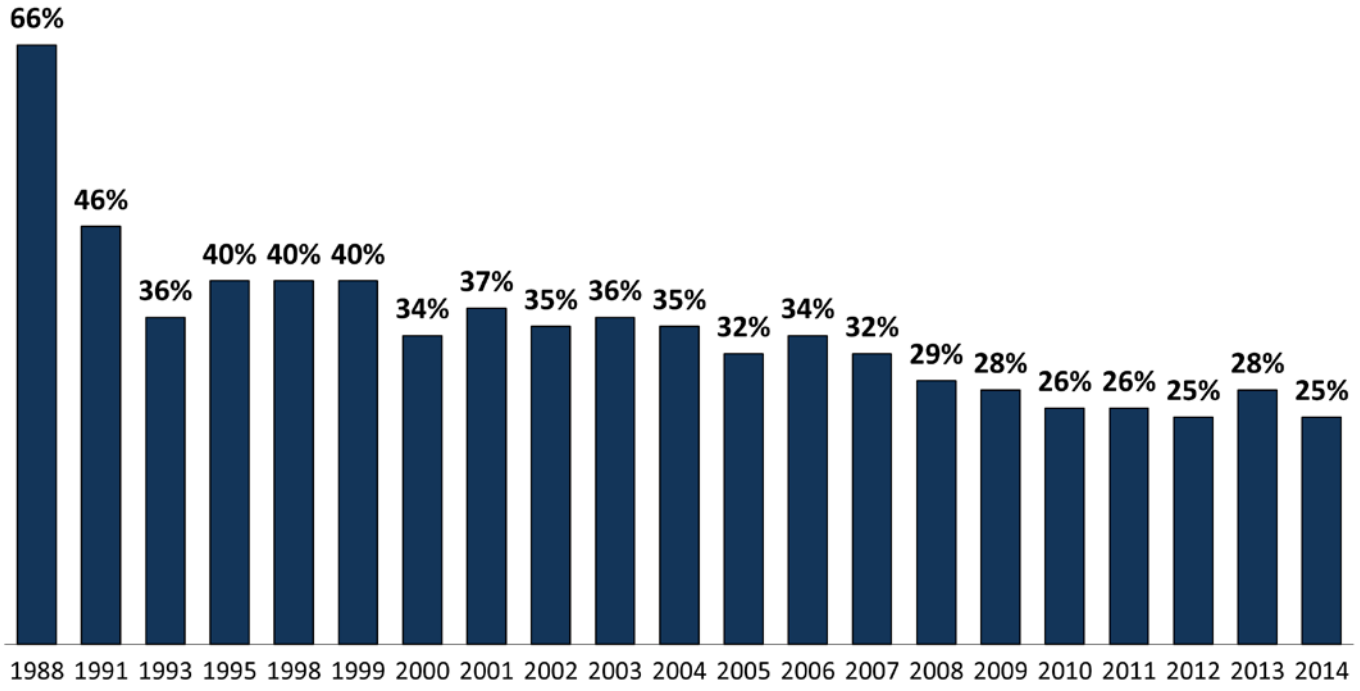
Employer Offerings to New Retirees are Eroding

Figure 13

Percent of Large Firms (200+ Workers) Offering Retiree Health Benefits to Active Workers, 1988-2014



NOTE: Tests found no statistical difference from estimate for the previous year shown (p<.05). No statistical tests are conducted for years prior to 1999.

SOURCE: Kaiser/HRET Survey of Employer-Sponsored Health Benefits, 1999-2014; KPMG Survey of Employer-Sponsored Health Benefits, 1991, 1993, 1995, 1998; The Health Insurance Association of America (HIAA), 1988.

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MA Rates

- ACA lowered benchmarks for MA plans
  - Range: 95% to 115% of traditional FFS costs
- Puts more pressure on beneficiaries

Question:

- To what extent will existing cost-sharing requirements slow spending growth?

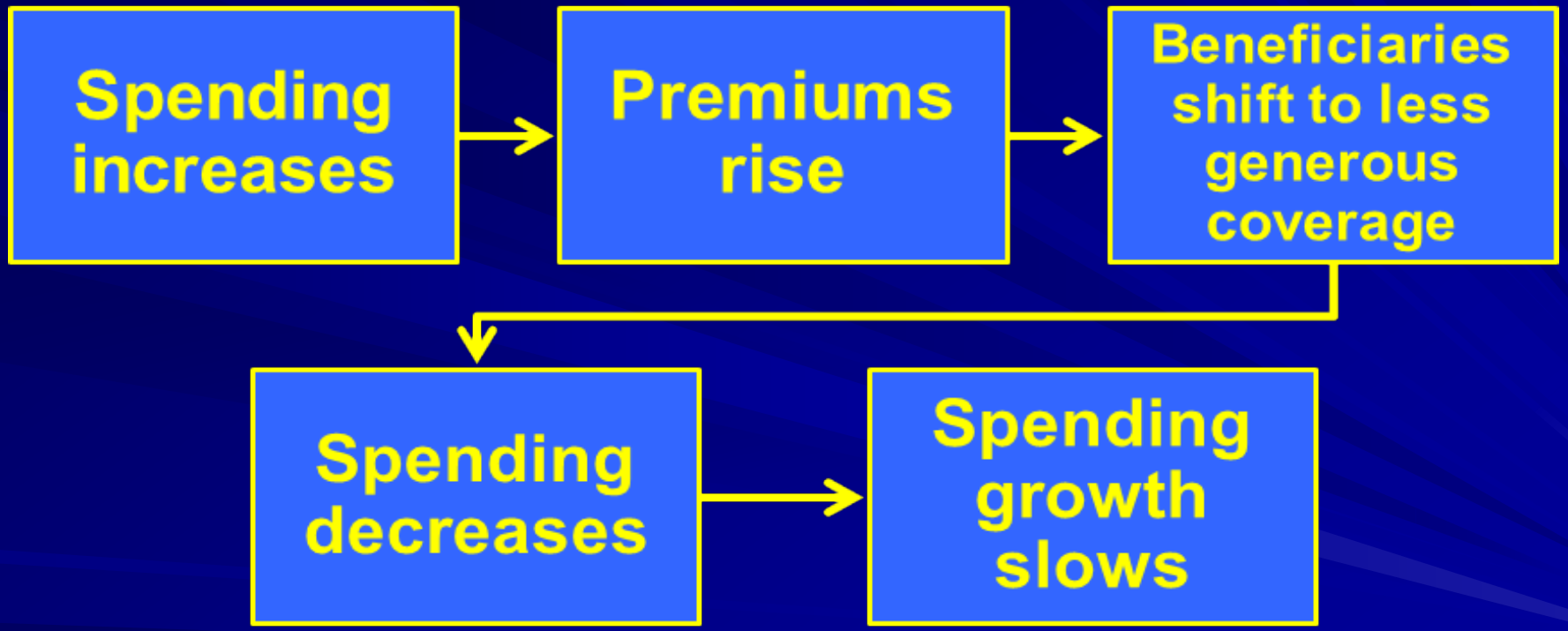
DYNASIM

- The Urban Institute's Dynamic Simulation of Income Model
- Projects size and characteristics of population for next 75 years
  - i.e., demographics, economic outcomes, health status, spending on acute medical care
- Individual-level income and wealth are projected
  - Includes retirement behavior, etc.

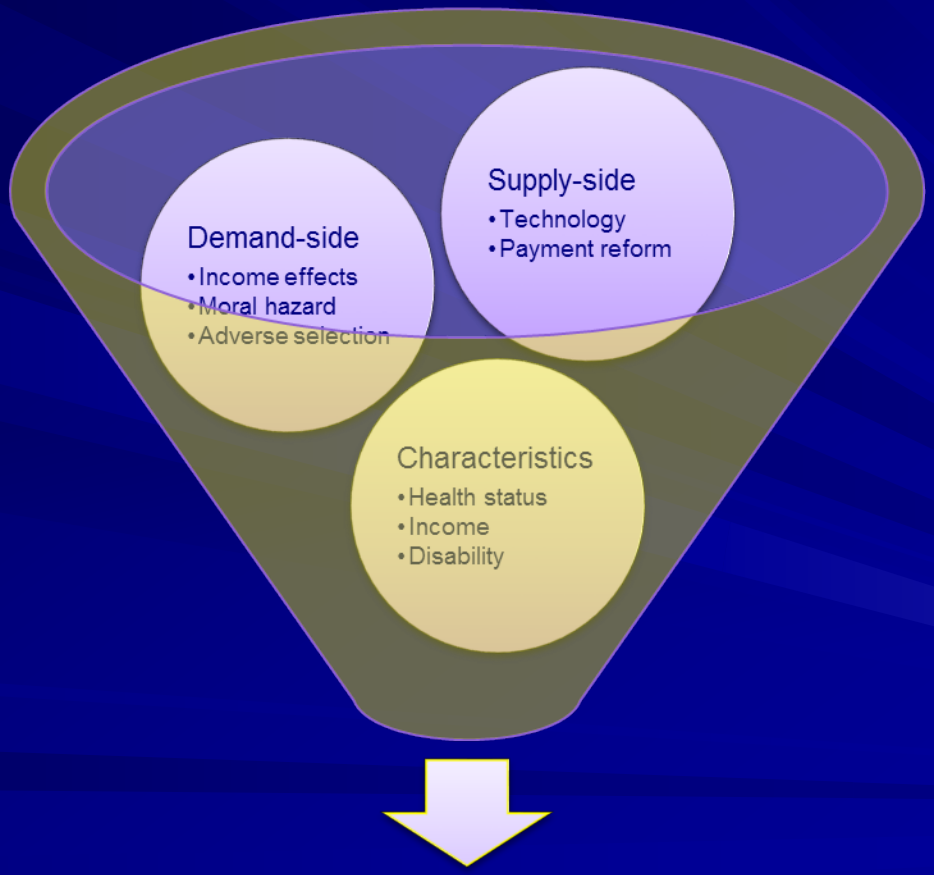
What We Did

- We put a health model on top of DYNASIM
  - Health status
  - Insurance choice
  - Demand for health care

Framework

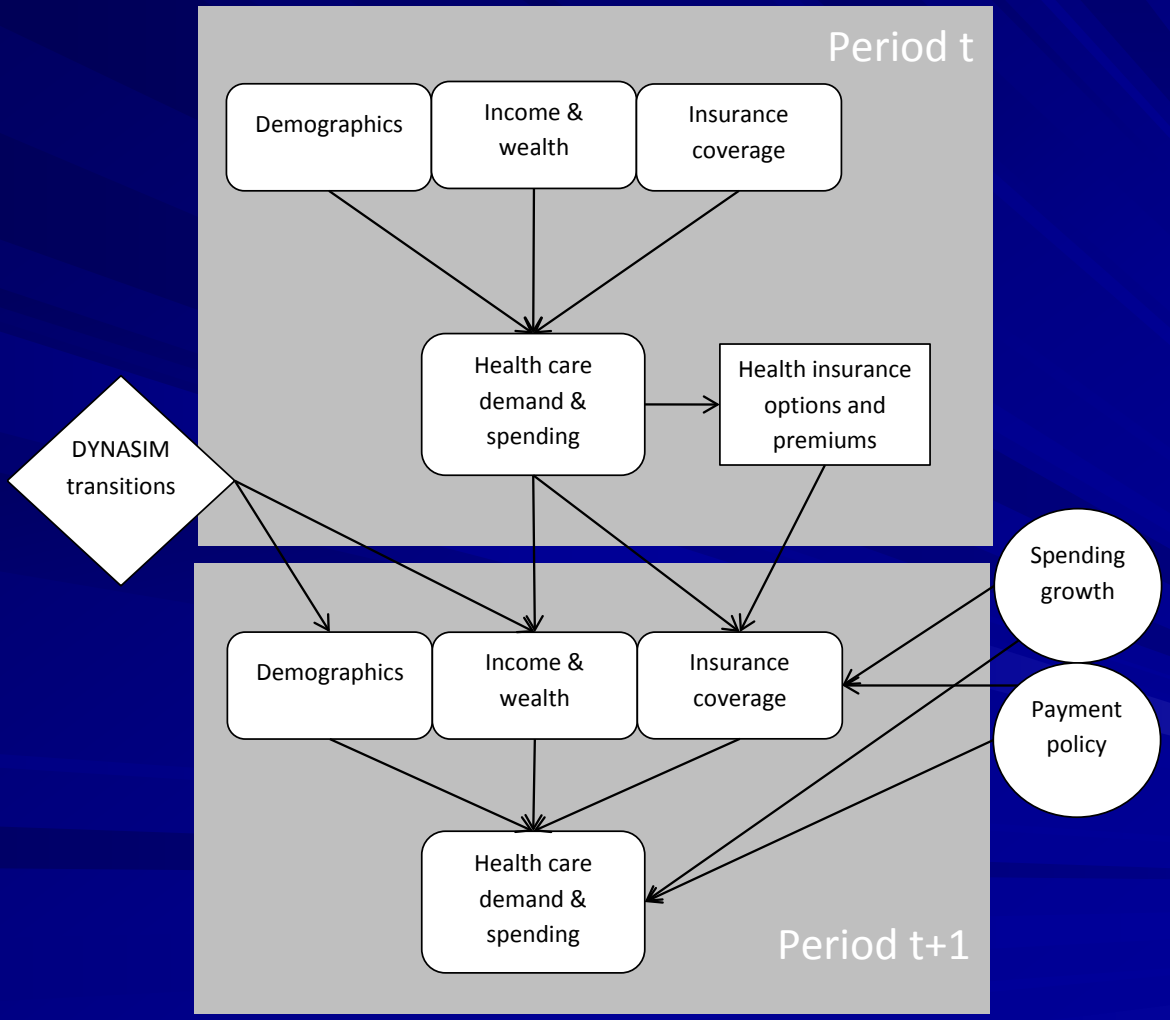

Spending increases
Premiums rise
Beneficiaries shift to less generous coverage
Spending decreases
Spending growth slows

We Forecast Medicare Program and Personal Out-of-Pocket Spending

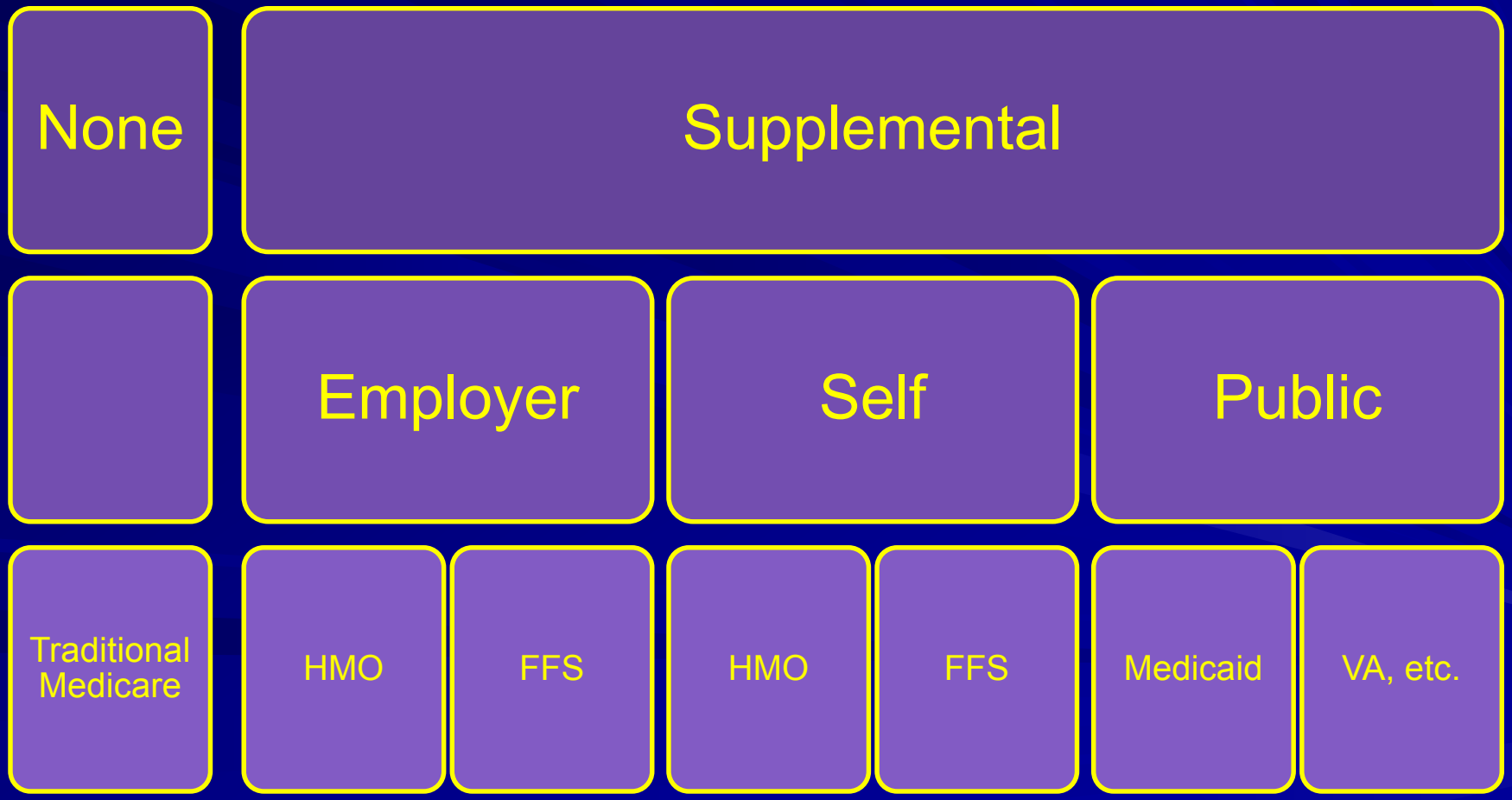


Health care spending

Spending Depends on Supplemental Coverage through Generosity (demand)



We Simplify Supplemental Coverage to 7 Mutually Exclusive and Exhaustive Types



Key Result

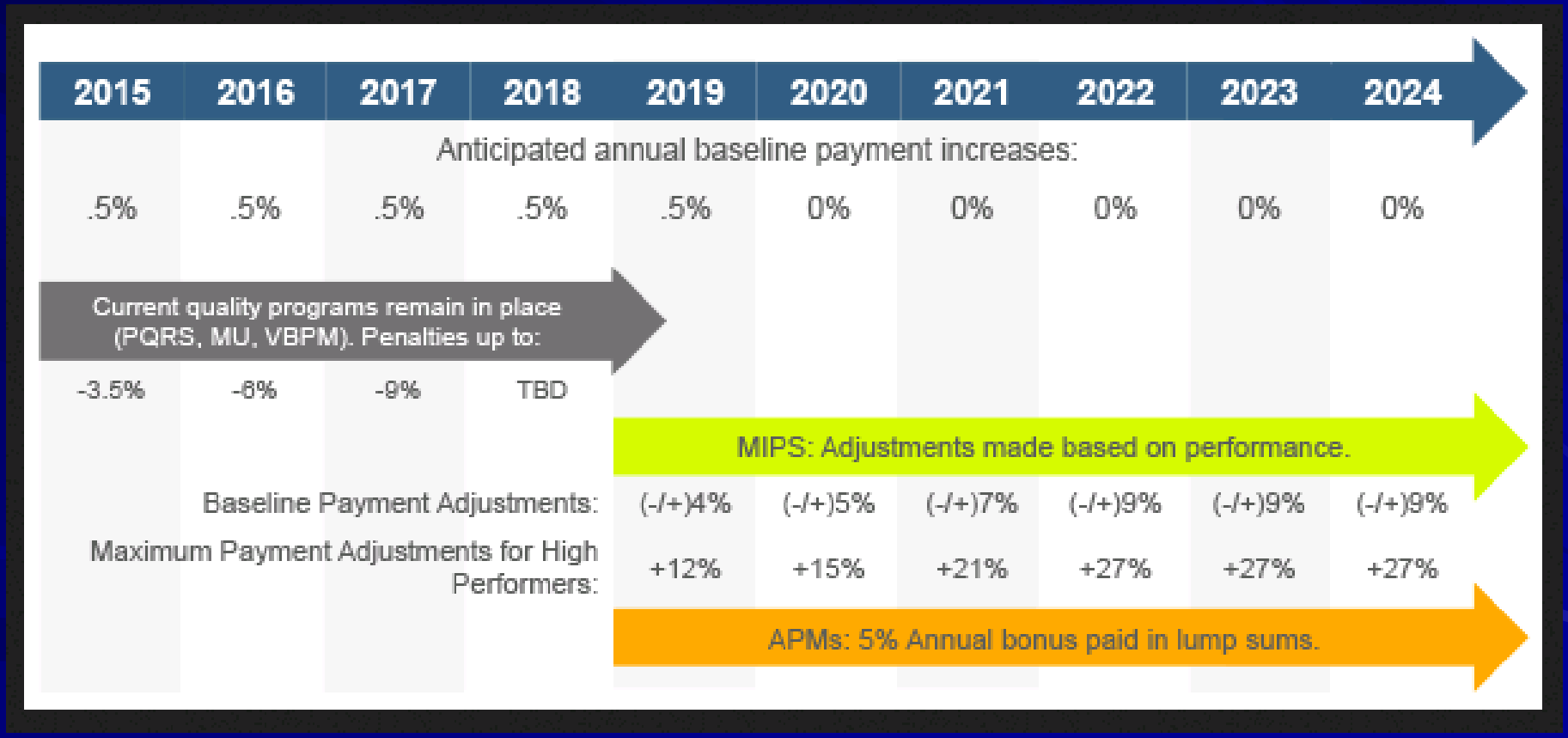
- Aggregate spending does not slow that much
  - Aggressive assumptions about elasticities do not suggest large aggregate demand-side effects

Other Findings

- Out-of-pocket spending grows fastest for low-income people with high levels of spending
- MA enrollment increases when employers drop coverage
- Employer coverage offerings have modest impact on OOP spending

Productivity and Sustainability

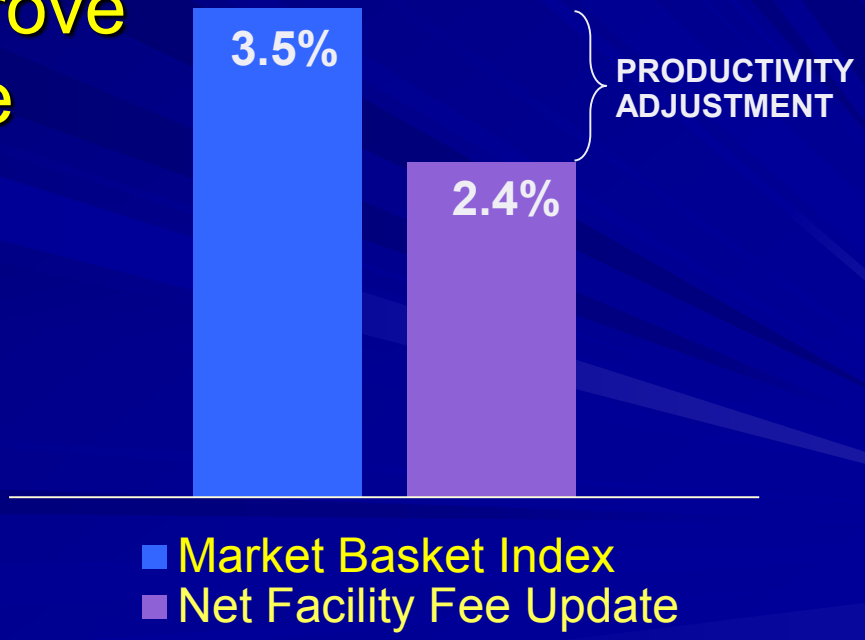
Medicare Physician Fee Trajectory



Source: http://optimityadvisors.com/insights/blog/macra-101-condensed-guide-macra-mips-and-apms

Productivity Adjustment

- Pre-ACA, facilities received annual fee updates to reflect price increases of inputs (*market basket*)
- ACA reduced fee updates → facilities expected to improve productivity to offset price increases of inputs
  - Market basket index reduced by average 1.1 percentage pts annually



Source: https://www.aei.org/publication/an-aca-provision-youve-never-heard-of-could-end-up-being-very-costly/

Question:

- Is the trajectory of fees so low that the system is “unsustainable”?

Definitions

- Unsustainability: Payment is below cost of producing adequate quality
- Productivity: The resources (cost) needed to produce a given quality falls over time
  - Productivity gains allow fees to rise more slowly and not be “unsustainable”
  - Growing interest in the productivity gains in the health care sector

Sources of Productivity Gains

- Human capital improvement
  - Experience
  - Training
- Re-organization of care
  - Retail clinics
- New technology
  - Home monitoring
  - Telemedicine
  - Better drugs
  - Less invasive medical procedures

Sheiner Hypothesis

- "…payment updates are now equal to input price growth less the ten-year average of economy-wide MFP. If wages and other input costs in the health sector increase at the same pace as in the overall economy, then the ACA payment updates will be about equal to economy-wide inflation. If health sector productivity growth is the same as overall productivity growth, then providers will be able to continue to provide a constant quality of care even under this new payment formula".

  - Louise Sheiner and Anna Malinovskaya, May 2016

Concerns

- Asymmetry of productivity gains
  - Can you translate better quality with higher cost into same quality with lower cost
- Weakest link in the chain problem

→ Most research is macro, micro effects matter

Asymmetry

- New services may provide better outcomes at somewhat higher cost
  - It may not be possible to consume a fraction of the new service to get same outcomes at a lower cost
- Better training may allow surgeons to have fewer complications for same fee
  - May not be able to lower fees to get the original complication rate

Example

- Old surgical technique generated 10 QALYs for $10k.
- New technique generates 30 QALYs for $15k.
- It may not be possible to use the new technique to generate 10 QALYS for $5k.

Weakest Link Problem

- Price is paid for a service
- Substitution between services is not rewarded
- Sustainability in a FFS system requires EVERY service needed to produce health be reimbursed above cost
- Productivity gains may not be even across services

Example

- Assume knee surgery requires:
  - 1 Hospital stay ($5,000)
  - 1 Surgeon ($2,000)
  - Implant ($1,000)
  - 5 SNF ($400/day)

  → episode cost $10,000

Example (cont.)

- New techniques allow reduction of post-acute to 2 days
  - New cost → $9,200 (8% savings)
- If prices of all inputs drop by 8%, the episode is not sustainable
  - Hospital may not be able to produce at $4,600
  - Post-acute may not be able to produce 3 days at $384/day

Office Visit Conundrum

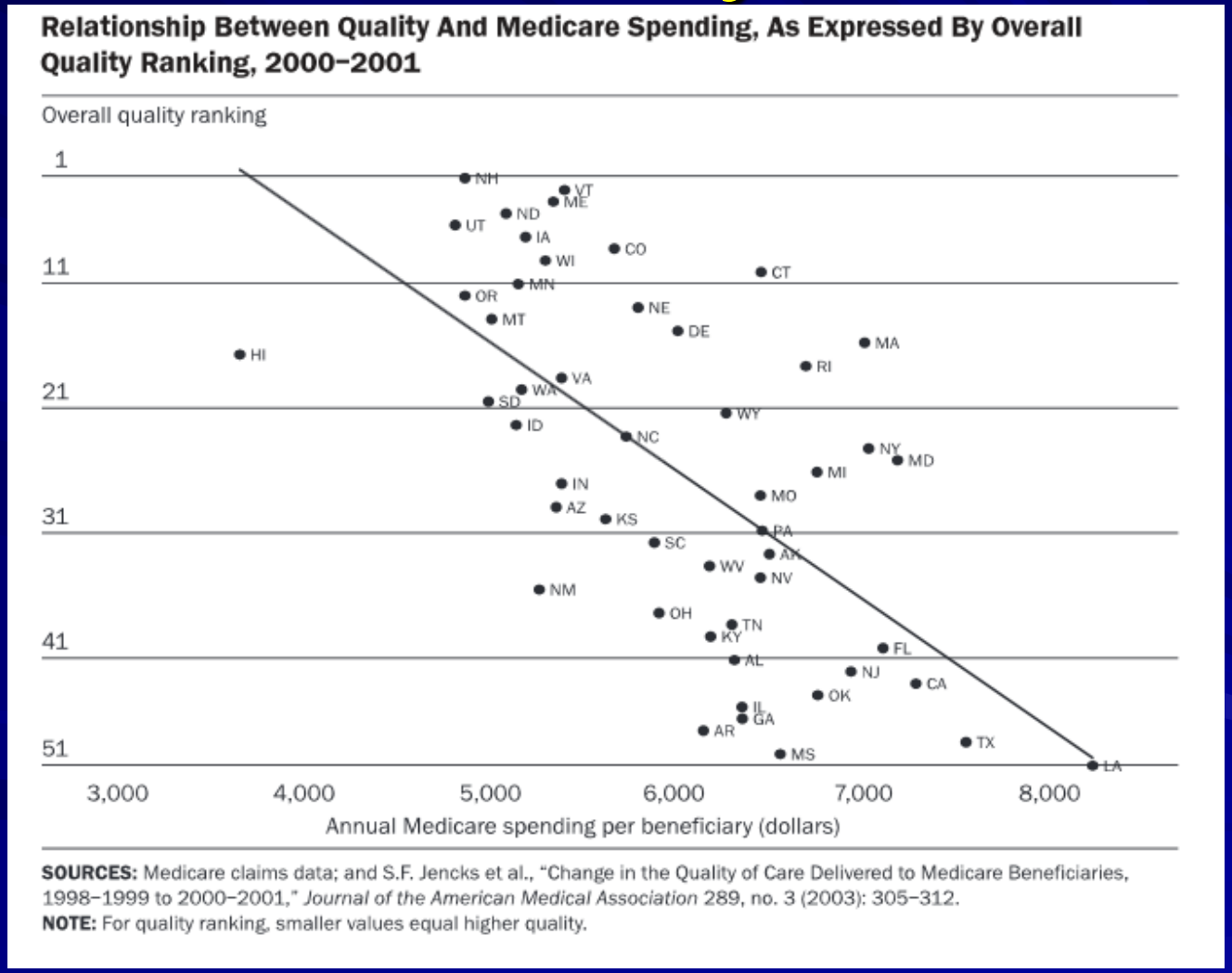
- Office visits may require a fixed amount of time and costs may rise with inflation
- Even if productivity is rising overall in health care, real fees for office visits may have a lower bound
  - Fee cuts due to productivity gains may not be sustainable

Broader Payment Models Can Help Providers Capture Productivity Gains

- With episode- or population-based payment models savings in one area (post-acute), can be allocated to other areas
  - Substitutability across services is encouraged
  - Outputs in a FFS system (visits) are converted to inputs
  - Volume reductions can be converted to effective price increases

Savings Are Possible

Spending Not Correlated with Quality



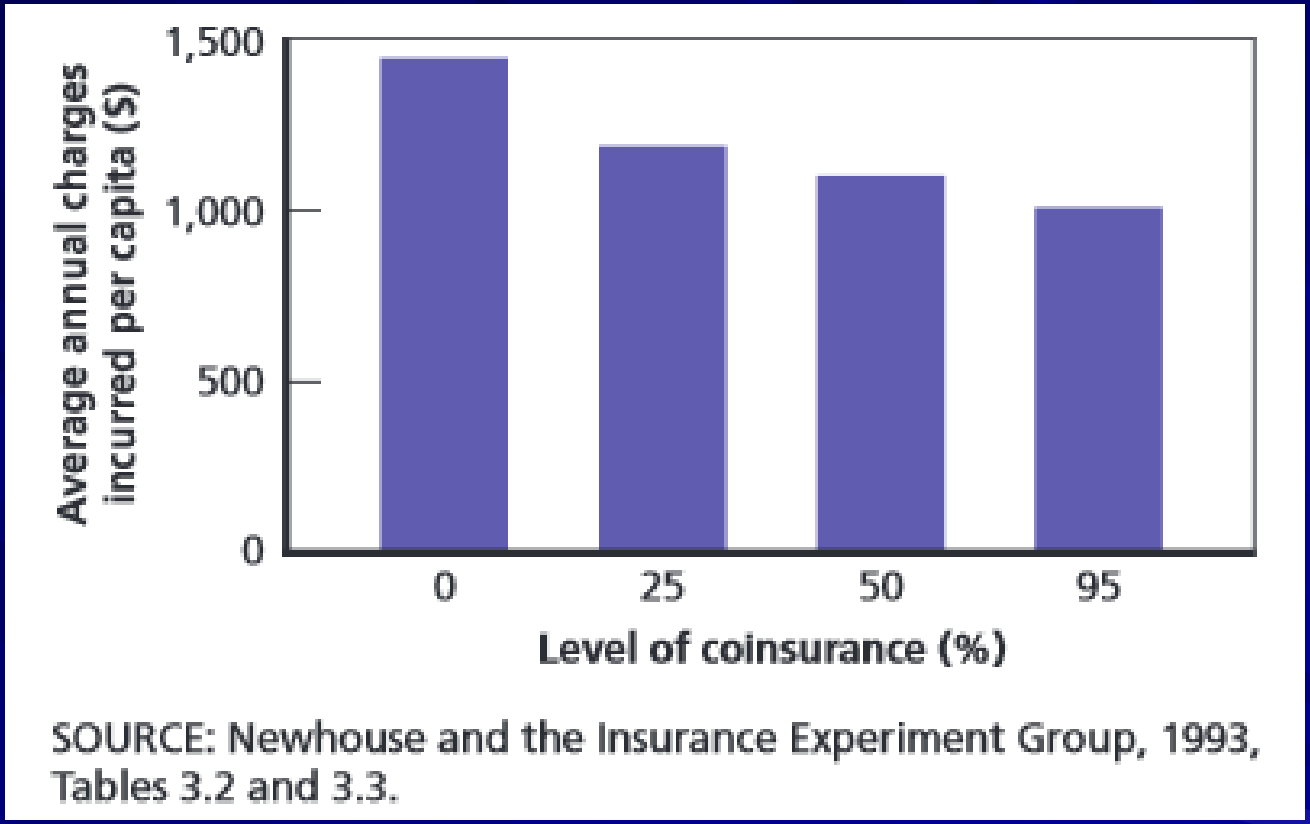
Source: Baicker, K. and Chandra, A. "Medicare Spending, the Physician Workforce, and Beneficiaries' Quality of Care." *Health Affairs*, 2004.

Waste in the Healthcare System Comes From Many Places

Category	Sources	Estimate of Excess Costs	% of Waste	% of Total
Unnecessary services	• Overuse beyond evidence-established levels • Discretionary use beyond benchmarks • Unnecessary choice of higher-cost services	$210 billion	27%	9.15%
Inefficiently delivered services	• Mistakes, errors, preventable complications • Care fragmentation • Unnecessary use of higher-cost providers • Operational inefficiencies at care delivery sites	$130 billion	17%	5.66%
Excess admin costs	• Insurance paperwork costs beyond benchmarks • Insurers' administrative inefficiencies • Inefficiencies due to care documentation requirements	$190 billion	25%	8.28%
Prices that are too high	• Service prices beyond competitive benchmarks • Product prices beyond competitive benchmarks	$105 billion	14%	4.58%
Missed prevention opportunities	• Primary prevention • Secondary prevention • Tertiary prevention	$55 billion	7%	2.40%
Fraud	• All sources – payers, clinicians, patients	$75 billion	10%	3.27%
	Total	**$765 billion**		**33.33%**

Source: Institute of Medicine. 2013. *"Best Care at Lower Cost: The Path to Continuously Learning Health Care in America."*

Overuse: RAND HIE



SOURCE: Newhouse and the Insurance Experiment Group, 1993, Tables 3.2 and 3.3.

- Higher cost-sharing reduced use of **both** effective and ineffective care
  - → No effect on average **quality** of care received

Source: Brook RH et al. 2006. "The Health Insurance Experiment: A Classic RAND Study Speaks to the Current Health Care Reform Debate." http://www.rand.org/content/dam/rand/pubs/research_briefs/2006/RAND_RB9174.pdf

Quantifying Overuse

- Choosing Wisely
  - 2012 – Initiative of American Board of Internal Medicine Foundation to address/reduce waste in health care
  - 70+ participating specialty societies, 400+ recommendations for commonly overused tests/treatments
- USPSTF
  - An independent, volunteer panel of national experts in prevention and evidence-based medicine.

Choosing Wisely

- American College of Emergency Physicians Recommendations:
  1. Avoid CT scans of the head in ED patients with minor head injury who are at low risk based on validated decision rules.
  2. Avoid CT of the head in asymptomatic adult patients in ED with syncope, insignificant trauma, and normal neurological evals.

Source: http://www.choosingwisely.org/wp-content/uploads/2015/01/Choosing-Wisely-Recommendations.pdf

American College of Emergency Physicians®
ADVANCING EMERGENCY CARE

Payment Reform

Payment Reform

- Pay less
  - Reductions in payment to providers
- Move away from FFS
  - Episode bundles
  - Population-based payment

Episode Payments

Episode Payments

- Some evidence of savings
  - Some lower spending in episodes with post-acute care[2,3]
    - PAC spending decreased approximately 20% (incl. SNFs, IRFs, Home Health) [3]
  - BPCI saved approximately 4% on orthopedic episodes[3]
  - For CABG episodes, found **5%** decrease in costs within Geisinger integrated delivery system (Casale et al., 2007)
- Savings may be offset by increased episode volume (Fisher, 2016)
- No consistent quality impact BPCI[1,2]

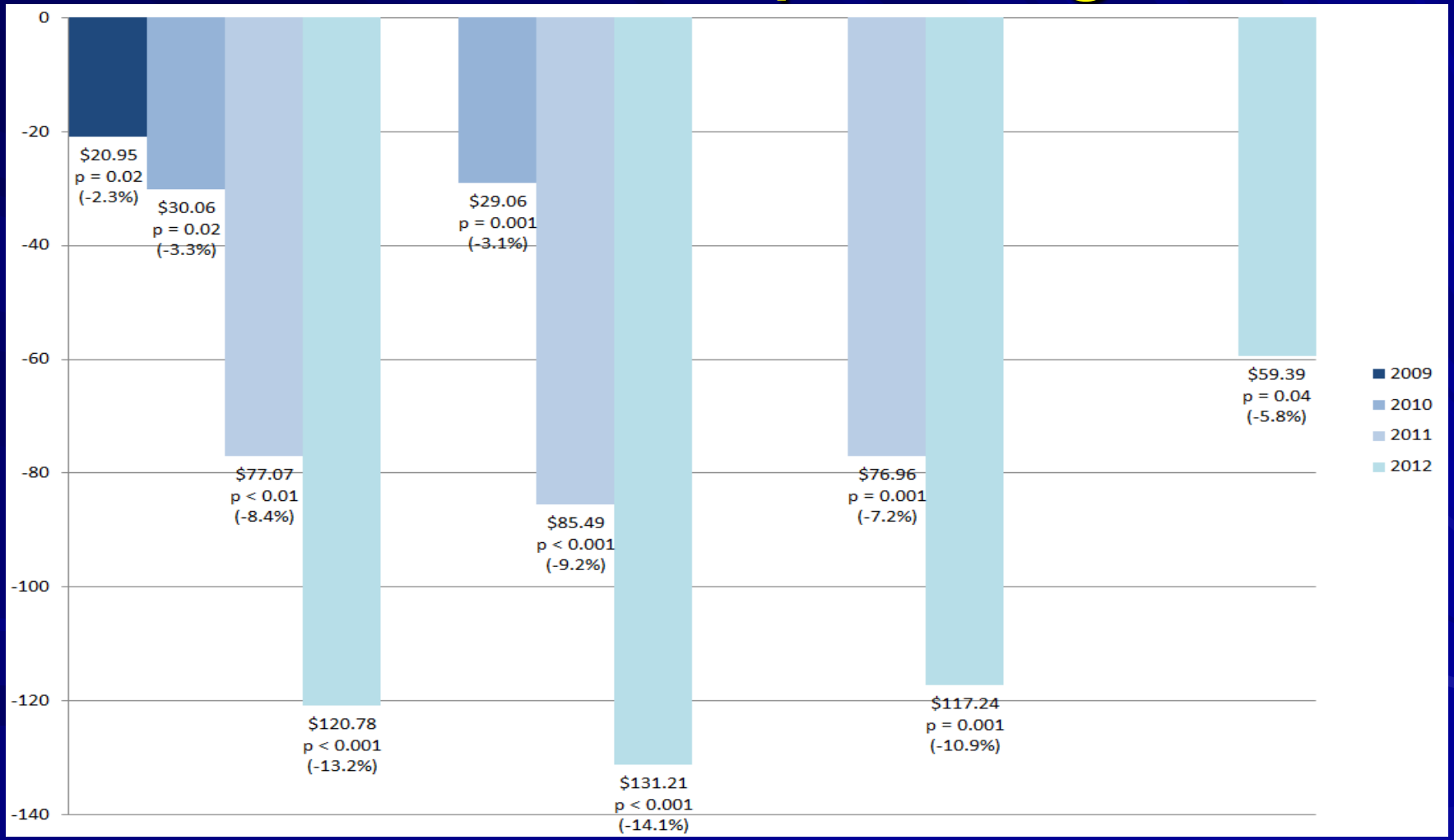
[1] Econometrica, Inc. "Evaluation and Monitoring of the Bundled Payments for Care Improvement Model 1 Initiative." July 2015.

[2] Lewin Group. "CMS Bundled Payments for Care Improvement Initiative Models 2-4: Year 1 Evaluation & Monitoring Annual Report." February 2015.

[3] Dummit et al. "Association Between Hospital Participation in a Medicare Bundled Payment Initiative and Payments and Quality Outcomes for Lower Extremity Joint Replacement Episodes." *JAMA*. 2016;316(12).

Population-based Payments

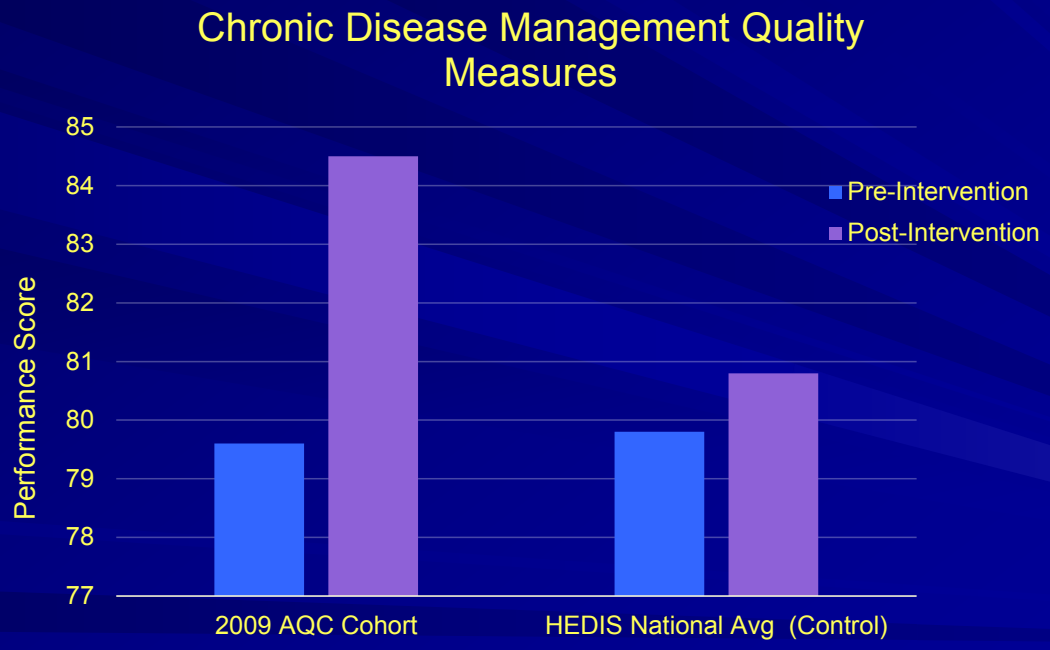
Alternative Quality Contract Reduced Spending



Source: Song, Zirui, et al. "Changes in health care spending and quality 4 years into global payment." *New England Journal of Medicine* 371.18 (2014): 1704-1714.

Impact of AQC on Quality

- Overall, improved performance on quality measures and outcomes compared to control group



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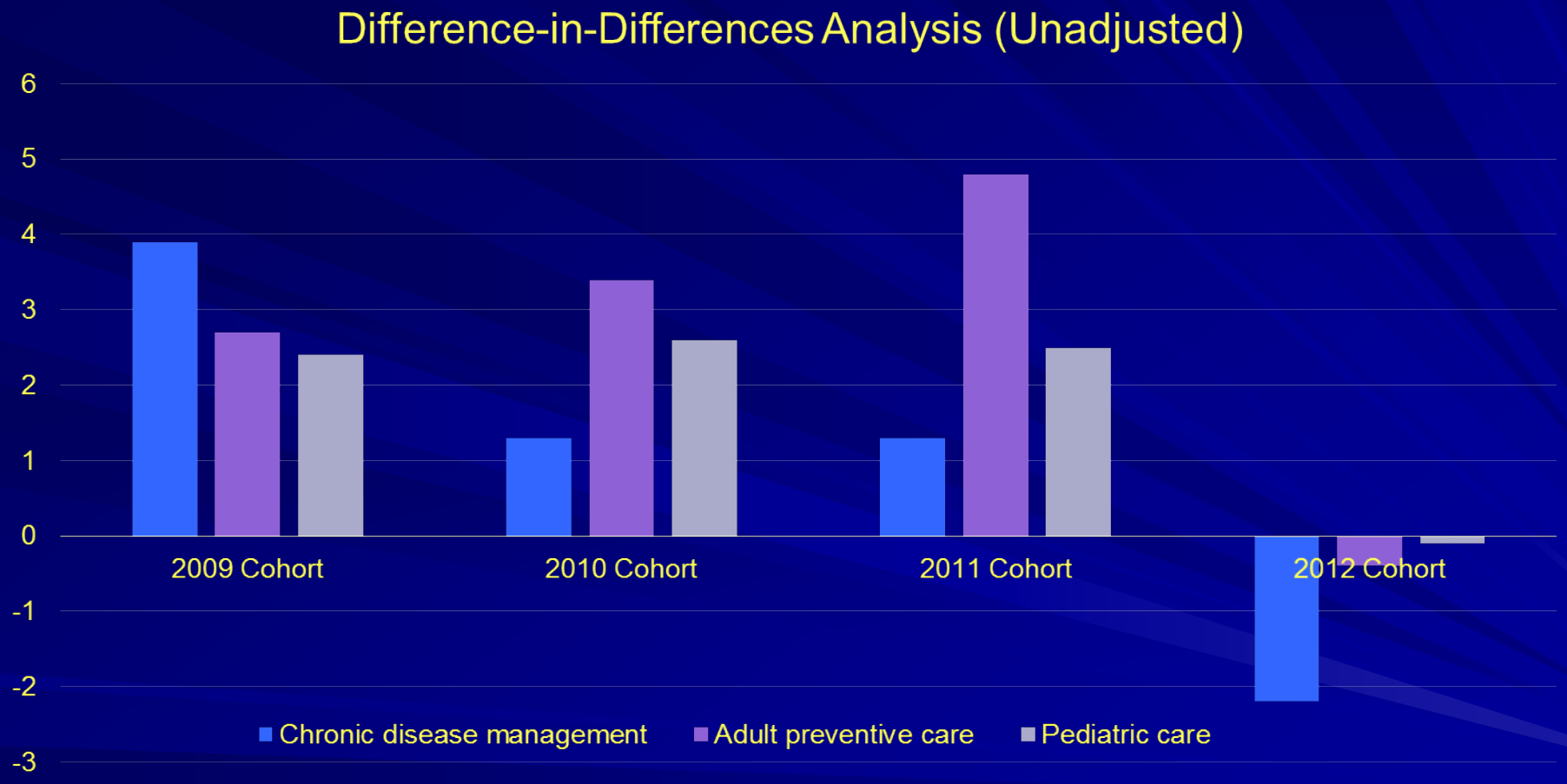
Impact of AQC on Quality



Note: 2012 cohort had a higher level of performance to begin with and did not improve as compared with HEDIS during the first year.

Source: Song, Zirui, et al. "Changes in health care spending and quality 4 years into global payment." *New England Journal of Medicine* 371.18 (2014): 1704-1714.

Result Decomposition

- About half savings due to price (referrals)
- Utilization effects on
  - Stenting
  - Advanced imaging
  - Equivocal results for orthopedic services
  - Few impacts on prescription drugs

Pioneer ACOs Reduce Spending

Spending Category	Quarterly Mean, $	Differential Change from 2009–11 to 2012 for ACO Group vs. Control, $	Savings, %
Total	2,456	−29.2*	−1.2
Acute inpatient	911	−13.5*	−1.5
Total outpatient	793	−6.9	−0.9
Office	405	7.3	+1.8
Hospital outpatient dept	388	−14.2*	−3.7
Poste-acute (SNF/IRF)	271	−8.7*	−3.2

*$P<0.05$

Source: McWilliams et al. 2015. "Performance Differences in Year 1 of Pioneer Accountable Care Organizations." *New England Journal of Medicine*.

Savings Disproportionately in Low- value Care

- Differential reduction of 0.8 low-value services per 100 beneficiaries for ACOs (vs. control)
  - 1.9% differential reduction in low-value service quantity
  - 4.5% differential reduction in spending on low-value services
- Greater reductions for ACOs providing more low-value care

Source: Schwartz et al. 2015. “Change in Low-Value Services in Year 1 of the Medicare Pioneer Accountable Care Organization Program." *JAMA Internal Medicine*.

Pioneer ACOs have Null or Positive Impact on Quality

Quality Measure	Annual Mean	Differential Change for ACO Group vs. Control
30-day readmissions, no.	0.26	0.00
Hospitalizations for ACSCs, no.	0.06	0.00
CHF	0.02	0.00
COPD	0.01	0.00
CVD and DM	0.02	0.00
Mammography, %	55.2	0.0
Preventive services for DM, %		
A1c testing	73.1	0.5*
LDL testing	77.4	0.5*
Eye exams	55.2	0.8*
Received all 3	38.5	0.8*

*$P<0.05$

Source: McWilliams et al. 2015. "Performance Differences in Year 1 of Pioneer Accountable Care Organizations." *New England Journal of Medicine*.

MSSP ACOs Reduce Spending by a Small Amount but Impact Grows

	2013		2014		Change
	Spending Reduction $/patient (%)	*P*-value	Spending Reduction $/patient (%)	*P*-value	*P*-value
2012 ACO cohort (N=114)	−146 (−1.5%)	0.03	−264 (−2.6%)	<0.001	0.008
2013 ACO cohort (N=106)	3 (0.0%)	0.96	−94 (−0.9%)	0.07	0.03
2014 ACO cohort (N=115)	—	—	−49 (−0.5%)	0.27	—

- Pioneer ACOs:
  - Savings grew slightly from 1.6% in 2012 to 1.8% in 2013
  - Dropout started 2013, substantial by 2014

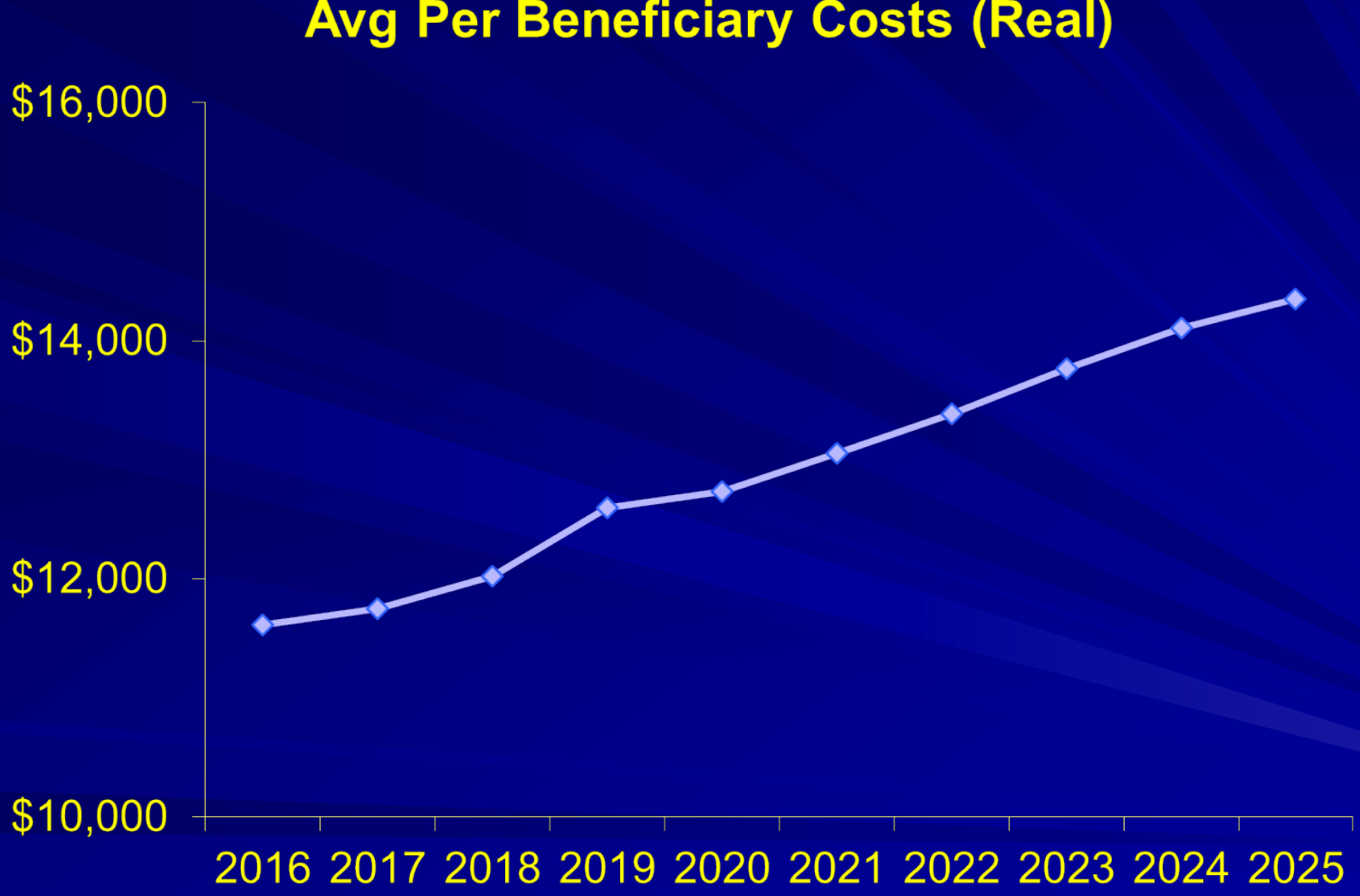
Sources: McWilliams, Hatfield, Chernew, Landon, & Schwartz. *N Engl J Med* 2016; McWilliams JM. *JAMA* 2016.

Savings in Inpatient, HOPD & Post-acute

Annual Spending Category	Differential Change from 2009–11 to 2014 for ACO Group vs. Control, $	Savings, %	*P*-value
Total, $	−264	−2.6	<0.001
Acute inpatient, $	−77	−2.3	0.006
Total outpatient, $	−18	−0.6	0.24
Office, $	25	+1.5	0.06
Hospital outpatient dept, $	−31	−3.2	0.002
Post-acute, $	−106	−9.0	0.003
SNF, $	−75	−9.2	0.01

Sources: McWilliams JM. *JAMA* 2016; McWilliams, Gilstrap, Stevenson, Chernew, Huskamp, & Grabowski (under review)

Forecasted Medicare Spending



Sources: 2016 Annual Report of the Boards of Trustees of the Federal Hospital Insurance and Supplementary Medical Insurance Trust Funds; Centers for Medicare & Medicaid Services, Office of the Actuary, National Health Statistics Group; U.S. Department of Commerce, Bureau of Economic Analysis; and U.S. Bureau of the Census.

Sustainability of Spending Trajectory

- Real spending per beneficiary is projected to increase even with fee cuts
  - This reflects projected volume increases
- In population or episode models volume can be converted to price
- The trajectory should be sustainable because more resources are going into the system

End