Trends and Innovation in the U.S. Healthcare System

2018 Casualty Loss Reserve Seminar

Anaheim, California

September 6, 2018

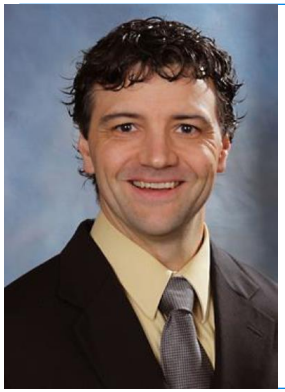
Antitrust Notice

- **The Casualty Actuarial Society is committed to adhering strictly to the letter and spirit of the antitrust laws. Seminars conducted under the auspices of the CAS are designed solely to provide a forum for the expression of various points of view on topics described in the programs or agendas for such meetings.**
- **Under no circumstances shall CAS seminars be used as a means for competing companies or firms to reach any understanding – expressed or implied – that restricts competition or in any way impairs the ability of members to exercise independent business judgment regarding matters affecting competition.**
- **It is the responsibility of all seminar participants to be aware of antitrust regulations, to prevent any written or verbal discussions that appear to violate these laws, and to adhere in every respect to the CAS antitrust compliance policy.**

Speakers

Guy Avagliano
FCAS, MAAA
Principal & Consulting Actuary
San Francisco

Moderator



Adam Blais
AIC, AIS
Claims Consultant
Boston

Co-Presenter

Andrew Naugle
MBA
Principal & Consultant
Seattle

Co-Presenter

Learning Objectives

Understand the stakeholders underlying the U.S. health insurance marketplace

Understand the impacts of U.S. healthcare reform

Learn about trends and innovations affecting the U.S. healthcare system

OVERVIEW OF THE U.S. HEALTHCARE SYSTEM

U.S. Health Expenditures

	1960
National Health Expenditure	$27.2B
% of GDP	5.0%
$/Person (today's $)	$146.24 ($1,143)

U.S. Health Expenditures

	1960	2016
National Health Expenditure	$27.2B	$3,370B
% of GDP	5.0%	17.9%
$/Person (today's $)	$146.24 ($1,143)	$10,539

Annual per-person spending in 2016 was **9 times** what it was in 1960

Types of Expenditures

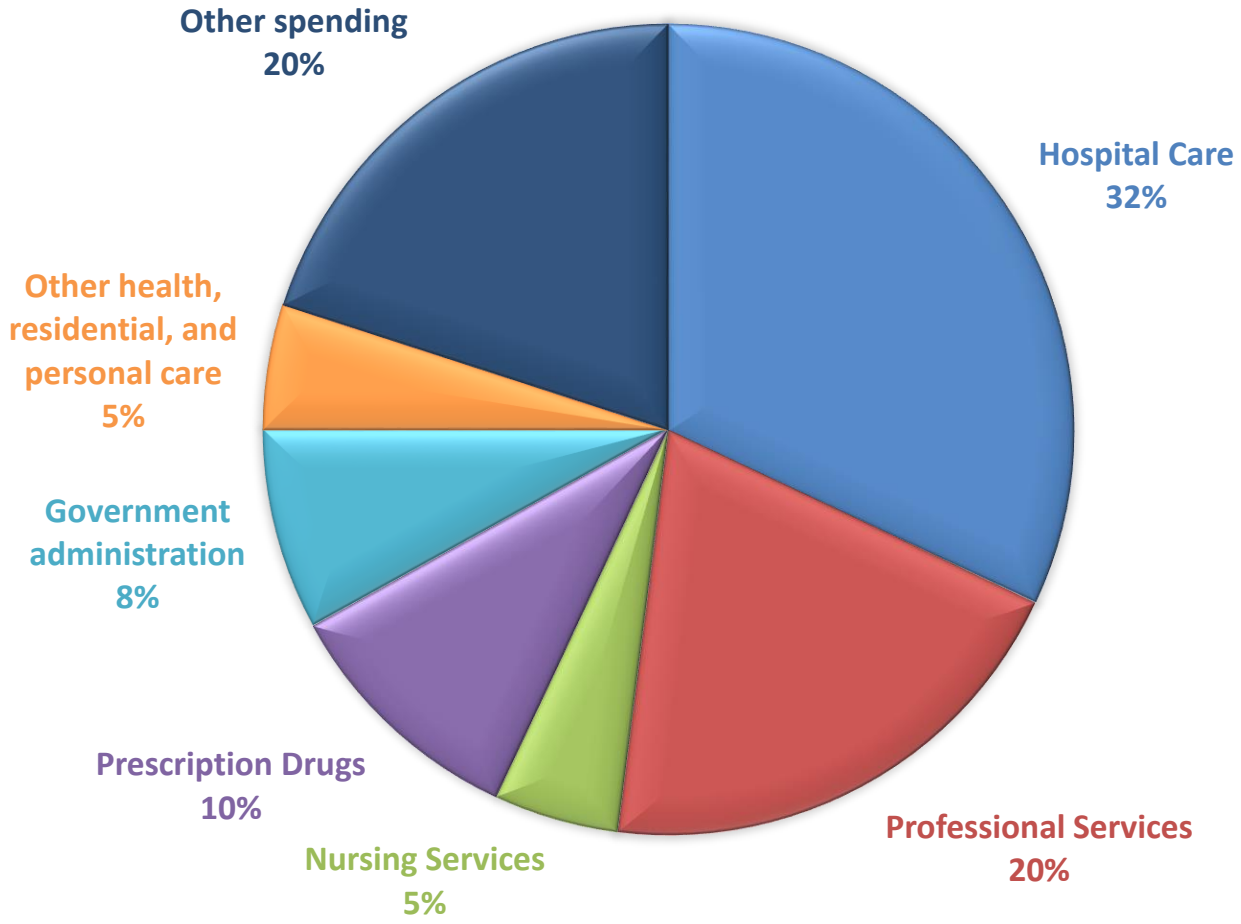
- Hospital Care
- Professional Services
- Prescription Drugs
- Nursing Care Facilities
- Personal Care
- Dental Care
- Home Health Care
- Other Settings
- Durable Medical Equipment
- Medical Supplies
- OTC Drugs/ Supplies

Scope and Scale

5,500 hospitals	14.4 million workers	895,000 physicians
2,900 mental health facilities	895,000 hospital beds	15,900 nursing homes
2.7 million registered nurses	9,000 urgent care centers	552,000 mental health professionals

U.S. Health Expenditures

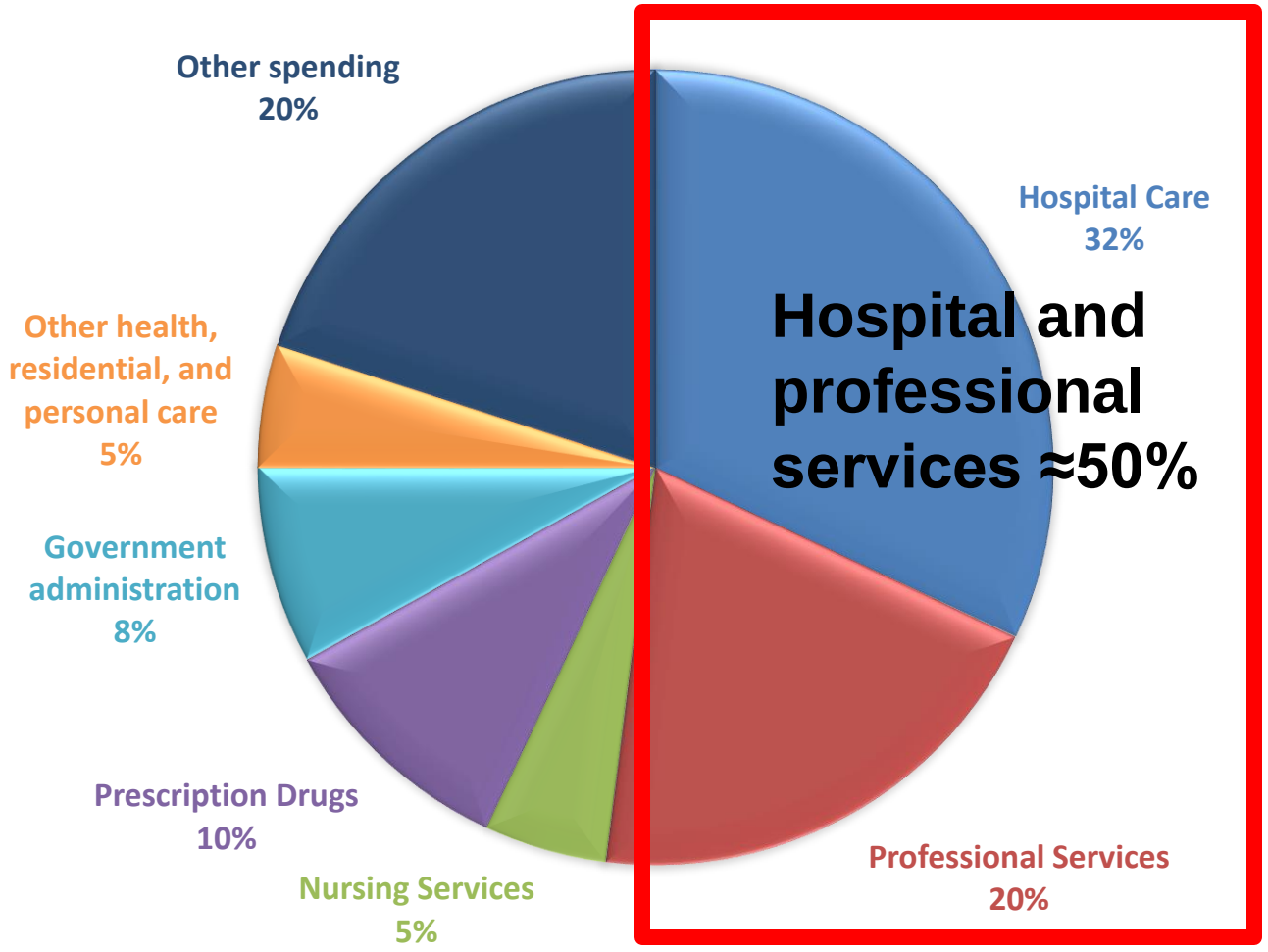
By Type of Expenditure



Source: Centers for Medicare and Medicaid Services, Office of the Actuary, National Health Statistics Group (2016)

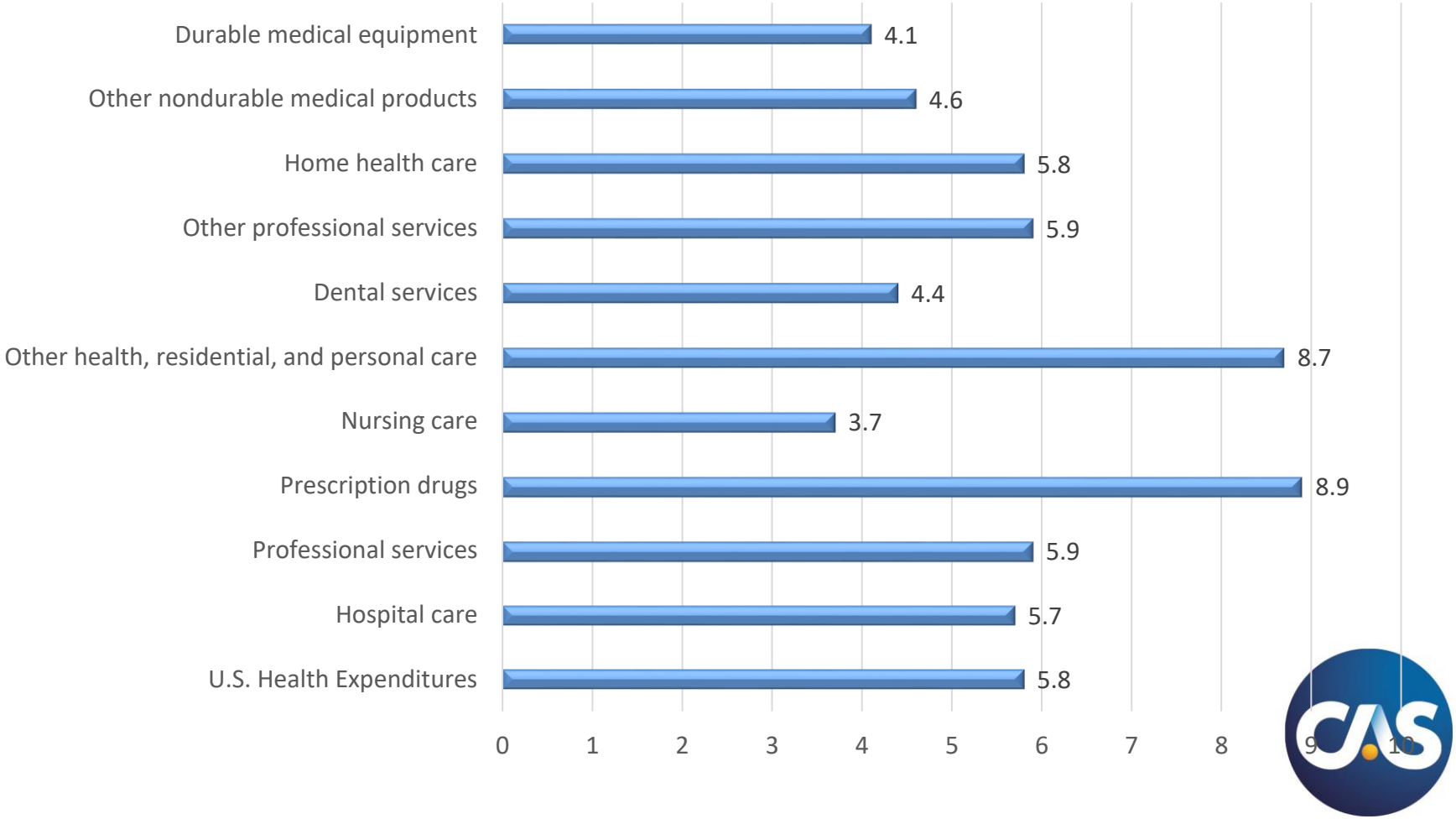
U.S. Health Expenditures

By Type of Expenditure



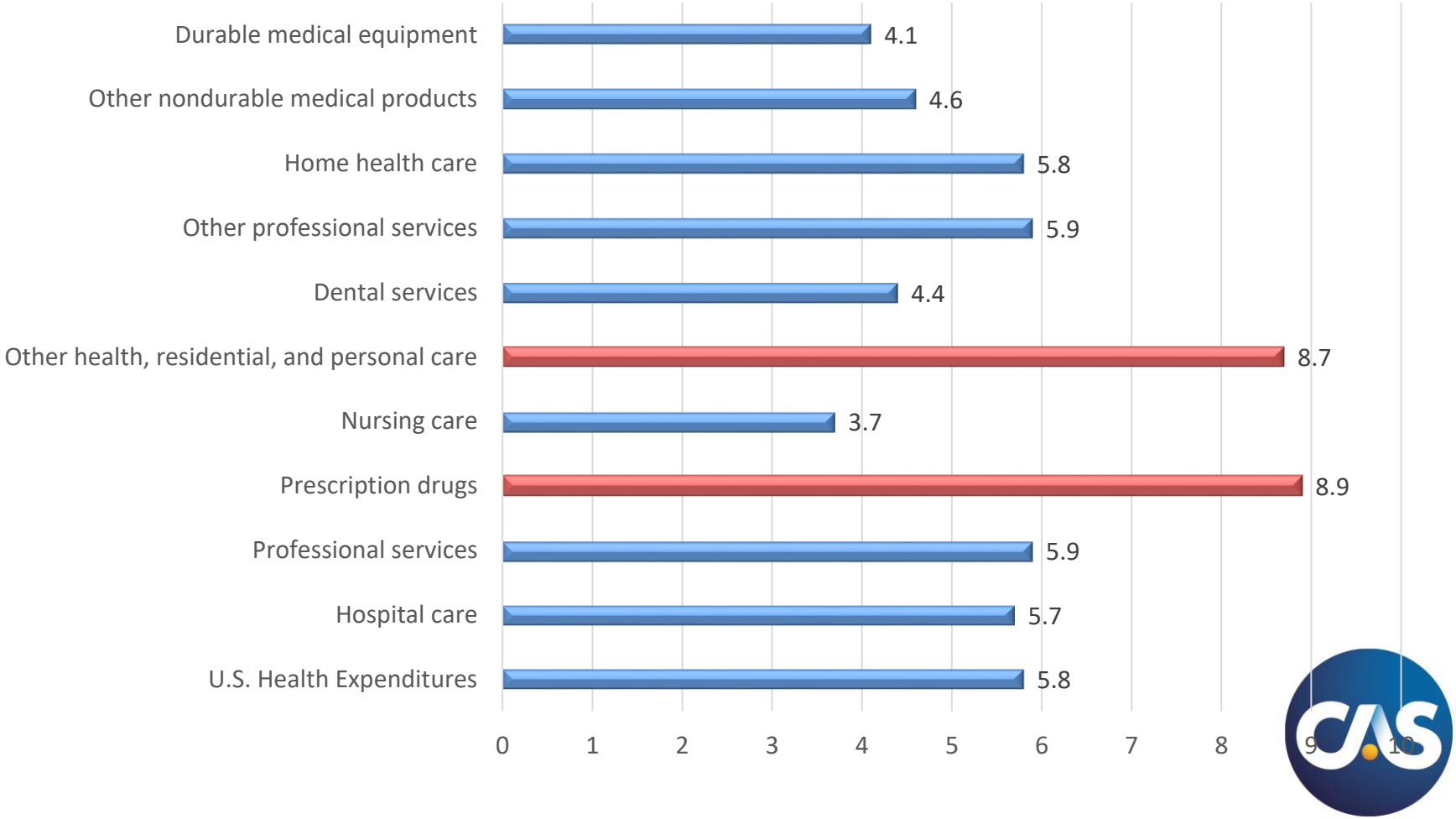
Source: Centers for Medicare and Medicaid Services, Office of the Actuary, National Health Statistics Group (2016)

Growth by Expenditure Type



Source: Centers for Medicare and Medicaid Services, Office of the Actuary, National Health Statistics Group (2015)

Growth by Expenditure Type



Source: Centers for Medicare and Medicaid Services, Office of the Actuary, National Health Statistics Group (2015)

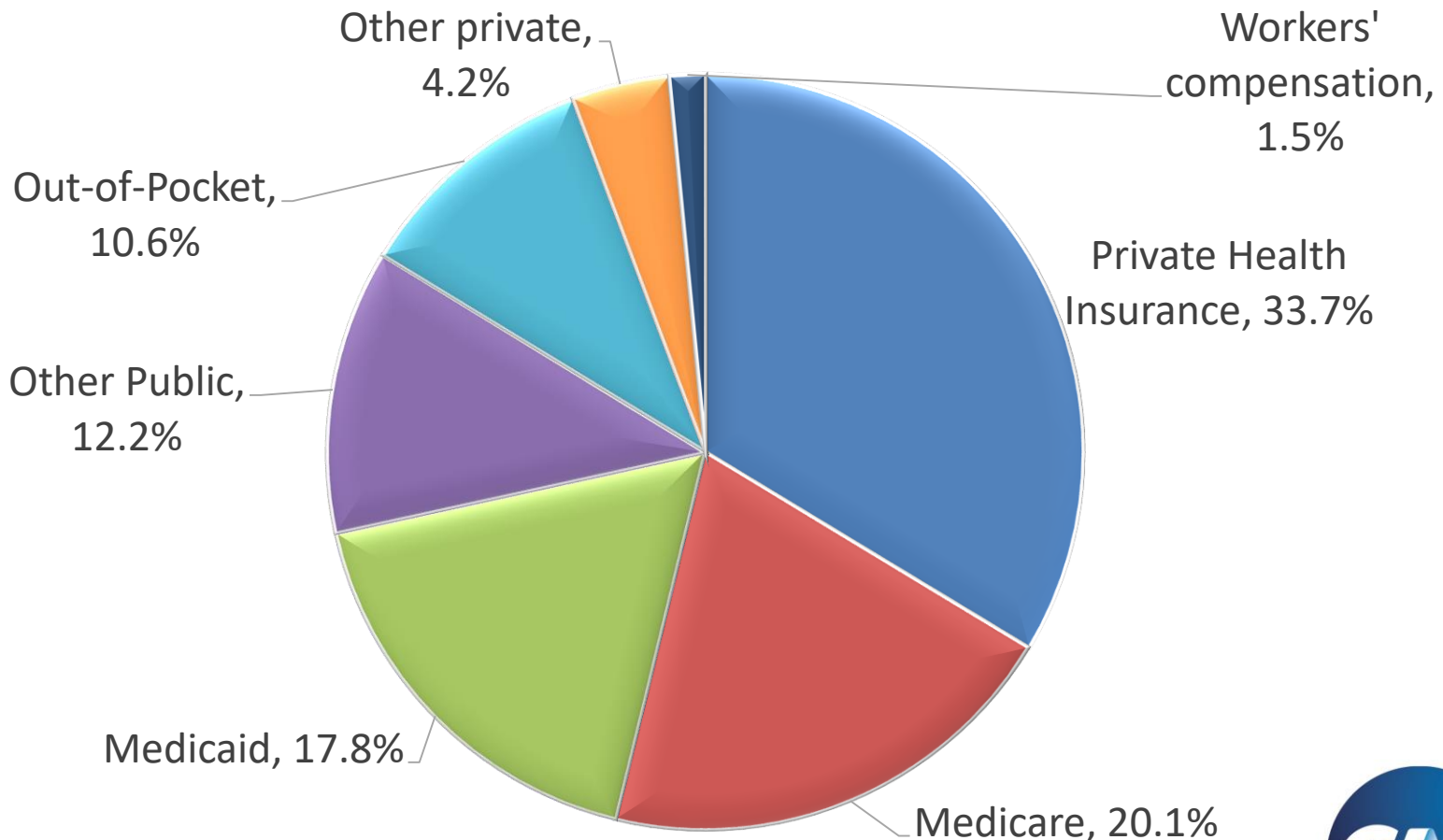
Sources of Funds

Source of Funds	Description
Private health insurance	Employer groups, individual (incl. ACA)
Medicare	Seniors and disabled
Medicaid	Temporary assistance, children's health
Other public sector	Veterans, military, Indian health, school health, public health, vocational rehabilitation
Out-of-pocket	Self-pay, health savings accounts
Workers' compensation	Federal, state, and local payments for workers' compensation-related medical payments
Other private sector	Employer worksite, philanthropy, ancillary facility services

Financed through a combination of **public** and **private sources**

U.S. Health Expenditures

By Source of Funds



Source: National Health Expenditures, "Personal Health Care" by "Type of Expenditure" (2016)

U.S. Coverage Sources

Coverage Source	2013	2014	2015	2016
Private Health Insurance	187.6	192.8	196.3	196.4
Employer Sponsored	90%	88%	88%	88%
Individual	10%	12%	12%	12%
Medicaid	58.9	65.9	69.1	71.2
Medicare	51.3	52.8	54.3	55.8
Uninsured	44.2	35.5	29.5	28.6
Total	**342.0**	**347.0**	**349.2**	**352.0**

Uninsured moving into **Medicaid** (ACA expansion) and the **individual market** (ACA exchange)

Source: Centers for Medicare and Medicaid Services, Office of the Actuary, National Health Statistics Group (2016)

U.S. Coverage Sources

Coverage Source	2013	2014	2015	2016
Private Health Insurance	187.6	192.8	196.3	196.4
Employer Sponsored	90%	88%	88%	88%
Individual	10%	12%	12%	12%
Medicaid	58.9	65.9	69.1	71.2
Medicare	51.3	52.8	54.3	55.8
Uninsured	44.2	35.5	29.5	28.6
Total	**342.0**	**347.0**	**349.2**	**352.0**

Uninsured moving into **Medicaid** (ACA expansion) and the **individual market** (ACA exchange)

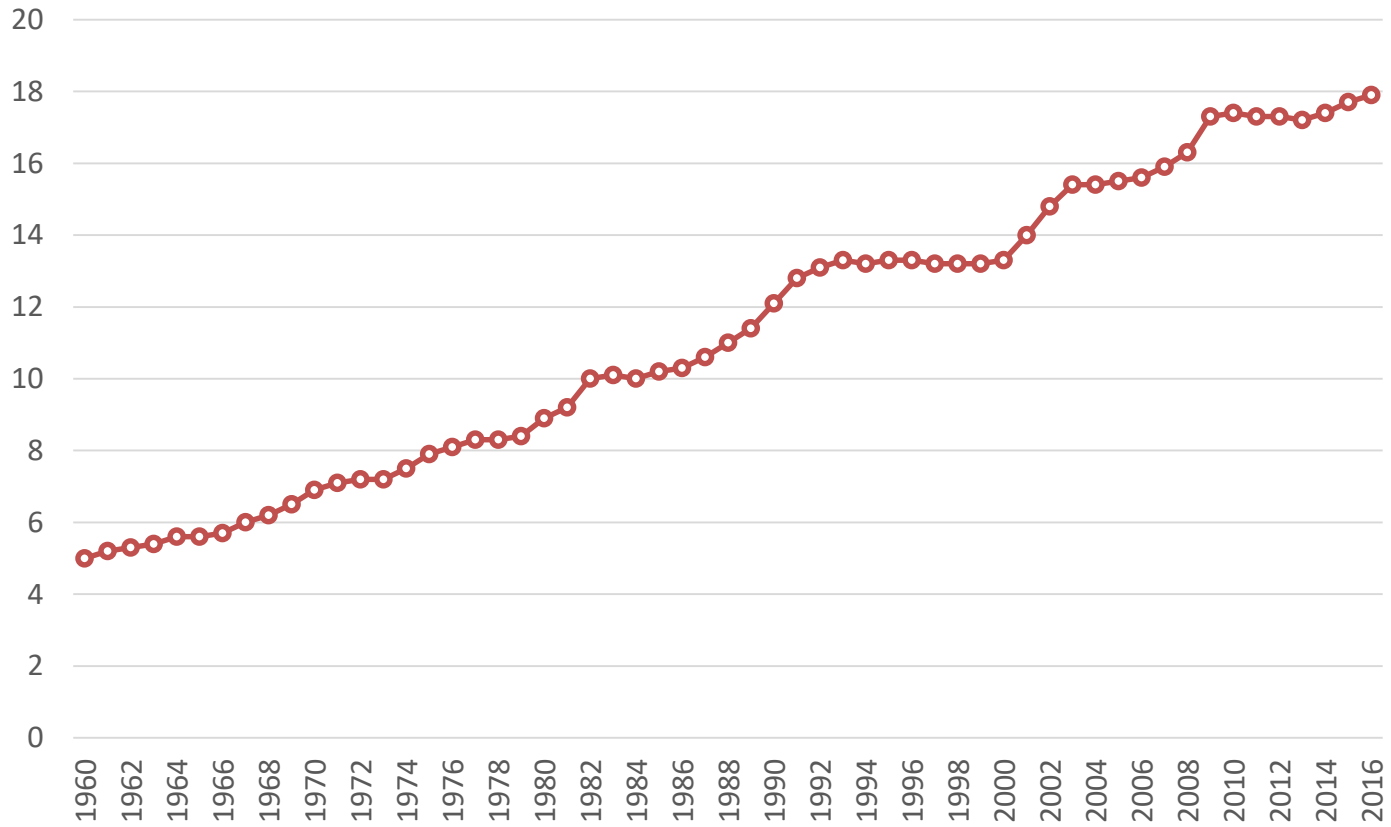
Source: Centers for Medicare and Medicaid Services, Office of the Actuary, National Health Statistics Group (2016)

WC Benefits Paid

Coverage Source	2013	2014	2015
Private Insured	55.2%	55.0%	54.9%
State Fund Insured	15.1%	14.7%	14.6%
Federal Insured	5.9%	5.9%	6.0%
Self-Insured	23.8%	24.4%	24.5%

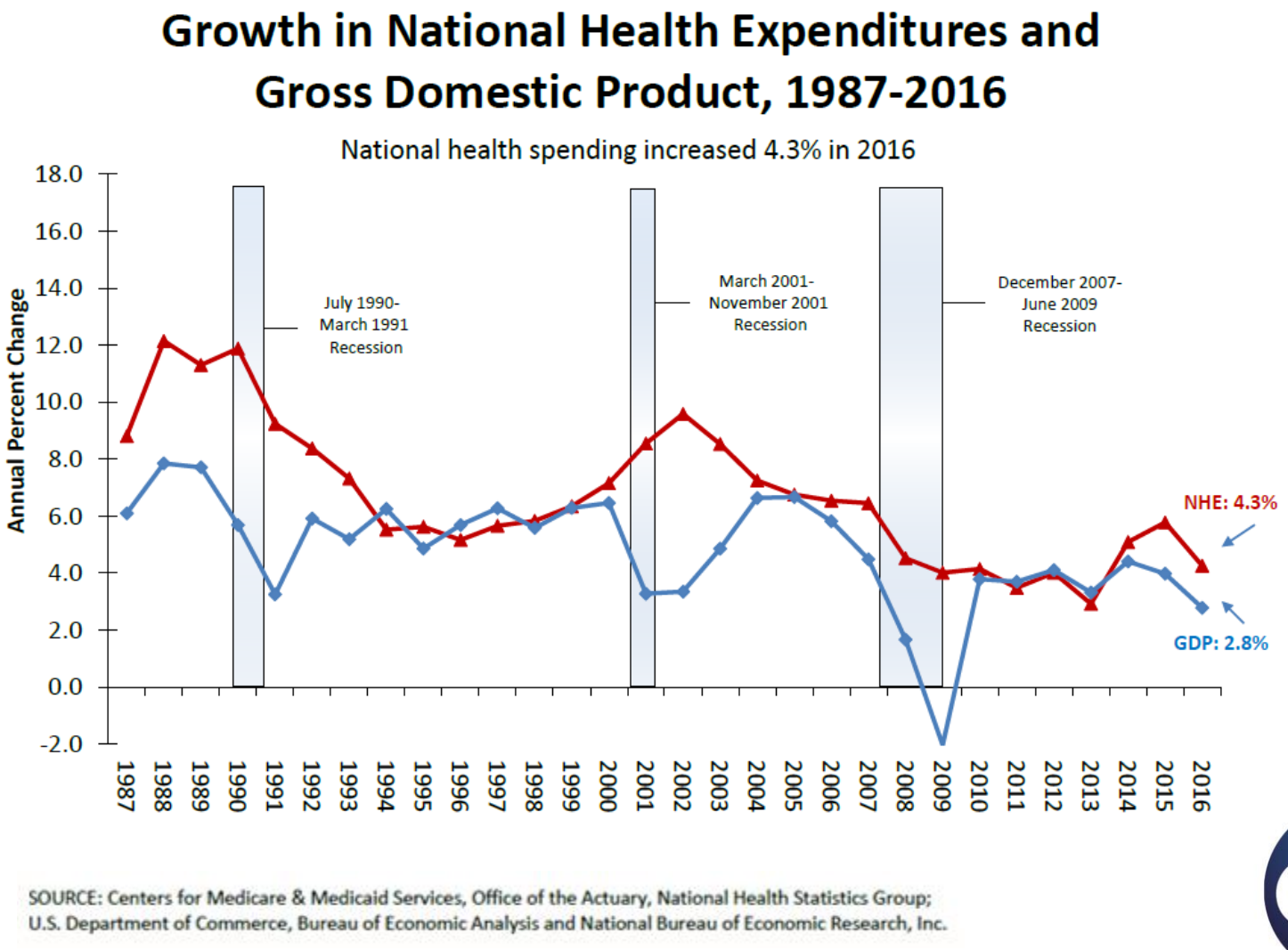
Source: National Academy of Social Insurance, Workers' Compensation: Benefits, Coverage, and Costs (October 2017)

Share of GDP



Source: National Healthcare Expenditures Summary Including Share of GDP, CY 1960-2016. (2016)

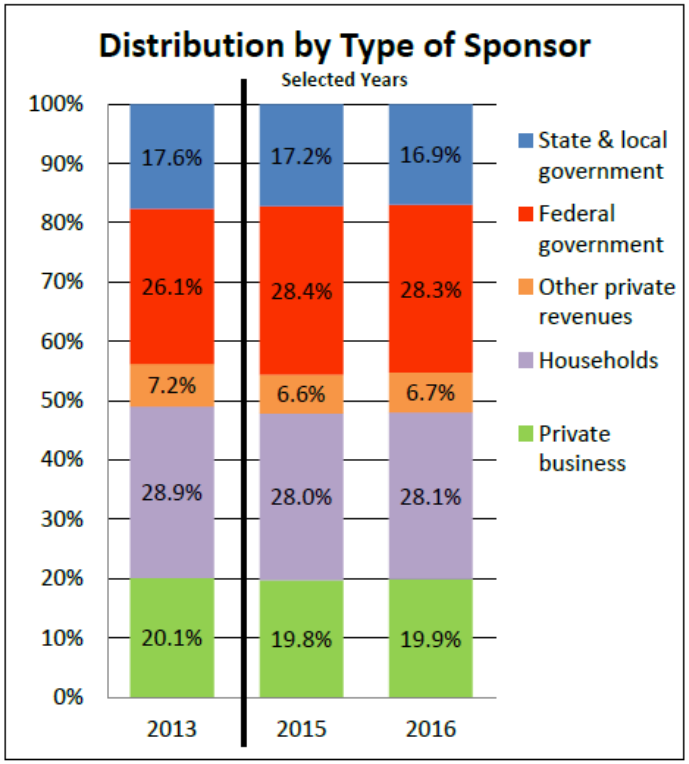
Share of GDP

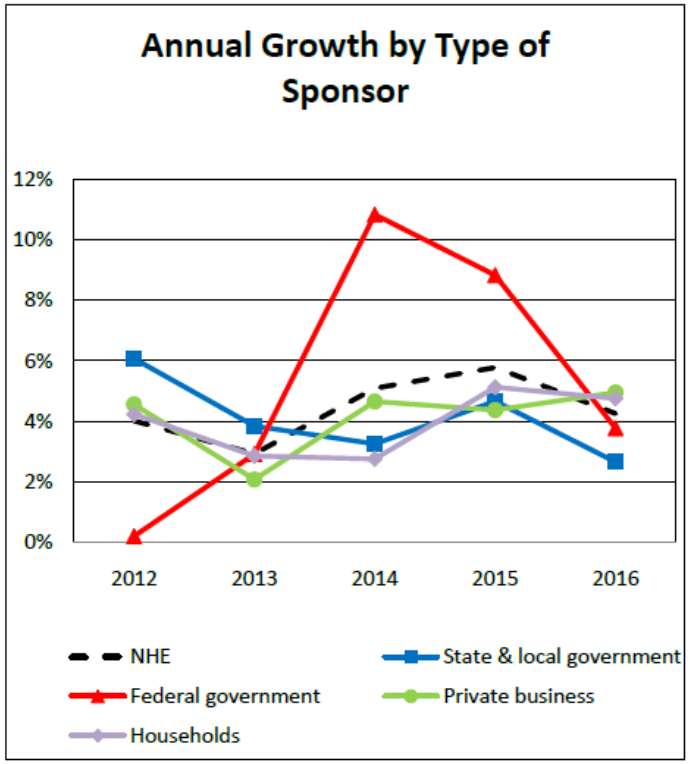


SOURCE: Centers for Medicare & Medicaid Services, Office of the Actuary, National Health Statistics Group; U.S. Department of Commerce, Bureau of Economic Analysis and National Bureau of Economic Research, Inc.

Share of GDP

National Health Expenditures: Distribution and Growth by Type of Sponsor





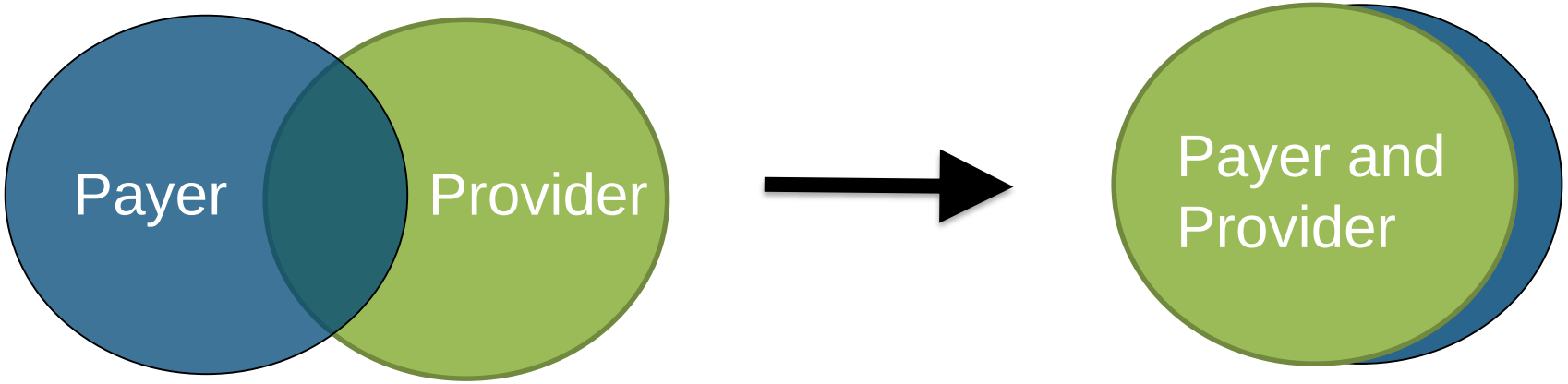
Federal government and **households** each fund about 28% of expenditures

SOURCE: Centers for Medicare & Medicaid Services, Office of the Actuary, National Health Statistics Group.

TRENDS AND INNOVATIONS

Provider/Payer Convergence

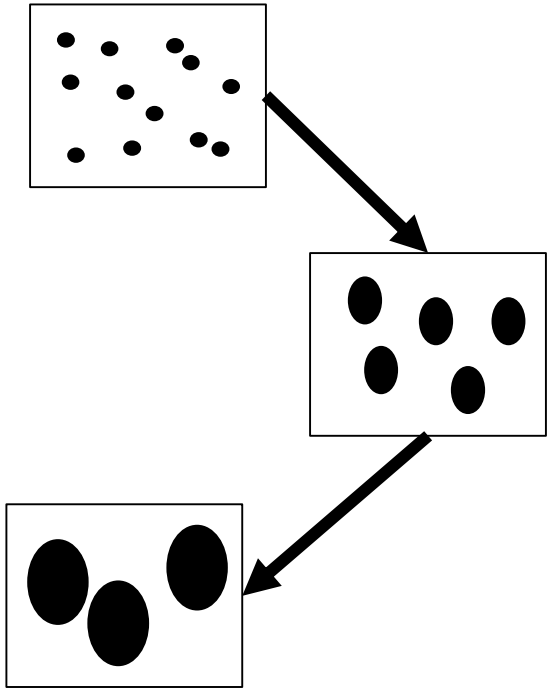
Distinction between “providers of care” and “financers of care” is blurring as each invests in building or buying infrastructure of the other



- Providers see opportunity in controlling the premium
- Payers see opportunity in controlling the delivery system

Industry Consolidation

Both payers and providers are pursuing acquisition/ affiliation strategies that consolidate market power and improve economies of scale



- Control the spectrum of care delivery
- Drive patient volume
- Improve negotiating power
- Create economies of scale
- Build market share
- Expand physical footprint

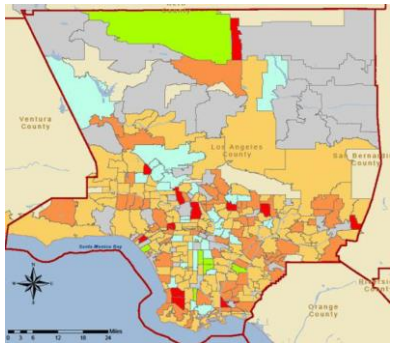
Employer Innovation

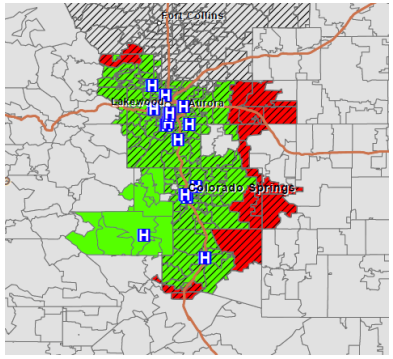
Employers are exploring new approaches to reduce costs through direct contracts with health systems and other innovations

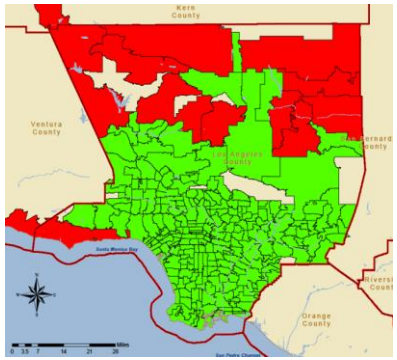
- GM direct contract with Henry Ford Health System
- Walmart/ Geisinger bundled payment arrangement
- Boeing IOCP
- A/BH/JPMC “disruption” venture

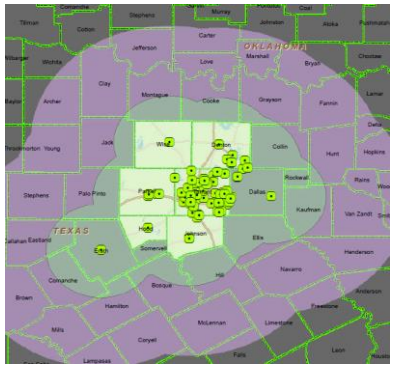
Optimized Provider Networks

Transitioning from broad networks that maximize access to “optimized” networks that balance cost, quality, and access









- Network is one of the remaining cost control “levers”
- Volume/price trade-off
- Employers less resistant to employee disruption
- Focus on cost/quality/access
- Limitations with some WC requirements

Alternative Payment Models

Reimbursement is transitioning from fee-for-service to alternative arrangements, many of which transfer risk to the provider

- Widespread acknowledgement that FFS is obsolete and rife with perverse incentives (more services = more revenue)
- Desire among payers to transition from FFS to VBR; desire among providers to “take risk”
- P&C insurers, analytical analysis becomes crucial for care providers

Value-based reimbursement continuum

Portfolio Diversification

Margin pressure on traditional health products is driving product portfolio expansion into related insured and non-insured products

Payers are expanding their product portfolios outside “traditional” health products…

- Ancillary insurance products (dental, vision)
- Supplemental insurance products (critical illness, accident, disability)
- Services for employers (HSA/FSA administration, wellness, absenteeism management, on-site clinics)
- P&C industry, some employers providing virtual doctors and telemedicine for remote worksite injuries

Internet Devices

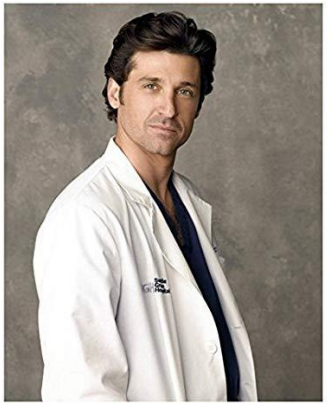
Insurers are providing devices that collect personalized data for each insured

- Payers deploying internet-connected devices to collect information about member behaviors and biometrics
- Data are used in member engagement and care management programs
- Limited uptake in the WC market, but auto insurers are making extensive use of devices for telematics through phone, tracking, and camera data

Provider Targeting/Steerage

Transparency tools help consumers find the optimal provider based on their preferences and priorities

- Provider directories offer little differentiating information for choosing a provider
- Transparency initiatives provide actionable information to help consumers choose providers based on quality and cost
- In current P&C space what makes a “better” choice is cost or position driven



New Rx Payment Models

Prescription drugs and individualized therapies have the potential to improve patient outcomes, but payers want risk protection

- Curative therapies pipeline is growing; many of these products have high prices
- Payers are looking for ways to off-set the up-front payment model (risk: benefit of the therapy does not accrue to the payer that funds the treatment)
- Options under consideration: annuity payments (with and w/out effectiveness guarantees) and financial bonds provide risk protection for payers while offering revenue streams to pharmaceutical manufacturers

Consumer Engagement

Engaging consumers in managing their own health

- Few insurers claim engaged consumers; traditional engagement techniques are reactive and transactional (phone, email, chat)
- Insurers are investing in enhancing consumer engagement with emphasis on activities that reduce expenses, increase stickiness, increase engagement
- Different consumer cohorts engage with insurers in different ways; requires retaining traditional methods while supporting with new approaches

Trends and Innovations

- Payer/Provider Convergence
- Industry Consolidation
- Employer Innovation
- Optimized Provider Networks
- Alternate Payment Methodologies
- Portfolio Diversification
- Internet Devices
- Provider Targeting/Steerage
- New Rx Payment Models
- Consumer Engagement

Questions and Discussion