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Exploring Global Health Care Cost Drivers: South Africa and the United States

Sponsored by the International Actuarial Association Health Section (IAAHS) and the Academy's Health Practice International Task Force (HPITF)

May 13, 2015

Presenters

- Emile Stipp, BBusSc, LLB, FIA, Chairperson, International Actuarial Association Health Committee (South Africa)
- Tom Wildsmith, MAAA, FSA, President-Elect, American Academy of Actuaries (United States)
- Moderator: April Choi, MAAA, FSA, Chairperson, International Actuarial Association Health Section (United States)

Exploring Global Health Care Cost Drivers: South Africa and the United States

All nations face difficult challenges in providing health care to their people

Exploring Global Health Care Cost Drivers: South Africa and the United States

A series of webcasts that highlight the health care models of various countries in 2015

- February 18 (Israel & Netherlands)
- **May 13 (South Africa & US)**
- September 3 (Australia & Singapore)
- November (Canada & Chile)

We are holding a conversation that will explore the following:

- General characteristics
- Financing system
- Cost drivers
- Methods of coping with the cost drivers
- Measurement metrics
- Insights, successes, hurdles
- Future trends

Exploring Global Health Care Cost Drivers - South Africa

Emile Stipp

Chairman, International Actuarial Association Health Committee

May 13, 2015

Healthcare in South Africa

Overview of Healthcare in South Africa

R121 bn
(4.1 percent GDP)

Funded by taxes

Public sector

~42m

Private sector

~8.7m

R122 bn
(4.1 percent GDP)

Funded by contributions

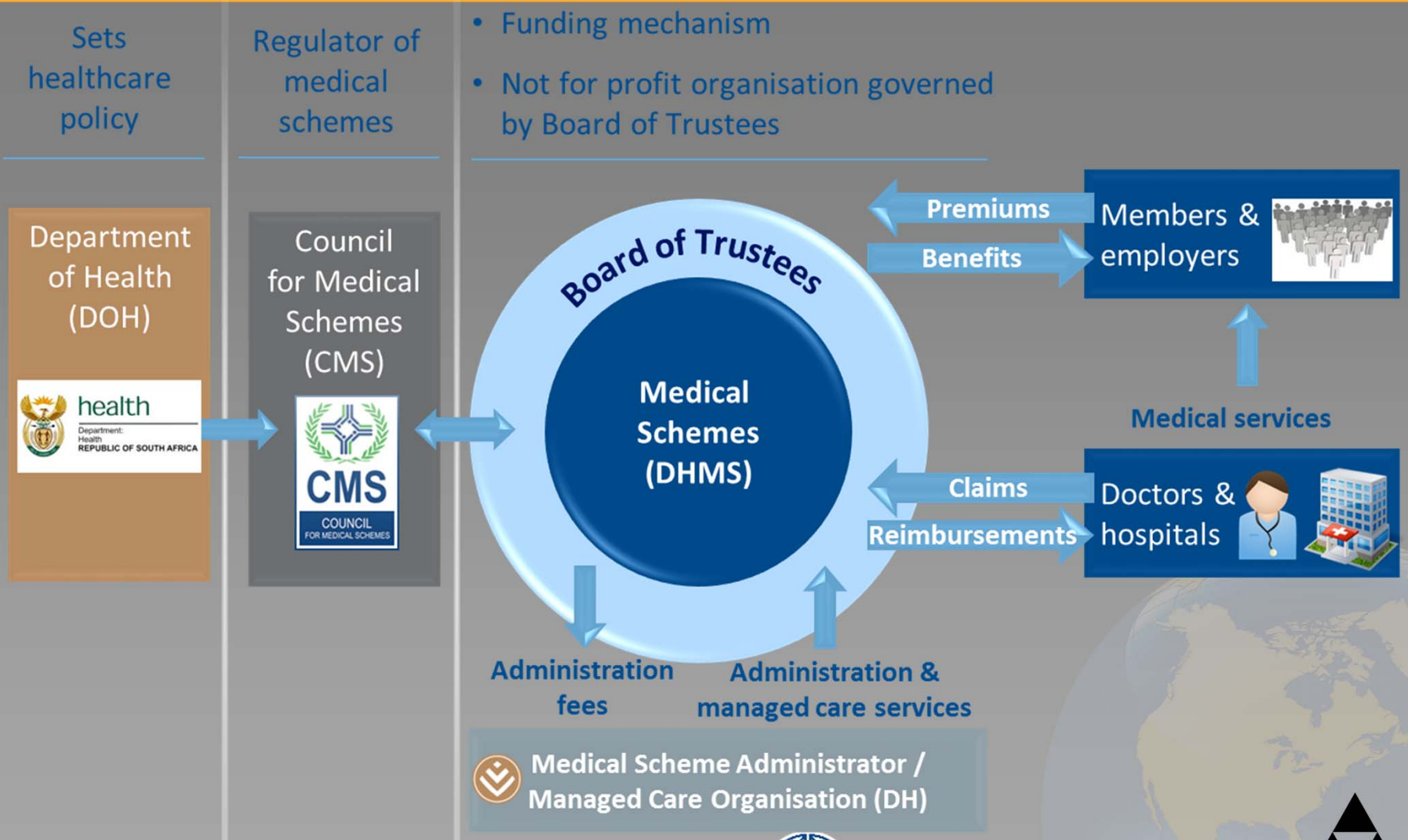
Source: Statistics South Africa

Imbalance of Resources Between Public and Private Sectors

	Private	Public
Population	9 million	42 million
Spend	R121bn	R122bn
Per capita spend	R13,444	R2,905
Beds	33,000	100,000
Per 1,000 lives	3.7	2.4
Doctors	11,500	10,000
Per 1,000 lives	1.3	0.2

Source: Discovery Health Medical Scheme internal data

The Private Healthcare Sector in South Africa



Source: Medical Schemes Act

Regulations Governing Medical Schemes in South Africa

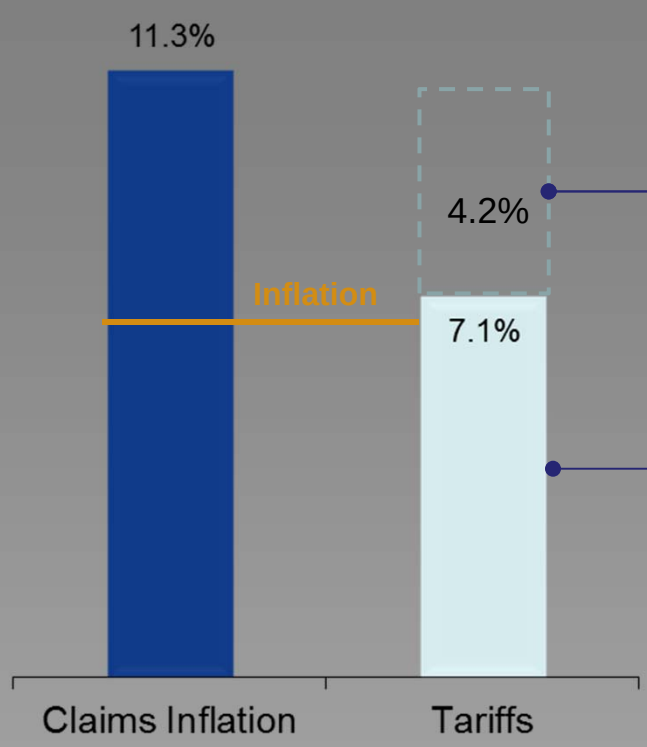
Open enrolment; Guaranteed acceptance; limited underwriting	Community rating	Strict solvency regulations	Prescribed Minimum Benefits
		25%	
Anyone can apply and must be accepted. Max waiting periods of 3-12 months on pre-existing conditions	Everyone pays the same premium – no adjustment for age and health status	Schemes must retain 25 percent of total annual contributions as a solvency margin	>300 specified conditions must be covered; Prescribed Minimum Benefits account for 50-60 percent of total claims

Source: Medical Schemes Act

Medical Inflation in the Private Sector

Inflation in Medical Schemes

Five year average annualised claims inflation rates (2009-2013)



Demand-side drivers :

- Increased disease burden
- Adverse selection
- Ageing

Supply-side drivers:

- Fee for service system
- Fragmentation of care
- New technology & procedures
- New hospitals

Tariffs

- Hospital tariffs
- Doctor tariffs

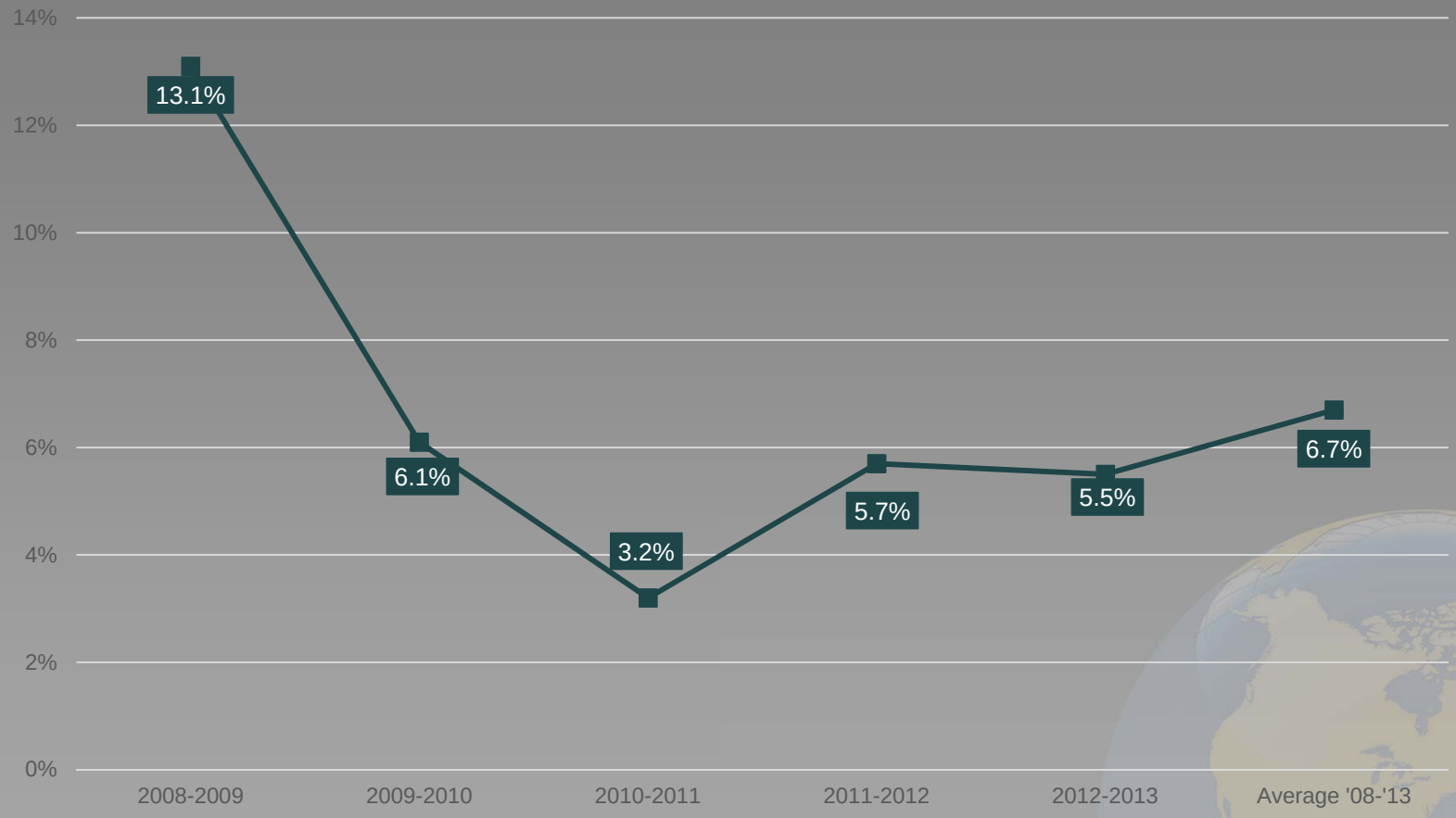
Inflation is also affected by:

- Non-healthcare expenses
- Financing requirements

Source: Discovery Health Medical Scheme internal data

Claims Inflation

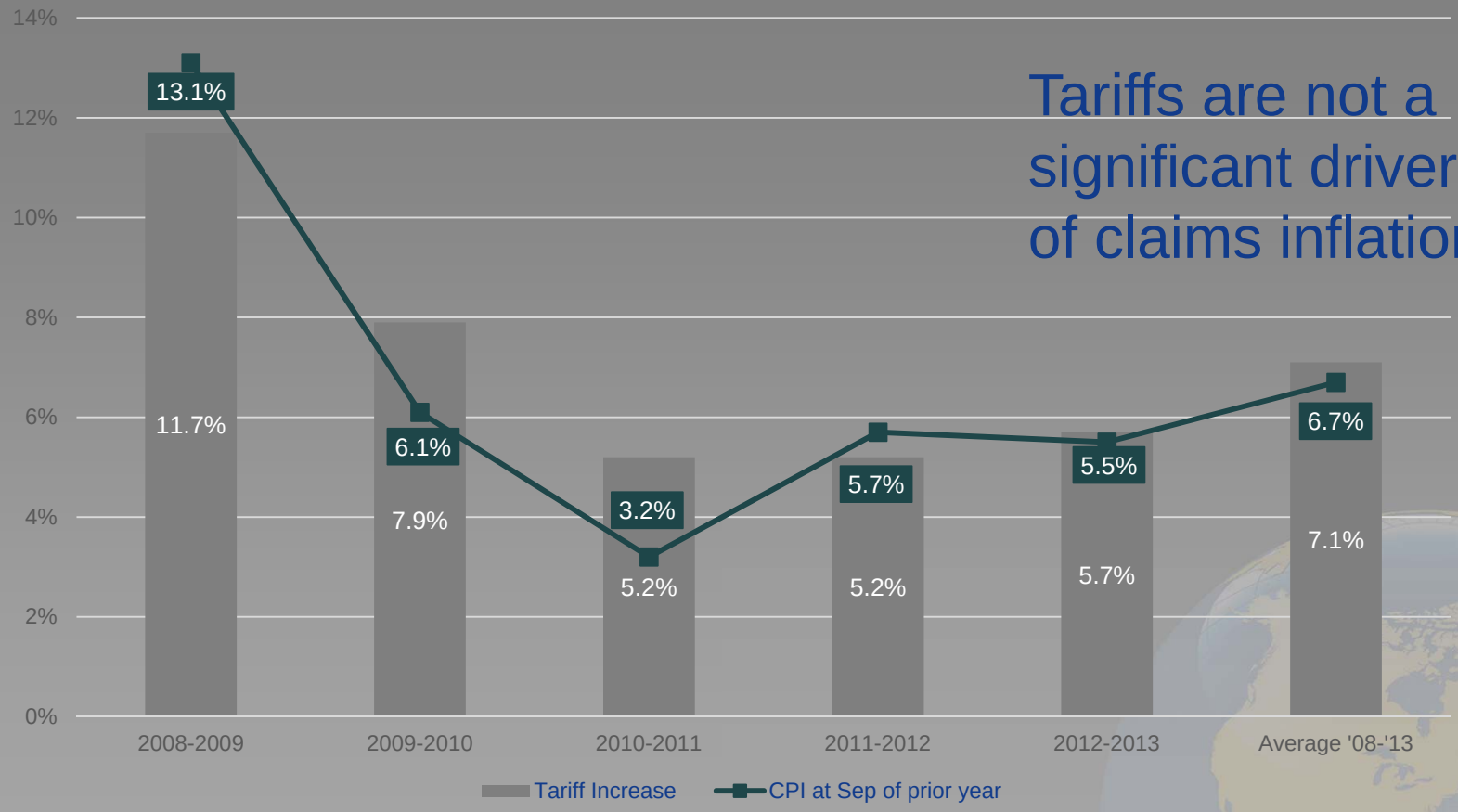
CPI between 2008 and 2013:



Source: Statistics South Africa

Claims Inflation (cont.)

Components of claim increases between 2008 and 2013:

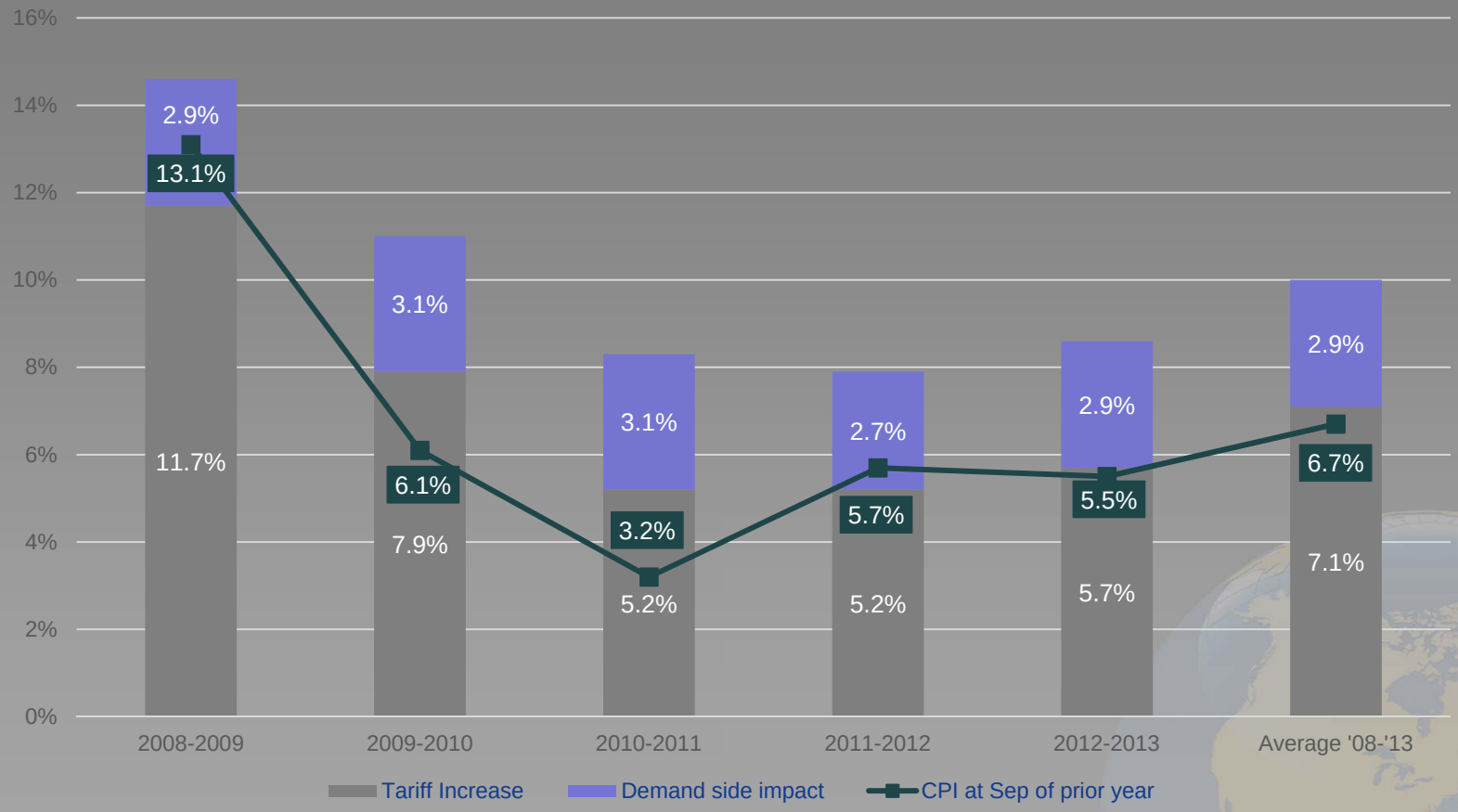


Tariffs are not a significant driver of claims inflation

Source: Discovery Health Medical Scheme internal data

Claims inflation (cont.)

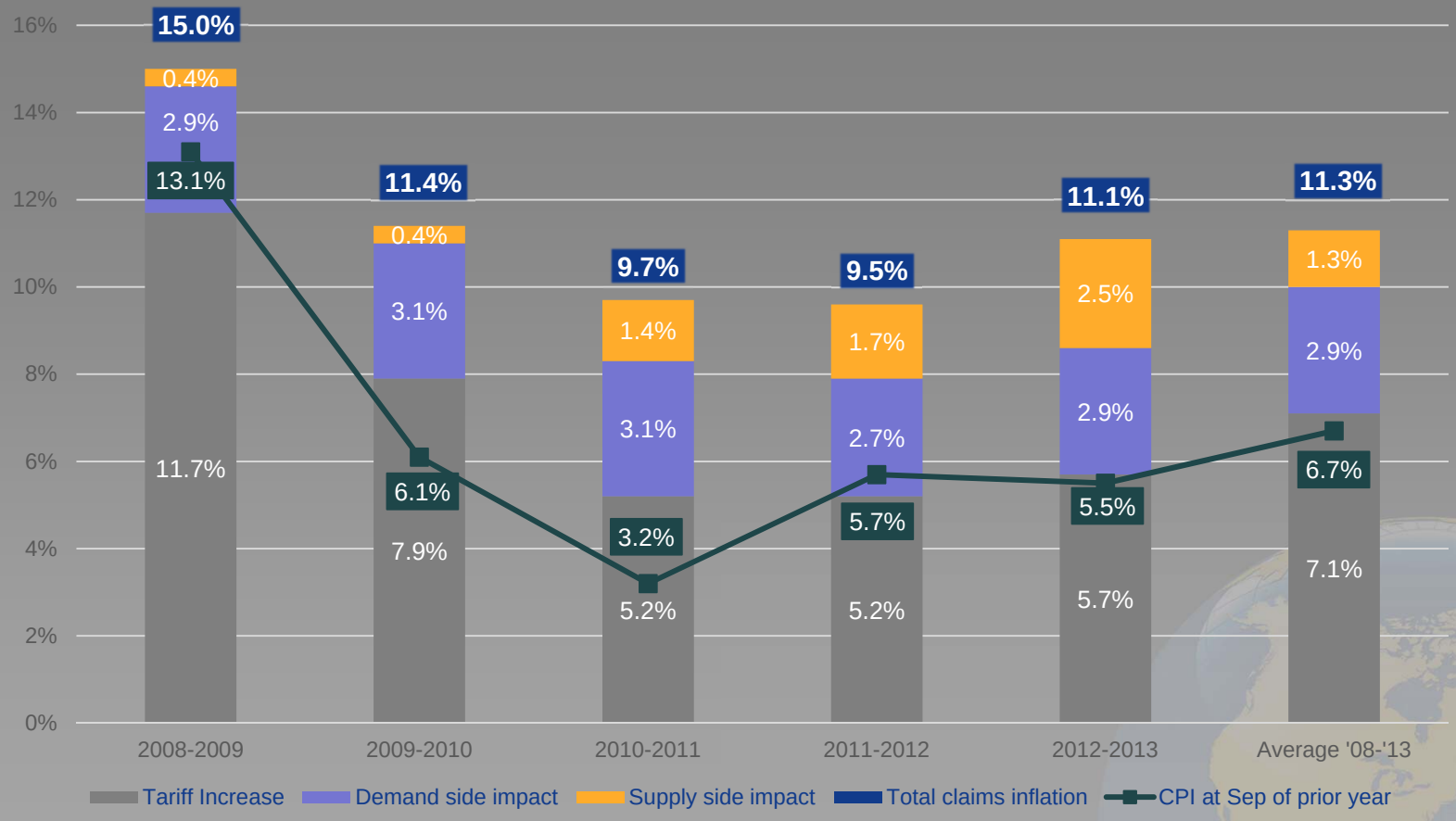
Components of claim increases between 2008 and 2013:



Source: Discovery Health Medical Scheme internal data

Claims inflation (cont.)

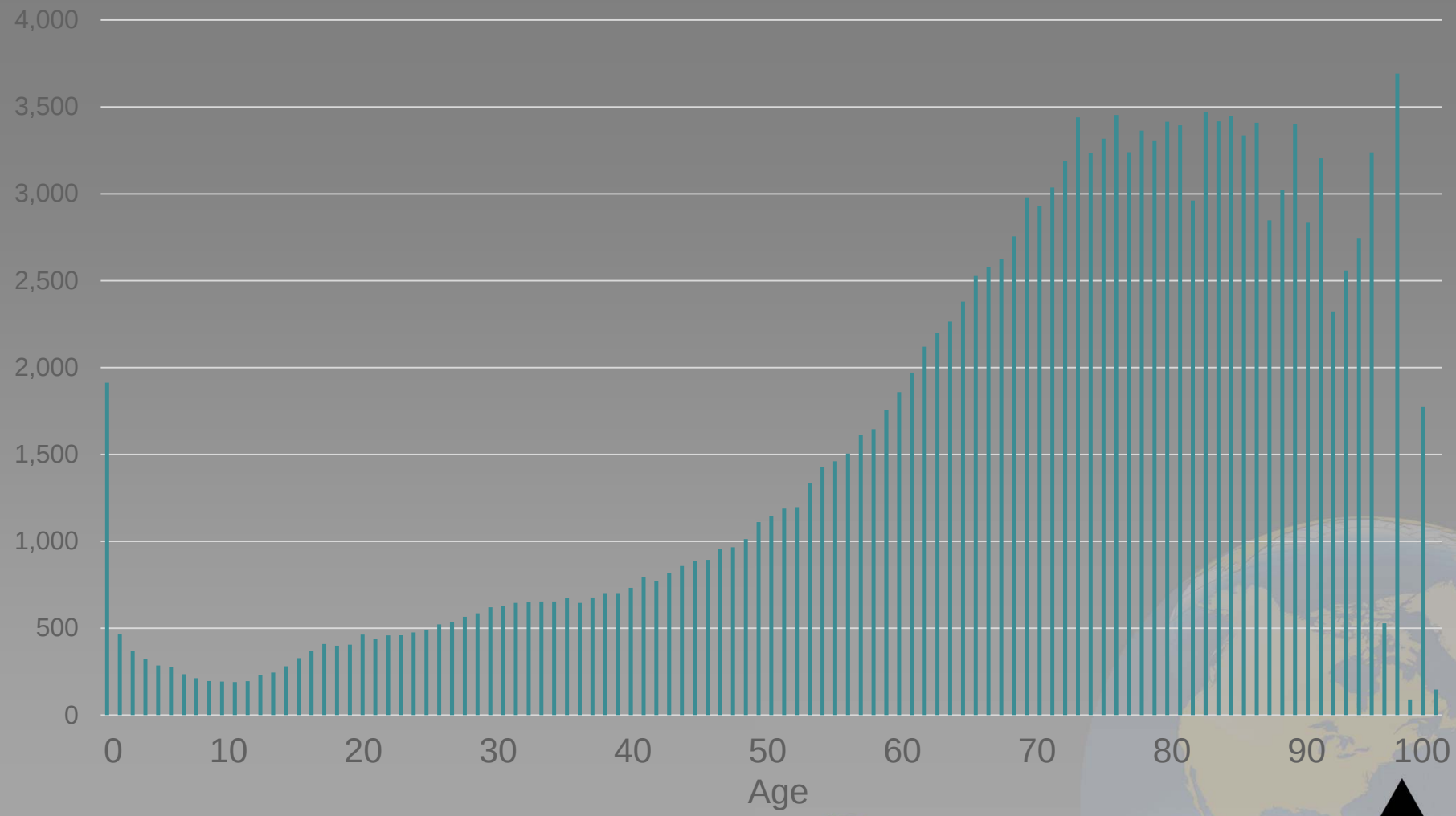
Components of claim increases between 2008 and 2013:



Source: Discovery Health Medical Scheme internal data

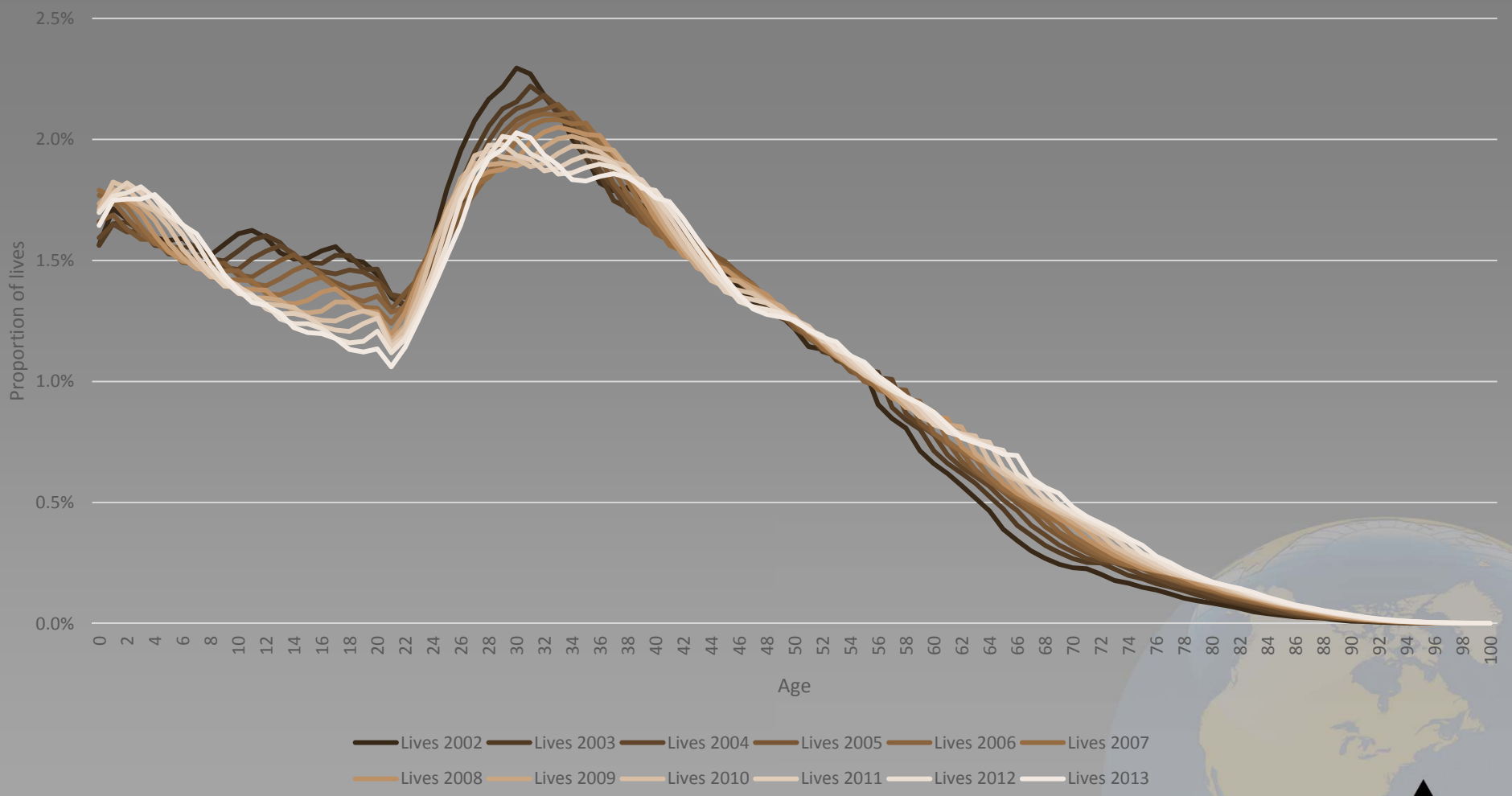
Demand Side Inflation

Claims Per Life Per Month (PLPM) by Age



Source: Discovery Health Medical Scheme internal data

Discovery Health Medical Scheme (DHMS)
Age Proportions
Change From 2002 to 2013



Source: Discovery Health Medical Scheme internal data

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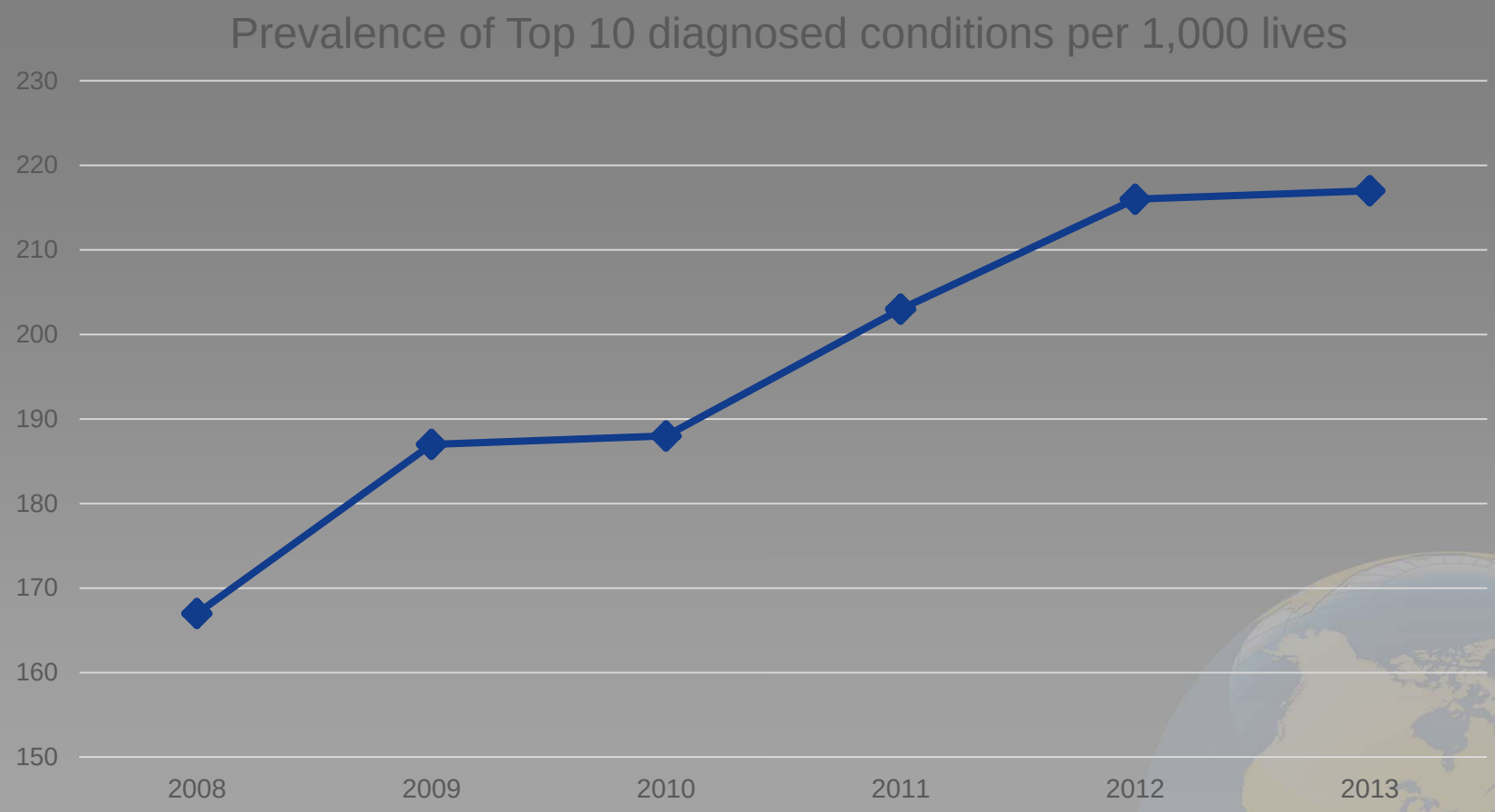
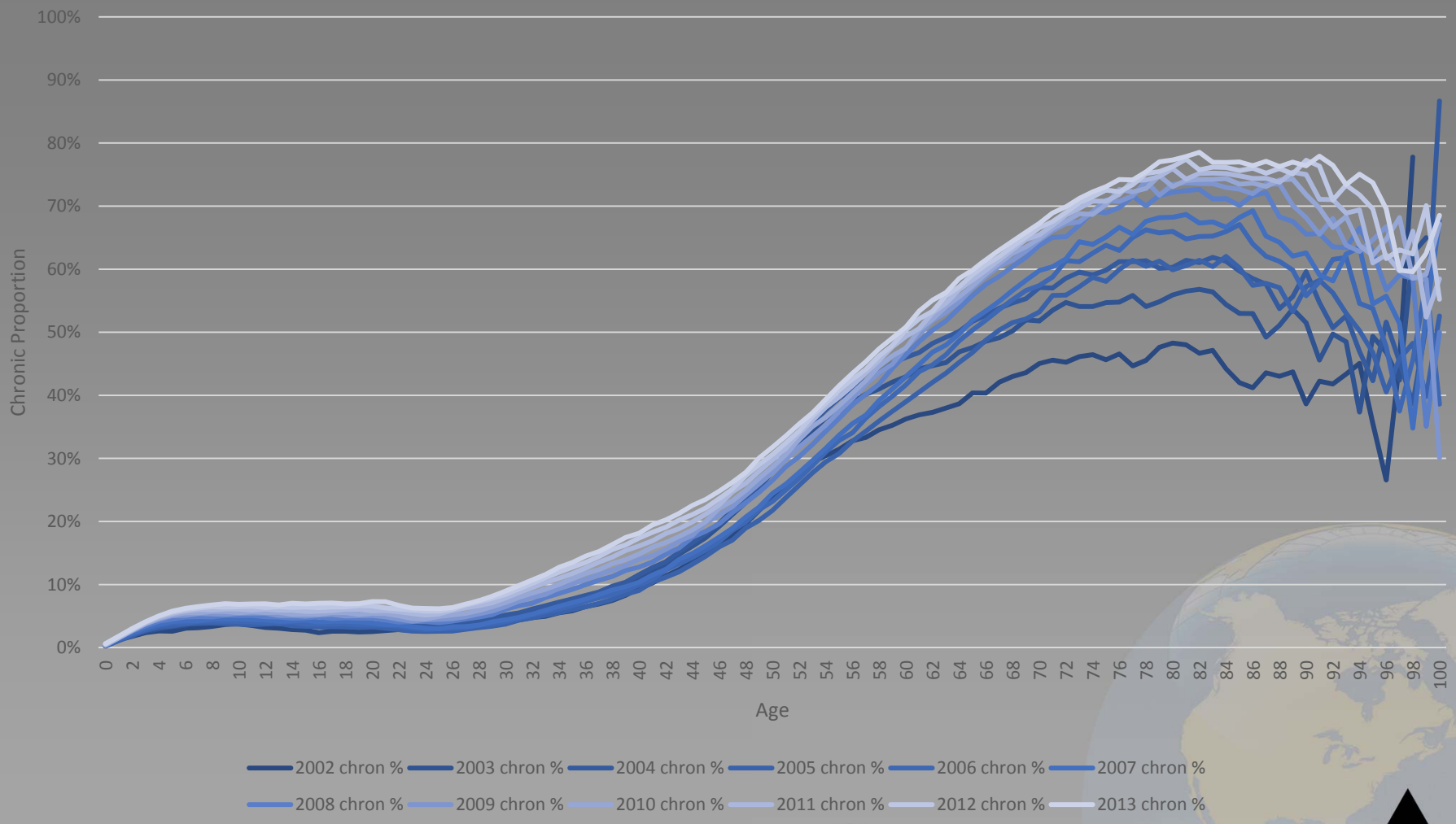
Industry Chronic Prevalence



Source: Prevalence of chronic diseases in the population covered by medical schemes in South Africa January 2015 – Council for Medical Schemes

DHMS Proportion of Chronic Lives by Age
Change from 2002 to 2013



Source: Discovery Health Medical Scheme internal data

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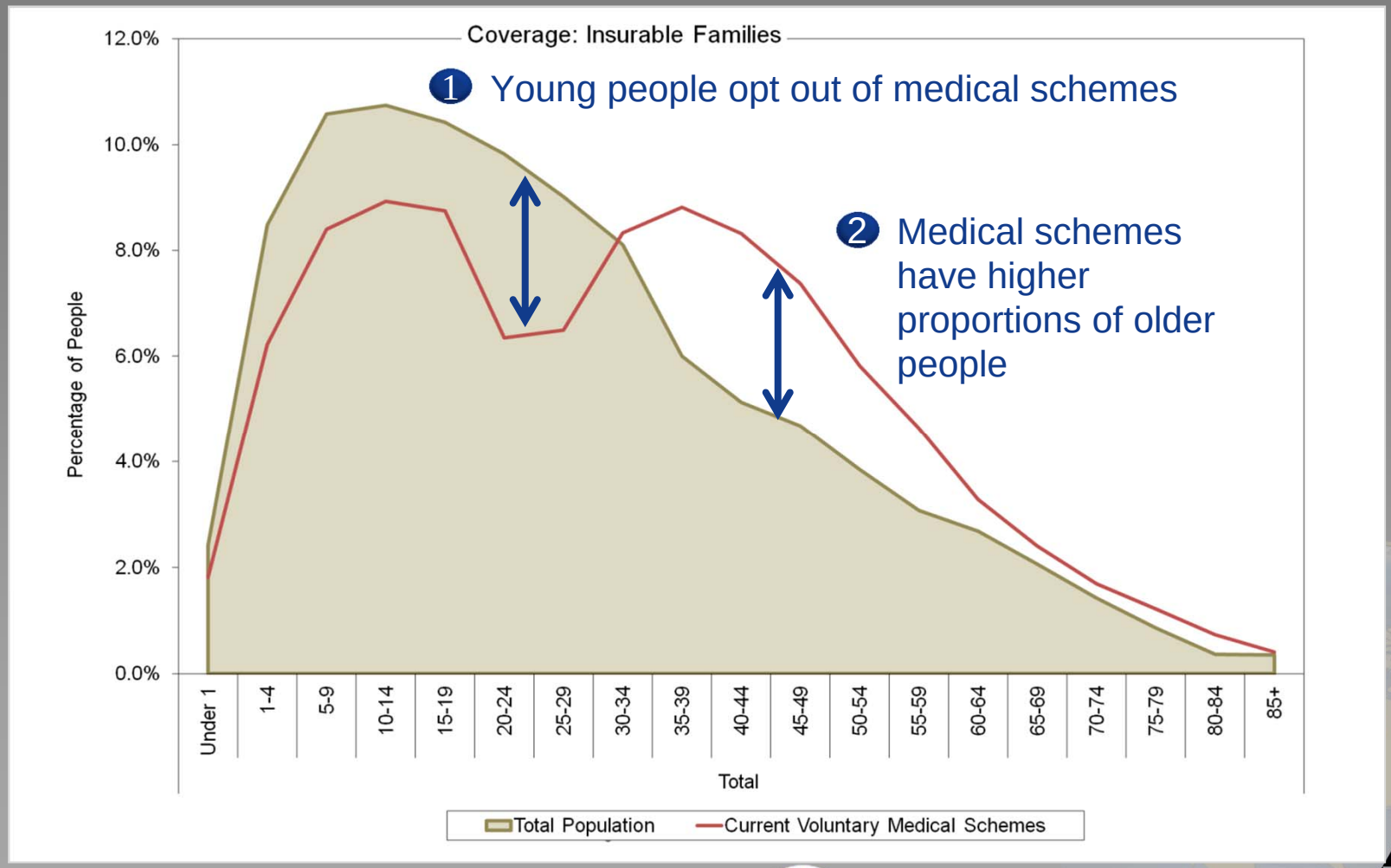
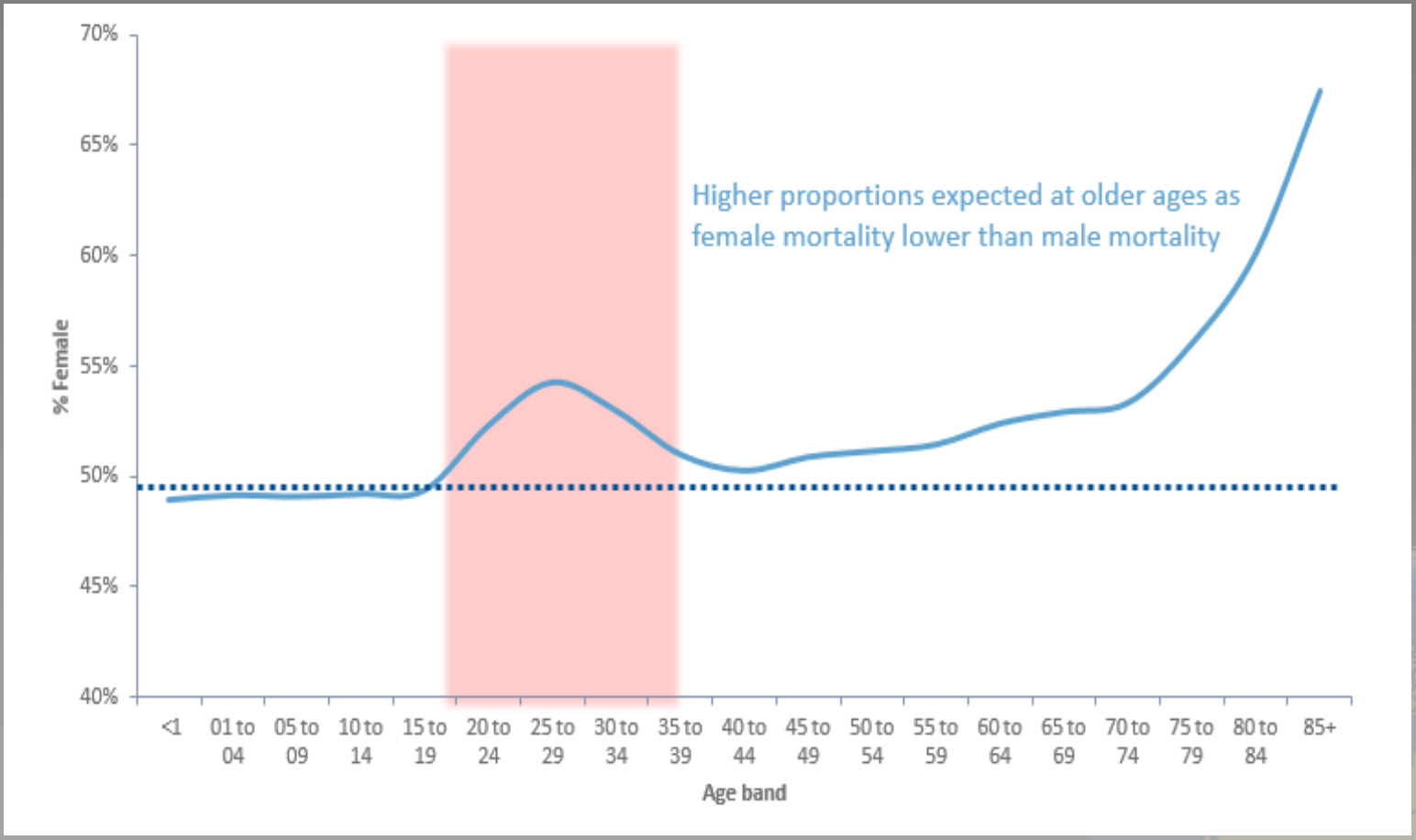
Adverse Selection by Age



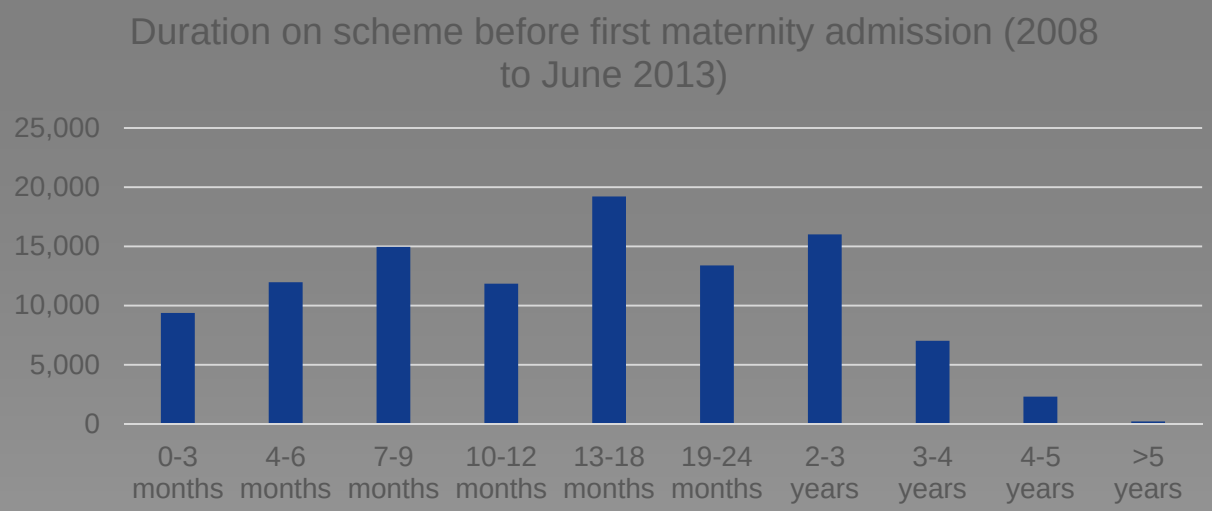
Source: StatsSA and Discovery Health Medical Scheme internal data

Adverse Selection by Gender

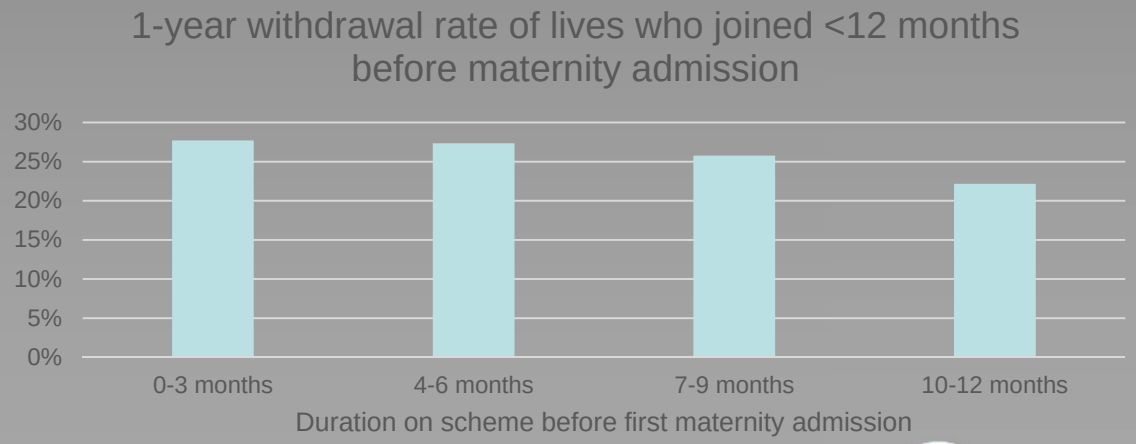


Source: Discovery Health Medical Scheme internal data

Adverse Selection by Gender (cont.)



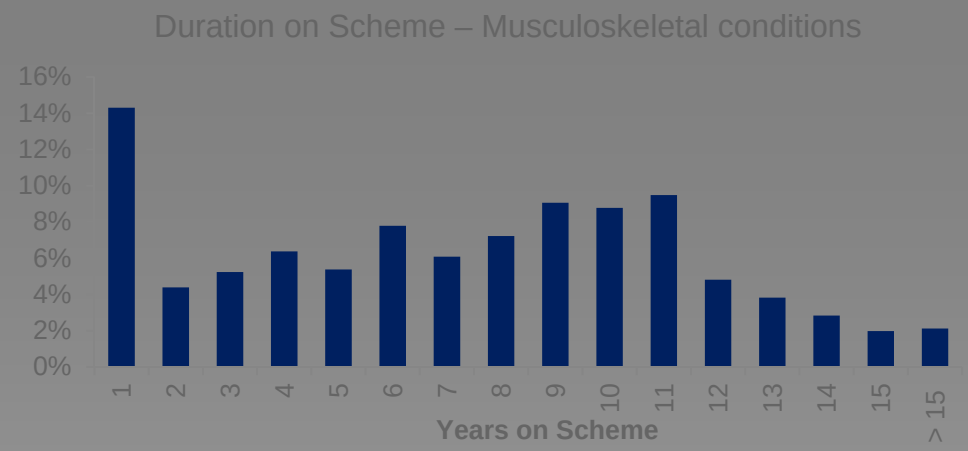
45 percent of all maternity events are for members who have been on the scheme for
<= 12 months



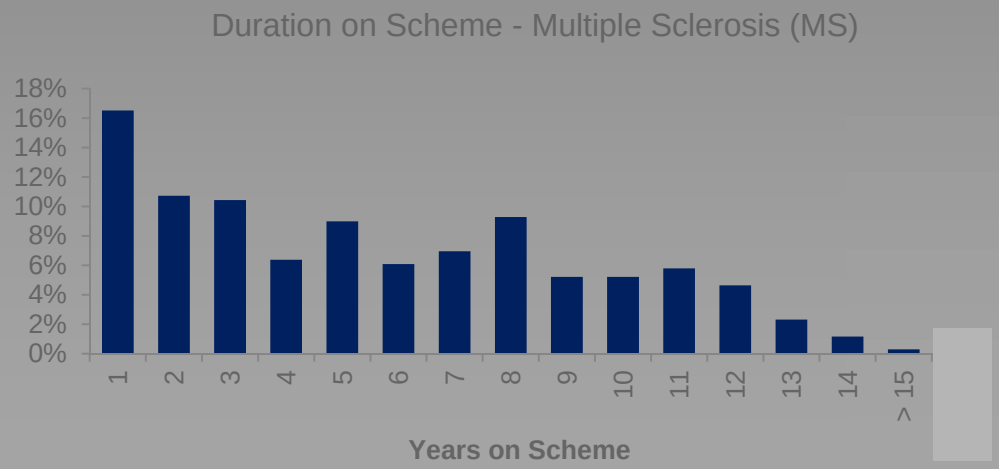
26 percent of these leave the scheme within 12 months of the maternity event

Source: Discovery Health Medical Scheme internal data

Adverse Selection by Biologics Claimants



14 percent who claimed biologics for musculoskeletal conditions had been on the Scheme for less than 1 year



17 percent who claimed interferon had been on the Scheme for less than 1 year

Source: Discovery Health Medical Scheme internal data

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Demand Side Inflation

In summary, there is a trade-off:

Guaranteed acceptance to a medical scheme

VS

Anti-selection associated with voluntary membership

- Cost of demand side inflation of 2.9 percent per year
- Represents 70 percent of excess inflation

Supply Side Inflation

Supply Side Inflation

This is the year on year inflation that is not associated with the clinical need for healthcare services

- Supply side inflation is estimated at 1.3 percent
- Represents 30 percent of excess claims inflation

Attributable to the decisions and actions of health professionals, which are in turn influenced by changes in the supply of other factors such as hospital beds or the entry of new medical technologies

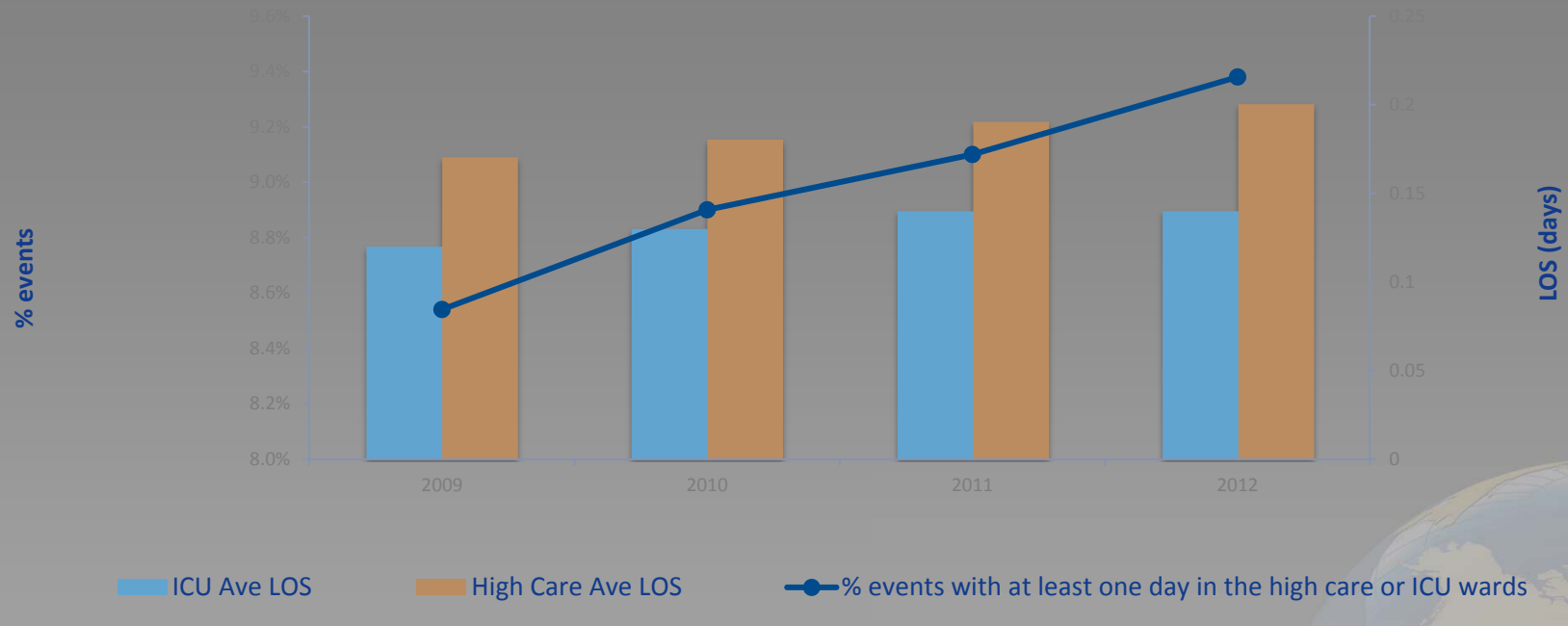
Main drivers of supply side are:

- New medical technologies
- Increased radiology and pathology investigations
- Health professional billing and coding optimization

Source: Discovery Health Medical Scheme internal data

High Cost Technologies

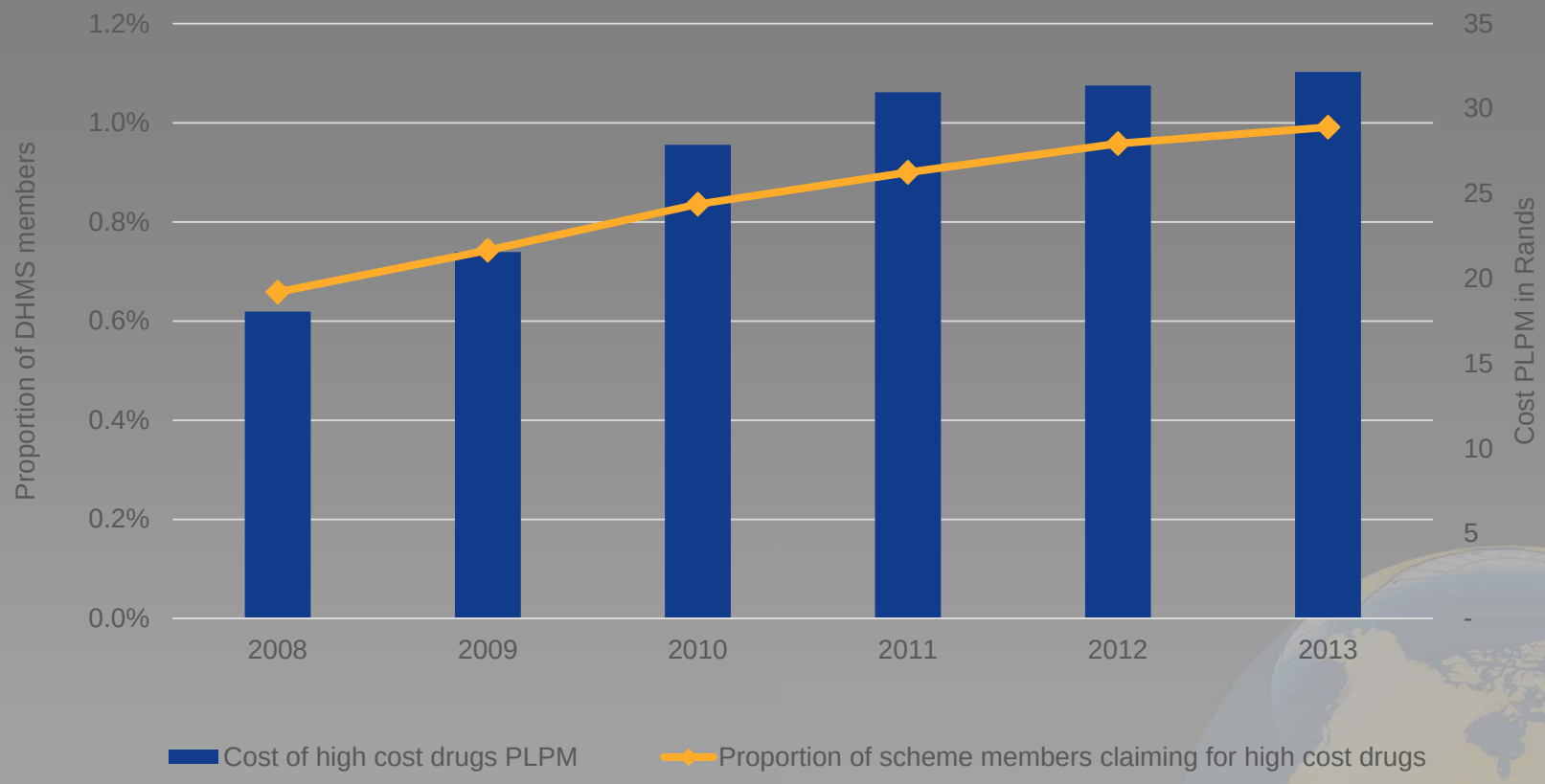
Increasing use of ICU and High Care wards



10 percent increase in use of high intensity care in the hospital

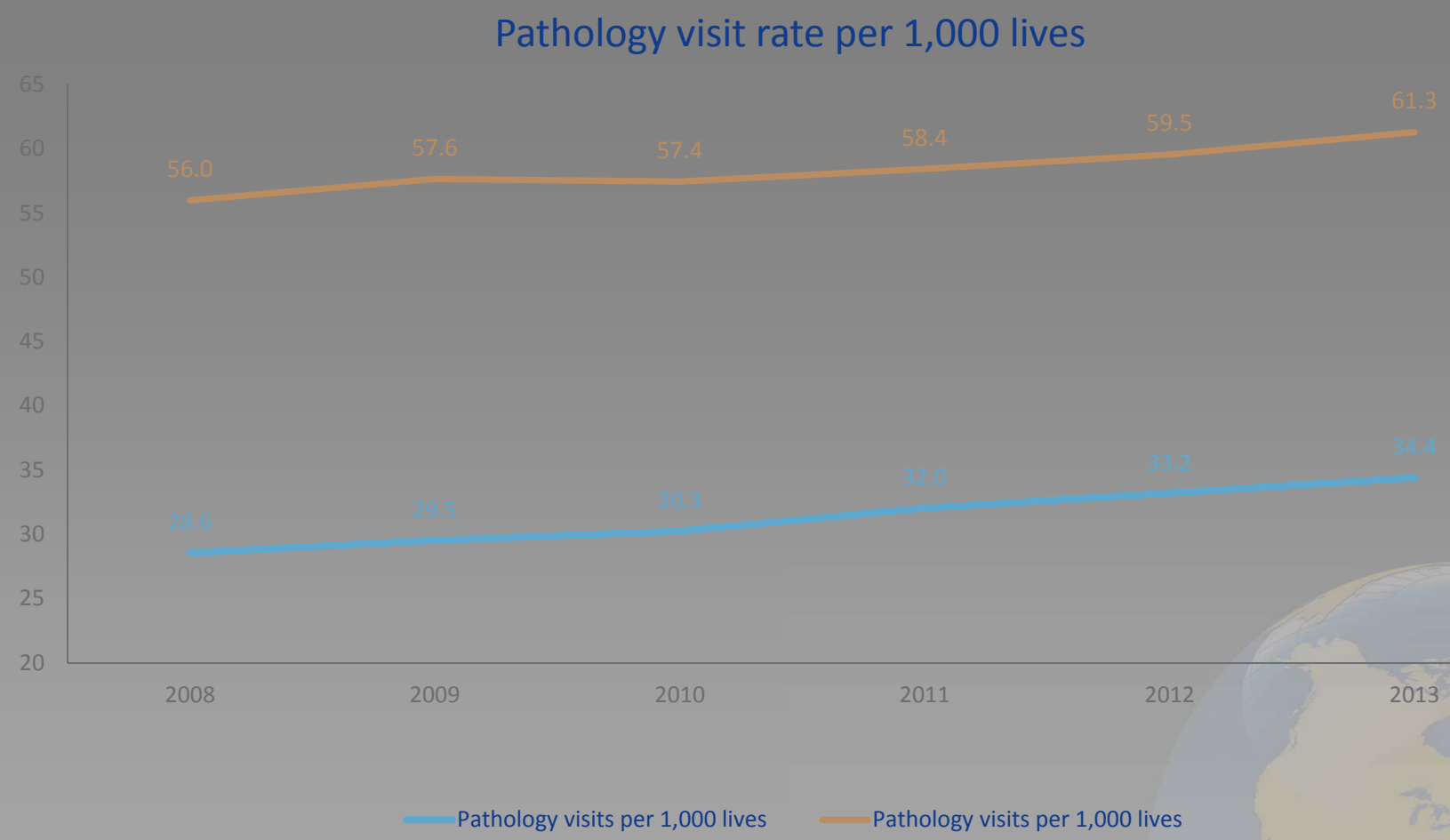
Source: Discovery Health Medical Scheme internal data

New Medical Technologies
High Cost Drugs



Source: Discovery Health Medical Scheme internal data

Increased Use of Radiology and Pathology

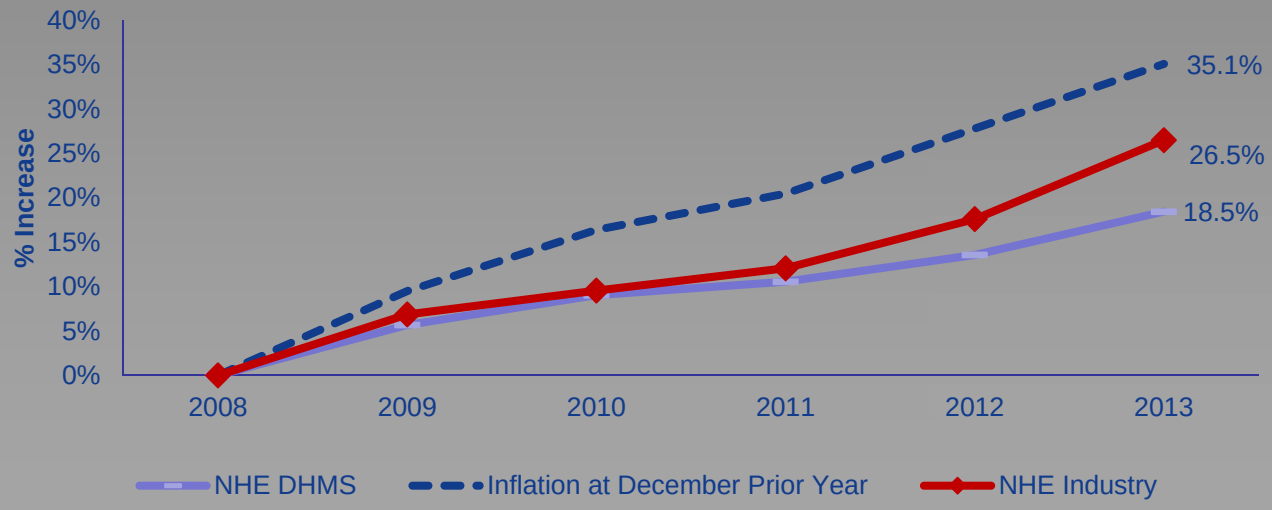


Source: Discovery Health Medical Scheme internal data

Non-Health Expense Inflation

The NHE component of medical schemes costs comprises the following main elements:

- Administration and managed healthcare fees
- Broker fees
- Other expenses such as trustee remuneration, and scheme office fees

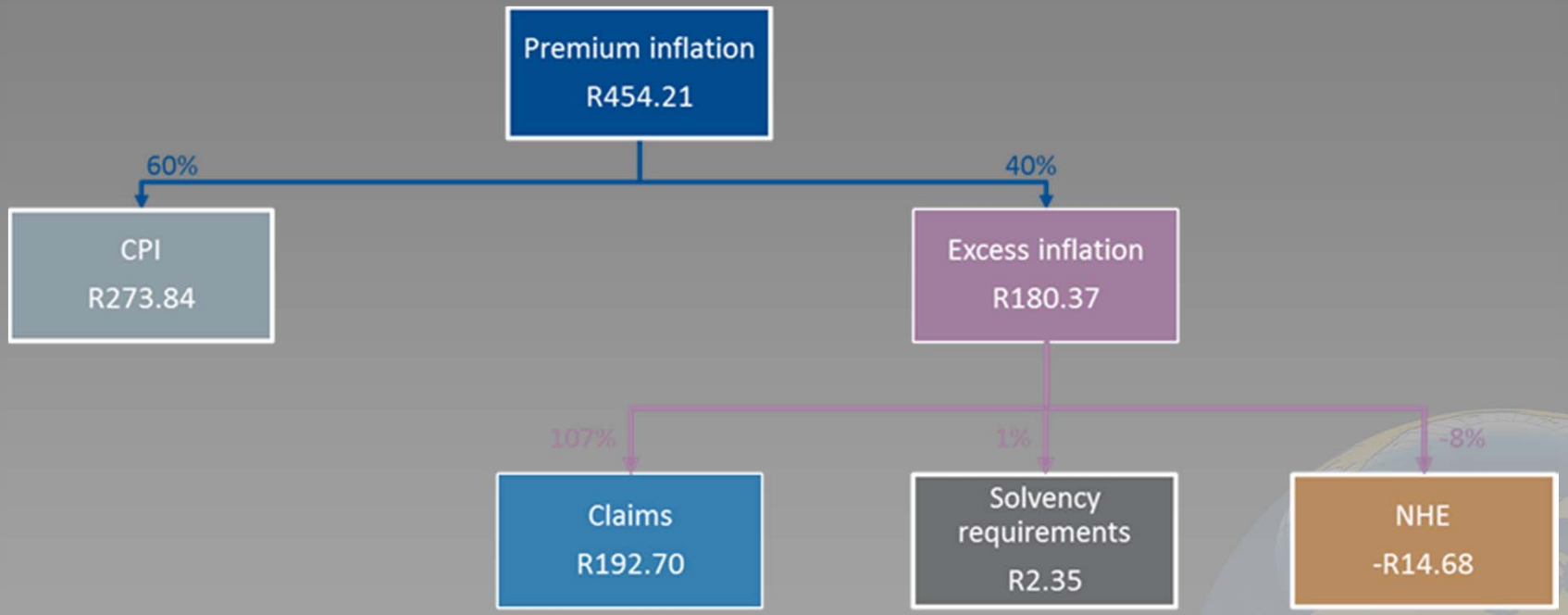


NHE is deflationary

Sources: StatsSA and internal data

Components of Inflation for Medical Schemes

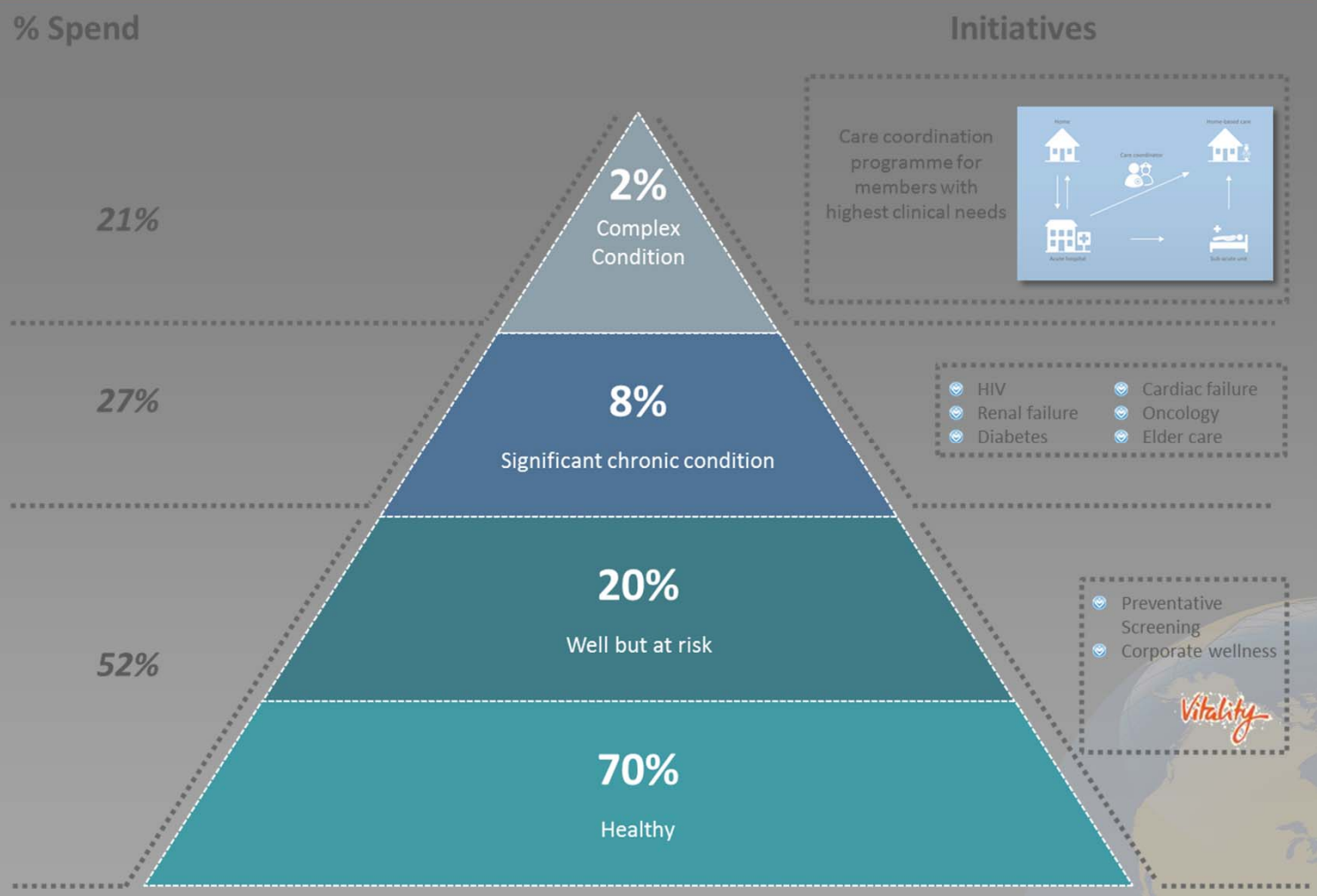
Components of premium increases between 2008 and 2013 in Rands PLPM



Source: Discovery Health Medical Scheme internal data

Managed Care and Other Interventions

Strategic Approach to Population Risk Management



Source: Discovery Health Medical Scheme internal data

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Exploring Global Health Care Cost Drivers: United States

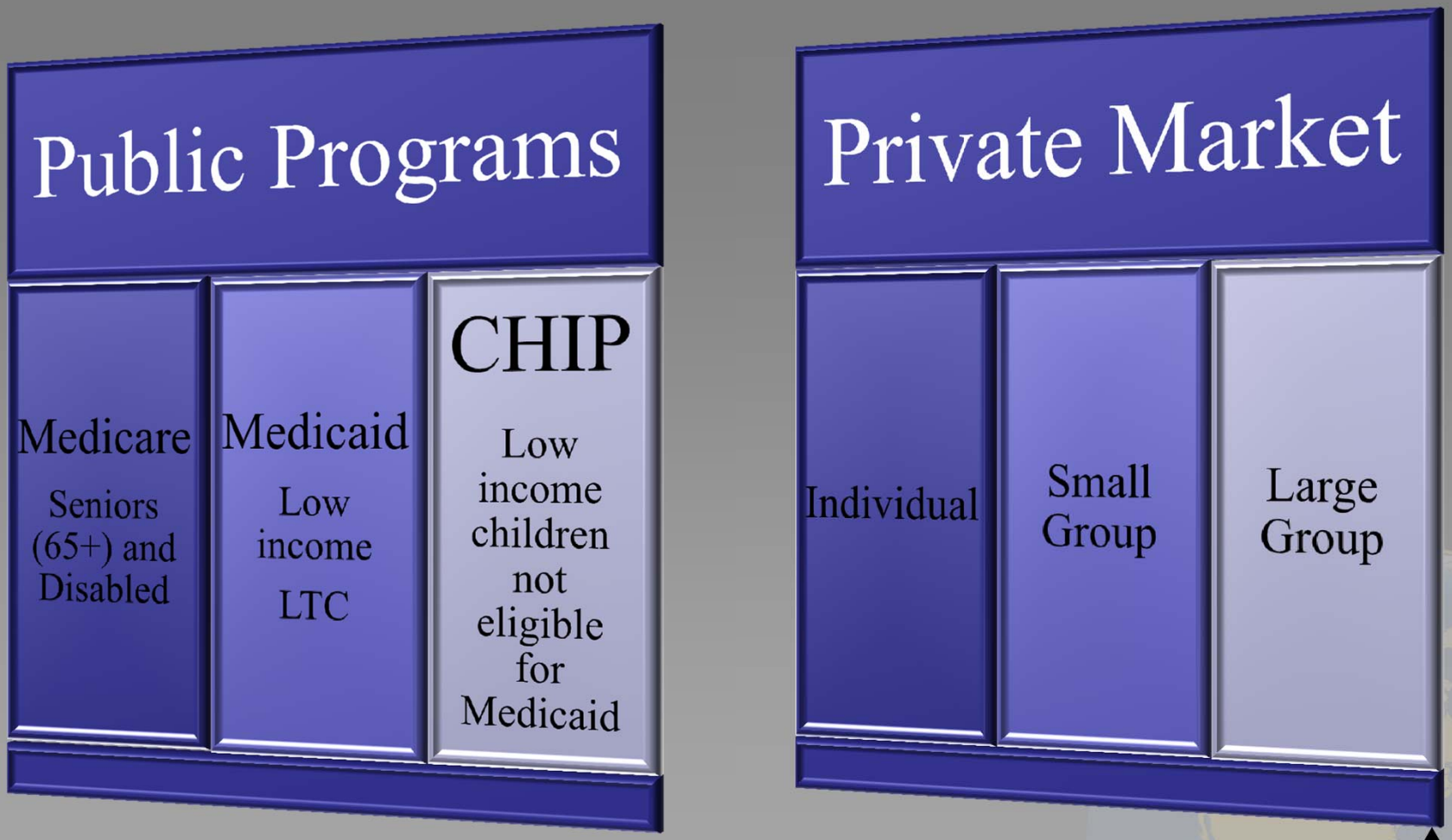
Tom Wildsmith, MAAA, FSA
President-Elect, American Academy of Actuaries

May 13, 2015

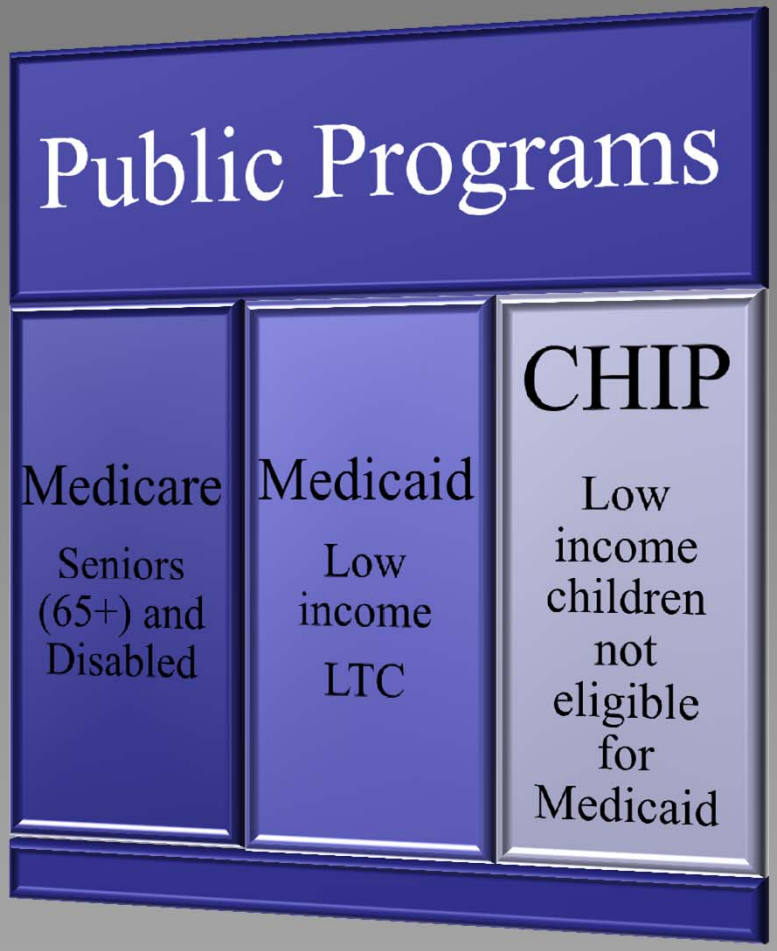
Agenda

- Structure of U.S. health care system
- U.S. health care reform
- U.S. health care spending
- Initiatives to address cost growth

U.S. Health Care System



U.S. Health Care System



Medicare Spending

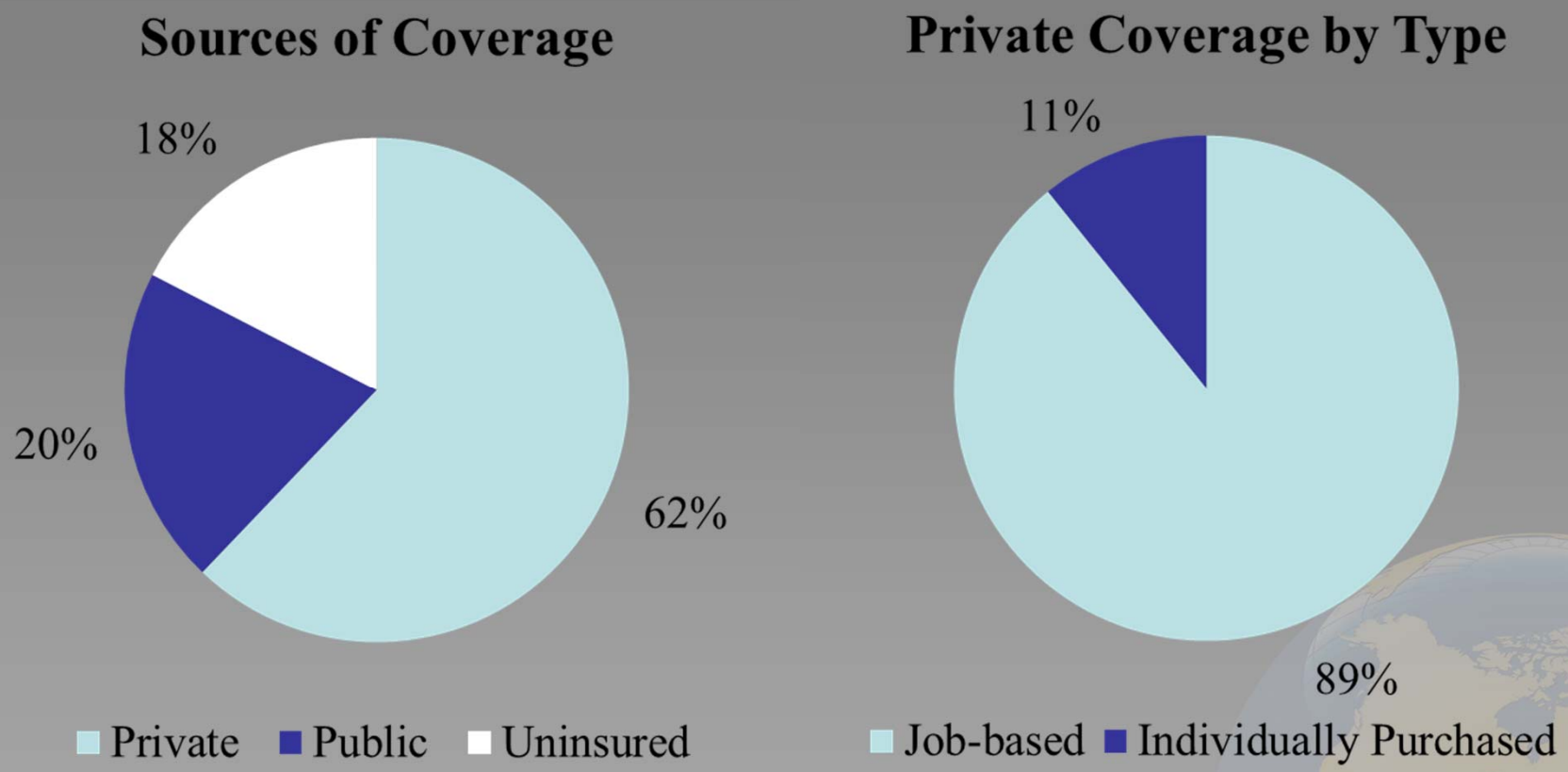
Table 1: Total Medicare Expenditures as a Percent of GDP
Sources: 2014 Medicare Trustees' Report, CMS Office of the Actuary

Calendar Year	2014 Report (projected baseline)	2014 Alternative Projection
2013	3.5	**3.5**
2020	3.7	**3.7**
2030	4.9	**5.1**
2040	5.6	**6.0**
2050	5.9	**6.5**
2060	6.2	**7.0**
2070	6.6	**7.6**
2080	6.8	**8.1**
2085	6.8	**8.3**

U.S. Health Care System

Pre-Reform U.S. Health Care System

Coverage of Non-Elderly Americans in 2010



Source: Paul Fronstin, *Sources of Health Insurance and Characteristics of the Uninsured: Analysis of the March 2011 Current Population Survey*, Employee Benefits Research Institute, September 2011.

Why Were People Uninsured?

Uninsured Rate by Family Income Non-elderly Americans in 2010	
Family Income as % of Federal Poverty Level	**Uninsured Rate**
0 – 99 %	33.4%
100 – 149%	32.6%
150 – 199%	28.6%
200 – 299%	20.7%
300% or more	8.5%

Source: Paul Fronstin, *Sources of Health Insurance and Characteristics of the Uninsured: Analysis of the March 2011 Current Population Survey*, Employee Benefits Research Institute, September 2011.

Why Were People Uninsured?

Uninsured Rate by Work Status of Family Head Non-elderly Americans in 2010	
Work Status of Family Head	**Uninsured Rate**
Full-time, Full Year Worker	13.9%
Full-time, Part Year Worker	30.7%
Part-time, Full Year Worker	28.0%
Part-time, Part Year Worker	24.6%
Non-Worker	28.8%

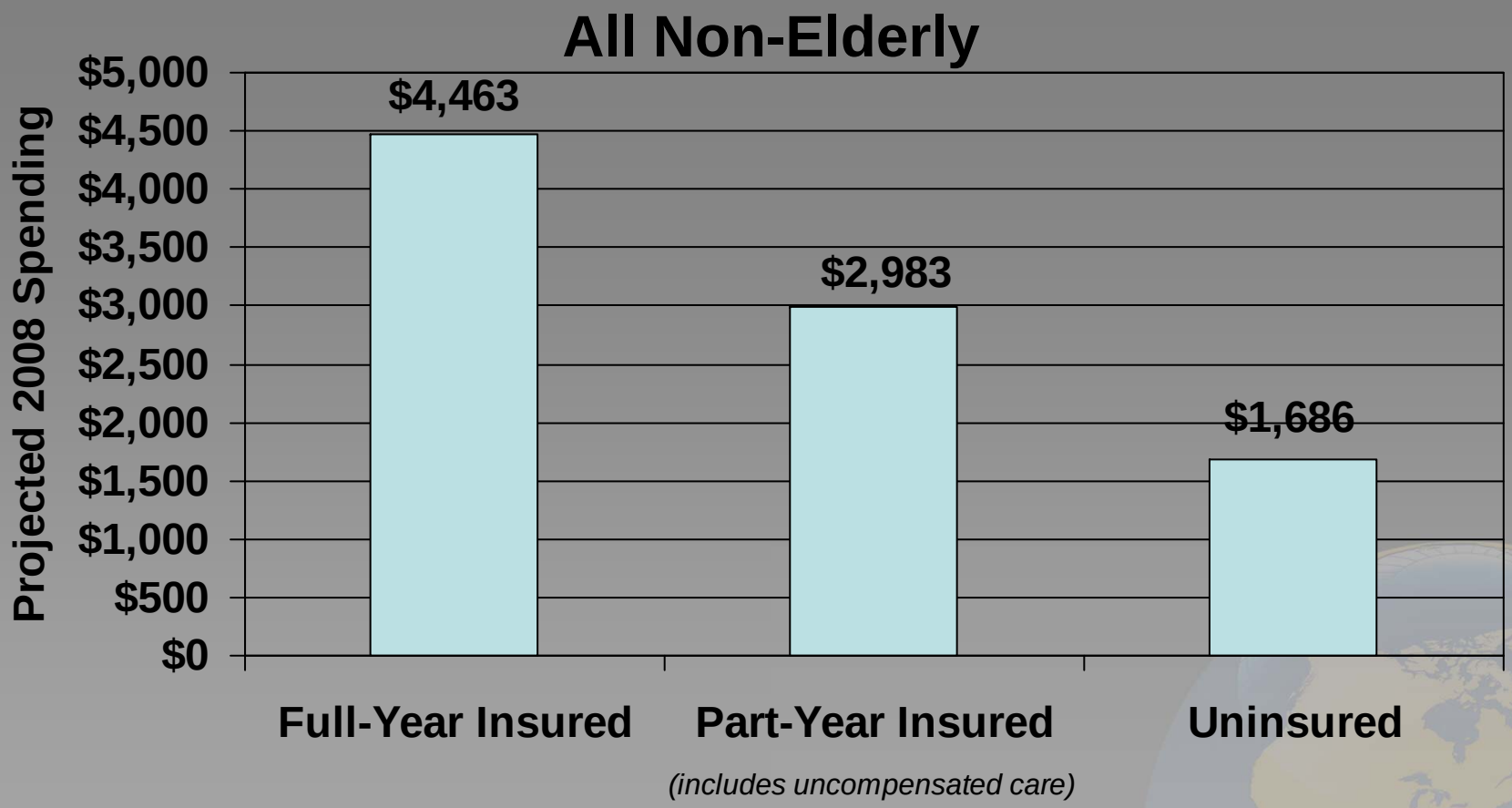
Source: Paul Fronstin, *Sources of Health Insurance and Characteristics of the Uninsured: Analysis of the March 2011 Current Population Survey*, Employee Benefits Research Institute, September 2011.

Why Were People Uninsured?

Uninsured Rate by Age Non-elderly Americans in 2010	
Age	**Uninsured Rate**
Under 18	9.8%
18 to 24	27.2%
25 to 34	28.4%
35 to 44	21.8%
45 to 64	16.2%
65 and older	2.0%

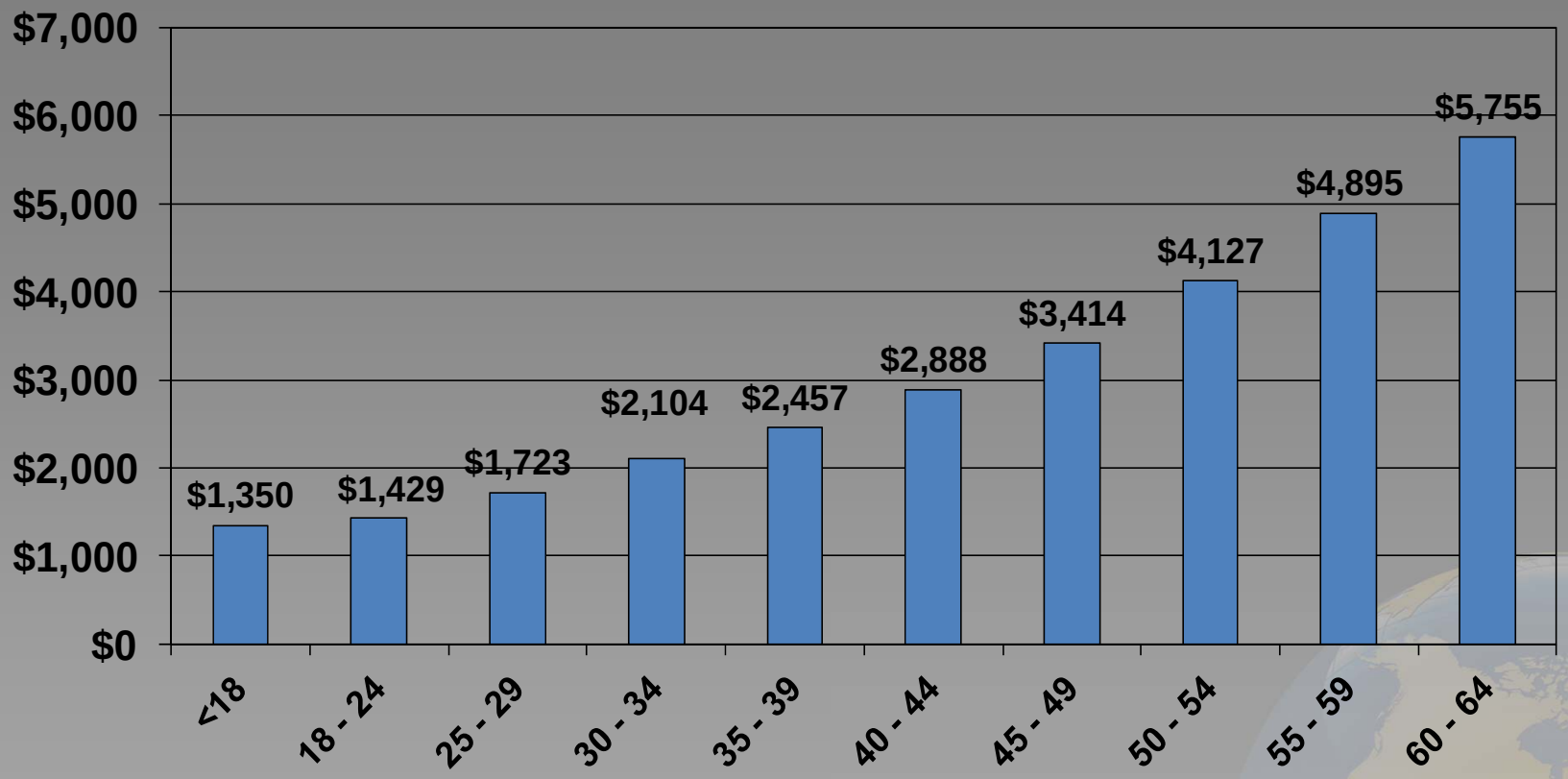
Source: Carmen DeNavas-Walt, Bernadette D. Proctor and Jessica C. Smith, *Income, Poverty, and Health Insurance Coverage in the United States: 2010*, U.S. Census Bureau, September 2011

Did the Uninsured Get Care?



Source: *Covering the Uninsured in 2008: A Detailed Examination of Current Costs and Sources of Payment, and Incremental Costs of Expanding Coverage*, Kaiser Family Foundation, August 2008

Pre-Reform Individual Market Premiums by Age



Source: *Individual Health Insurance 2009: A Comprehensive Survey of Premiums, Availability and Benefits*, AHIP, October 2009

U.S. Health Care Reform

Health Care Reform

- The Patient Protection and Affordable Care Act (PPACA) was signed into law on March 23, 2010
- Focused *primarily* on expanding coverage
  - Expanding Medicaid for low-income
  - Subsidizing private coverage for the lower middle income
- The most significant market reforms became effective in 2014

Key Elements of Reform

- Individual and employer mandates to buy coverage
- Medicaid expansion
- Individual and small group market reform
- Public exchanges to simplify purchase of insurance
- Premium and cost-sharing subsidies for individuals
  - Premium subsidies available between 133% and 400% of federal poverty level (FPL)
  - Cost-sharing subsidies available up to 250% of FPL

Insurance Market Reforms

- Individual and small group market reforms
  - Guaranteed issue; modified community rating (age, tobacco, family size, and geography)
  - Elimination of lifetime limits
  - First dollar coverage of preventive services
  - Risk-sharing mechanisms (risk adjustment, reinsurance, and risk corridors)
  - New rate review requirements

Cost Control and Quality Initiatives

- Select provisions aimed at addressing health care cost growth and improving quality
  - Promote wellness and prevention
  - New payment and delivery system initiatives
  - Facilitate comparative effectiveness research and best practices
  - Improve workforce training and development
- Although several provisions aimed to increase the quality and cost effectiveness of care (with a goal of reducing cost growth), more work in this area is needed

U.S. Health Care Spending

Overview of Health Care Spending Growth

National Health Expenditure Estimates
Calendar Years 2007-2023

Year	Total	Out-of-Pocket Payments	Health Insurance[1] Total	Private Health Insurance	Medicare	Medicaid	Other Programs[2]	Other Third Party Payers[3]
Historical				Amount in Billions				
2007	$2,302.9	$293.6	$1,611.8	$777.7	$432.8	$326.2	$75.1	$397.5
2008	2,411.7	300.7	1,703.2	807.8	467.9	344.9	82.6	407.8
2009	2,504.2	300.7	1,798.5	833.1	499.9	375.4	90.2	405.0
2010	2,599.0	305.6	1,873.9	859.6	520.2	398.1	96.0	419.6
2011	2,692.8	316.1	1,943.4	888.8	546.2	407.7	100.7	433.2
2012	2,793.4	328.2	2,014.4	917.0	572.5	421.2	103.8	450.8
Projected								
2013	2,894.7	338.6	2,094.1	947.5	591.2	449.5	105.9	462.0
2014	3,056.6	338.1	2,246.1	1,012.2	615.9	507.2	110.8	472.5
2015	3,207.3	345.7	2,372.5	1,082.4	632.7	541.1	116.2	489.2
2016	3,386.2	356.0	2,516.2	1,136.9	669.2	587.5	122.6	514.1
2017	3,579.0	372.1	2,662.2	1,191.3	714.1	626.5	130.2	544.7
2018	3,797.5	391.2	2,827.8	1,252.9	769.5	666.7	138.8	578.4
2019	4,042.5	413.5	3,015.2	1,330.4	825.3	711.3	148.2	613.7
2020	4,307.4	437.5	3,219.1	1,410.0	890.3	760.4	158.4	650.8
2021	4,577.8	461.1	3,427.5	1,489.3	958.9	810.3	169.1	689.2
2022	4,861.9	486.1	3,646.7	1,569.5	1,033.1	863.0	181.2	729.1
2023	5,158.8	512.2	3,875.9	1,653.2	1,111.3	918.8	192.6	770.6

[1]Includes Private Health Insurance (Employer Sponsored Insurance and other private insurance, which includes Marketplace plans), Medicare, Medicaid, Children's Health Insurance Program (Titles XIX and XXI), Department of Defense, and Department of Veterans' Affairs.

[2]Children's Health Insurance Program (Titles XIX and XXI), Department of Defense, and Department of Veterans' Affairs.

[3]Includes worksite health care, other private revenues, Indian Health Service, workers' compensation, general assistance, maternal and child health, vocational rehabilitation, other federal programs, Substance Abuse and Mental Health Services Administration, other state and local programs, and school health.

SOURCE: Centers for Medicare & Medicaid Services, Office of the Actuary.

Two Components of Health Spending

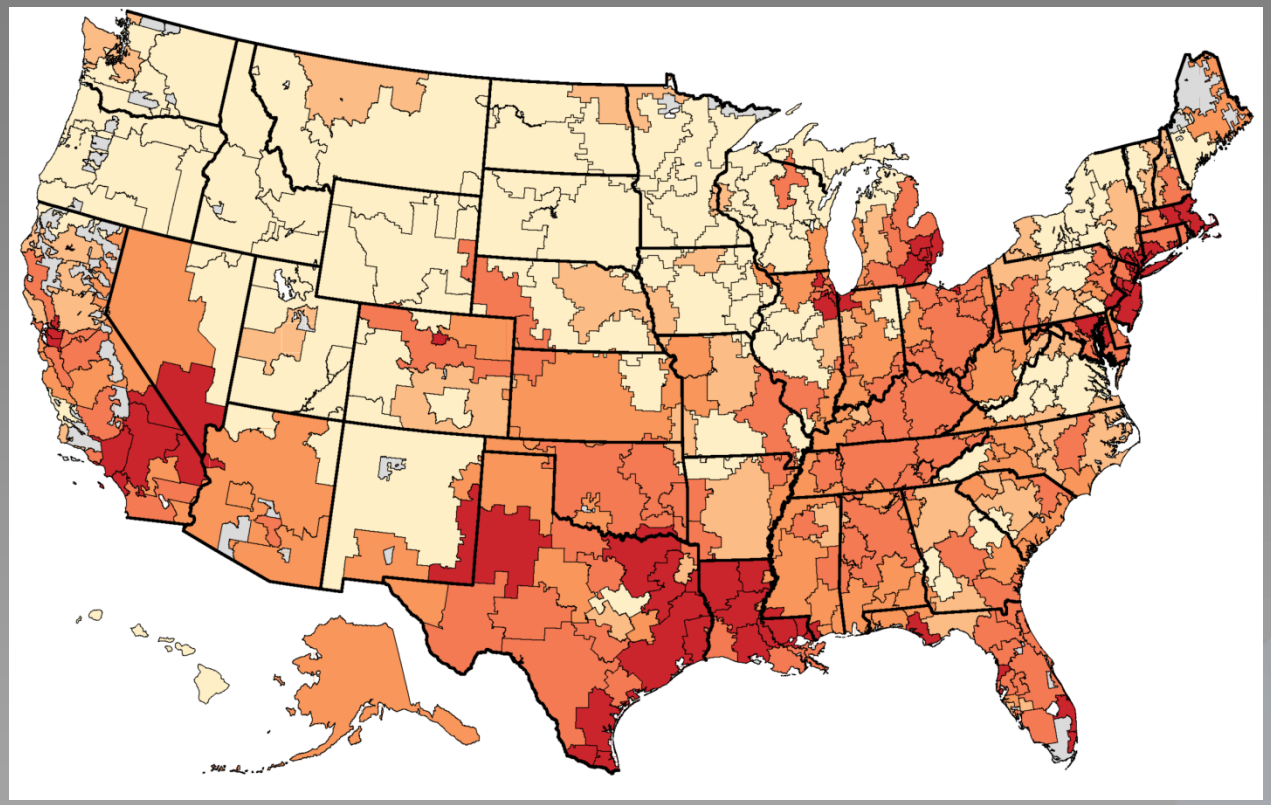
- The number of services purchased
- The prices paid for those services

Drivers of Health Care Costs

- Drivers that increase the use of services
  - Payment structures that reward volume, not value
  - Medical technology advances
  - Lifestyle choices
  - Increased coverage levels
  - Lower out-of-pocket costs
- Drivers that increase the price paid for services
  - Broader versus narrow provider networks
  - Primary care shortages
  - Provider consolidation
  - Cost shifting from system to system (Medicare/Medicaid to private insurance)

Geographic Variations in Cost

Chart 1: Medicare Spending per Beneficiary, by Hospital Referral Region, 2006



Source: The Dartmouth Atlas of Health Care. (2009). *The Policy Implications of Variations in Medicare Spending Growth*. Link: http://www.dartmouthatlas.org/atlases/Policy_Implications_Brief_022709.pdf.
Note: Data adjusted for age, race, and sex but not price. Category definitions as in source document.

Initiatives to Address Cost Growth

How Do You Reduce Spending?

- Reduce the number of services
- Reduce the prices paid for services
- Shift to more cost-effective services

What Has Been Done?

- Provider networks with negotiated prices
- Increased use of “consumer driven” plans
- Significant advances in health information technology

Approaches to Address Cost Growth

- Delivery system reforms (e.g., Accountable Care Organizations (ACOs))
- Payment system reforms (e.g., bundled payments)
- Focus on disease management and wellness initiatives

Accountable Care Organizations (ACOs)

- ACOs are groups of health care providers – physicians and hospitals – that work together to manage and coordinate care for patients

- PPACA established the Medicare Shared Savings Program (MSSP)
  - Led to creation of Pioneer ACO program (for more established ACOs, offering higher shared savings potential but more downside risk as well)

Accountable Care Organizations (ACOs) (cont.)

- MSSP
  - Currently 404 programs participating; 7.3 million assigned beneficiaries
  - Of the 114 that started in 2012, 54 had lower expenditures than expected in the first year. Of those 29 had shared savings of $126 million
- Pioneer ACO
  - Currently 19 participating organizations; launched in 2012 with 32 participating organizations
  - 10 of the original 32 participating organizations experienced significant savings in both performance years
- Advance Payment ACO
  - Currently 35 programs participating; mostly physician-based, rural providers
  - Advance monthly payments for those organizations that don't have the initial capital to invest in a coordinated care structure

Bundled Payments

- Bundled payments
  - Single, predetermined lump sum payment for all health care services related to a specific course of treatment or condition over a set period of time.
- Bundled Payment for Care Improvement (BCPI)
  - Three-year initiative established by PPACA
  - 232 acute care hospitals, skilled nursing homes, physician group practices, long-term care hospitals, and home health agencies are participating in at least one of the four BCPI initiatives.
- BCPI Models
  - BCPI Model 1 – Retrospective Acute Care Hospital Stay
  - BCPI Model 2 – Retrospective Acute & Post Acute Care Episode
  - BCPI Model 3 – Retrospective Post Acute Care
  - BCPI Model 4 – Prospective Acute Care Hospital Stay

Wellness/Prevention

- Private market
  - National Prevention Council (created by PPACA) set seven priority issues: tobacco free living, substance abuse prevention, healthy eating, active living, injury and violence free living, reproductive and sexual health, and mental well being
  - PPACA allows employers to offer employees incentives or surcharges (up to 30% of the cost of coverage) to employees participating in wellness programs
  - U.S. Preventive Services Task Force studies, ranks, and recommends which preventive services are to be covered by insurers under PPACA
  - Most employers providing health benefits offer some form of wellness program
- Public market
  - Some state Medicaid programs have implemented pay for performance incentives for managed care plans that increase participation in prevention/wellness programs

Disease Management

- Disease management programs are typically designed to improve care and support for individuals with specific conditions (e.g., diabetes management)
- Disease management programs are predominantly implemented by managed health care plans.
- In the early 2000s, 15 demonstration programs were conducted of Medicare beneficiaries with chronic conditions.
  - Results showed limited evidence of significant reductions in spending
  - Results showed more promise in improving quality of care
  - Similar results in Medicaid disease management programs

Considerations

- Many of these initiatives are in the early stages and there is not enough evidence to definitively conclude whether and how much savings to expect going forward as well as the degree of quality improvement.
- Most of the initiatives discussed here are pilot programs/initiatives for Medicare/Medicaid populations. Many organizations/issuers in the private market have their own initiatives that may have experienced varying degrees of success.

Concluding Thoughts

- The U.S. is enjoying a slow-down in health costs
- History suggests rising costs are tenacious
- An aging population will put upward pressure on costs
- Information technology is making more sophisticated provider collaboration practical
- Health reform has increased coverage levels
- It's too soon to know how reform will affect cost trends