National Council on Compensation Insurance, Inc.

Key Drivers of Workers Compensation Medical Costs

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CASE 2008 Fall Meeting
September 9, 2008
Atlanta, GA

Outline of Presentation

- Trends and drivers of workers compensation medical payments
- Prescription Drugs – Trends in Costs and Utilization
- Long-Term Care Industry—an Emerging Issue for Workers Compensation

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Recent Trends in Workers Compensation Medical Spending

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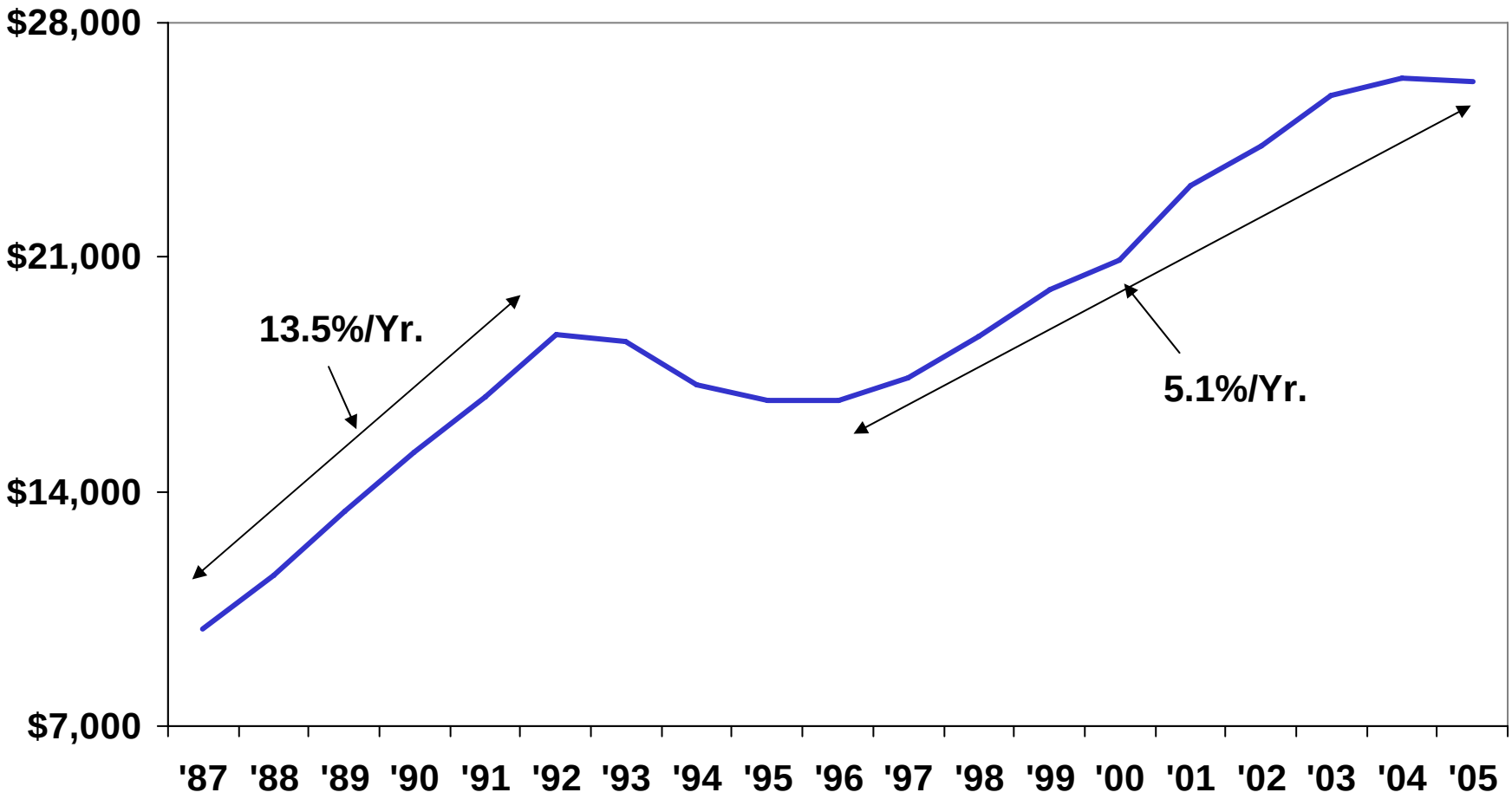
Medical Benefits Are Trending Higher

Total WC Medical Benefits Paid by Calendar Year, Millions of Dollars



Note: 1987–2005 Increase = 5.6%/Yr.

Source: National Academy of Social Insurance

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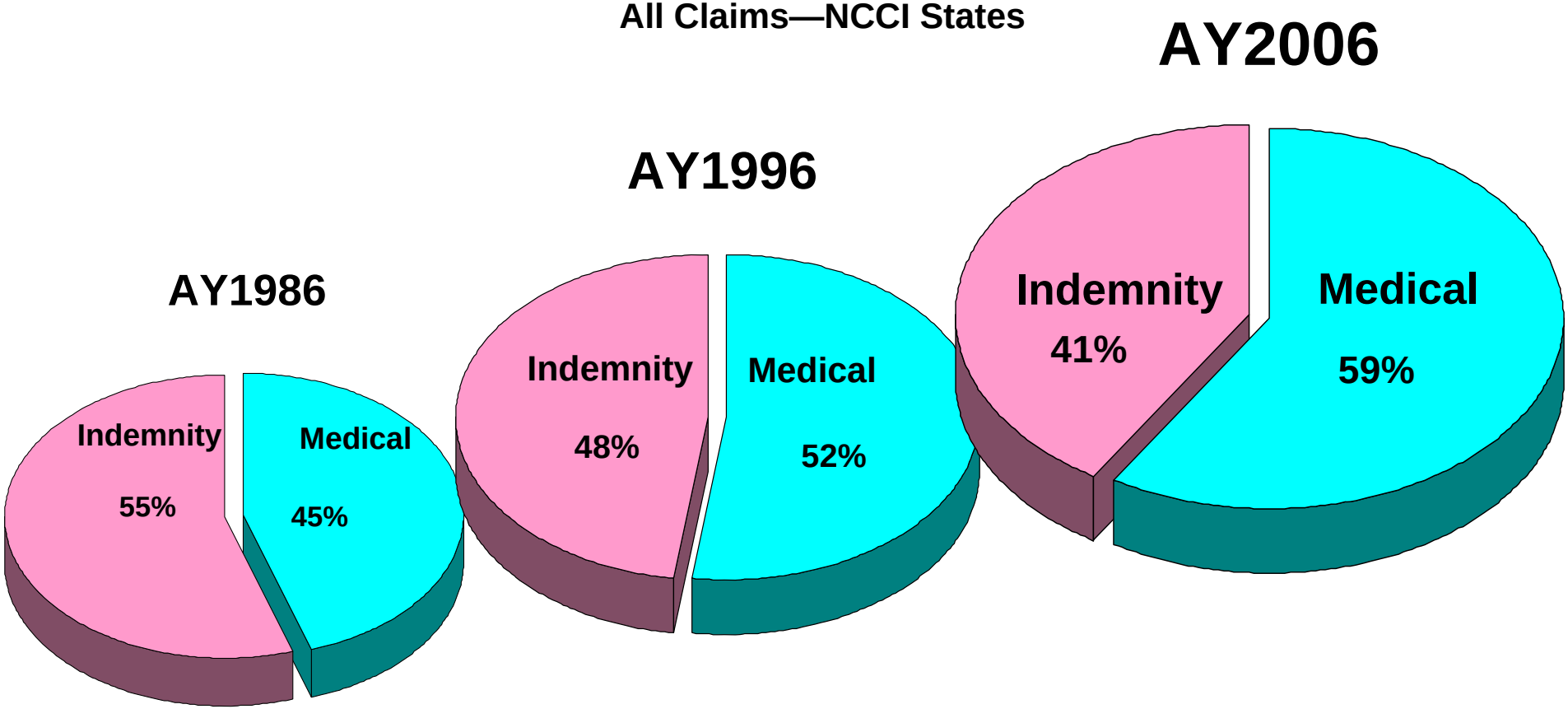
Medical Share of Total Benefits Has Grown Markedly

All Claims—NCCI States



Based on data through 12/31/2006, developed to ultimate
Based on the states where NCCI provides ratemaking services
Excludes the effects of deductible policies

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Demographic Impacts on Medical Severity

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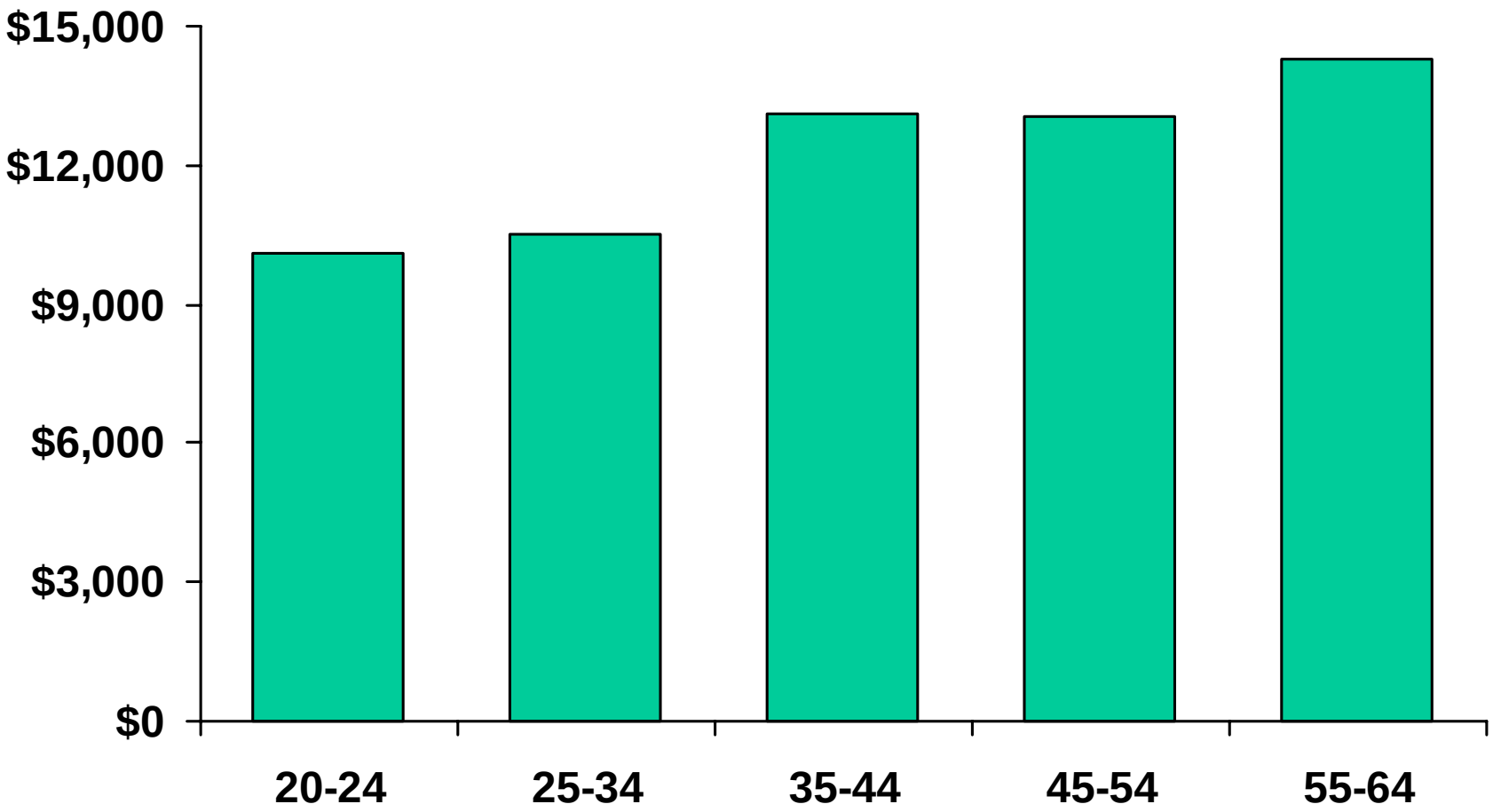
Medical Severity Increases With Age

Average Paid + Case Medical Severity Reported at 18 Months by Age for Accident Year 2004, NCCI States



Source: NCCI

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Rankings of Top 10 Lost-Time Claim Diagnoses

1996–2003, NCCI States

	Ages 20-34		Ages 45-64
1	SPRAIN LUMBAR REGION	1	CARPAL TUNNEL SYNDROME
2	LUMBAR DISC DISPLACEMENT	2	LUMBAR DISC DISPLACEMENT
3	CARPAL TUNNEL SYNDROME	3	SPRAIN ROTATOR CUFF
4	LUMBAGO	4	TEAR MENISCUS KNEE
5	CERVICALGIA	5	CERVICALGIA
6	LOWER LEG INJURY NOS	6	SPRAIN LUMBAR REGION
7	SPRAIN OF ANKLE NOS	7	ROTATOR CUFF SYNDROME NOS
8	SPRAIN OF NECK	8	LUMBOSACRAL NEURITIS NOS
9	LUMBOSACRAL NEURITIS NOS	9	LUMBAGO
10	SPRAIN LUMBOSACRAL	10	LOWER LEG INJURY NOS

Source: NCCI

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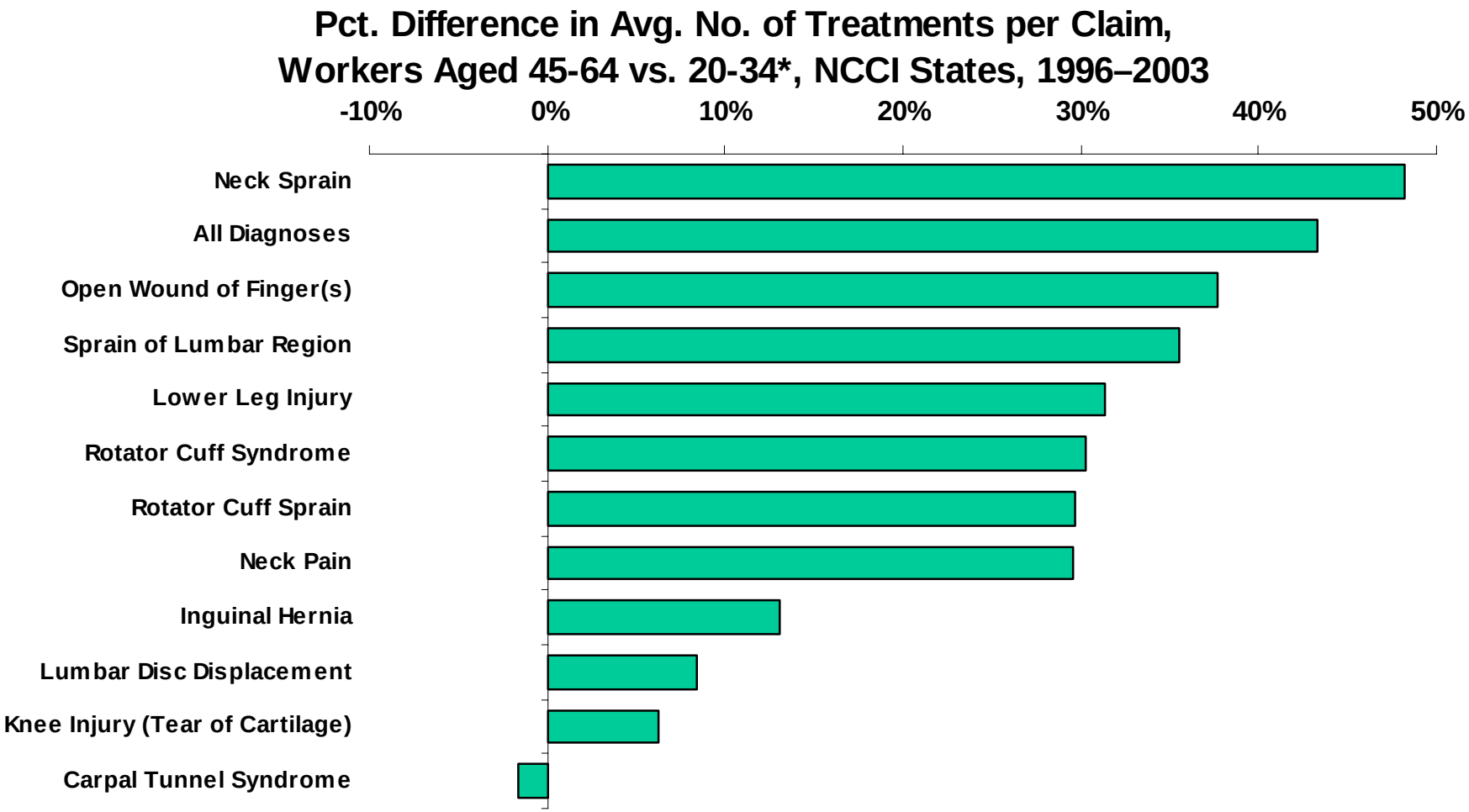
Older Workers Have a Higher Number of Treatments per Claim



* Based on a comparison of cumulative medical payments through latest evaluation
Source: NCCI

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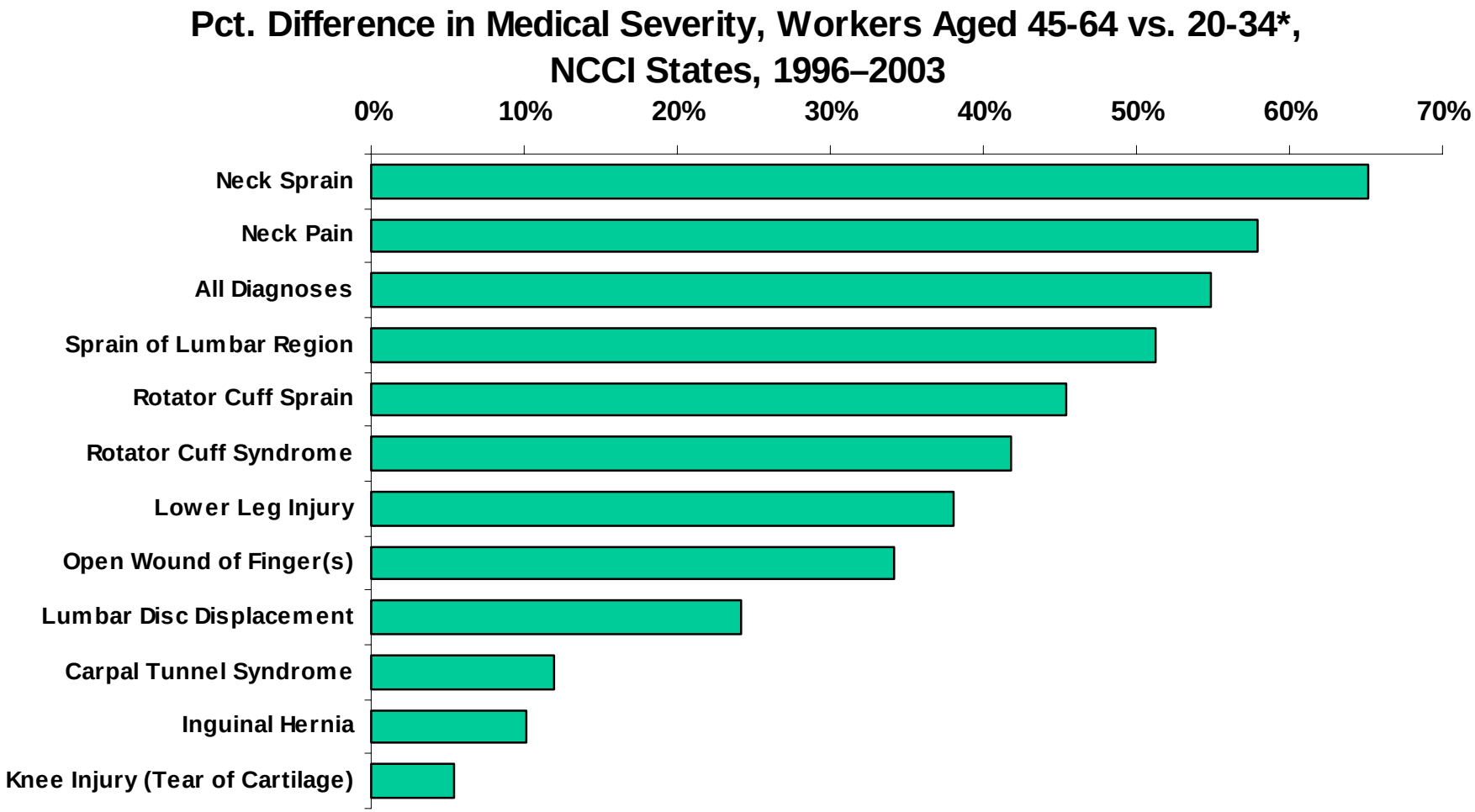
Medical Severity Is Substantially Higher for Older Workers



* Based on a comparison of cumulative medical payments through latest evaluation
Source: NCCI

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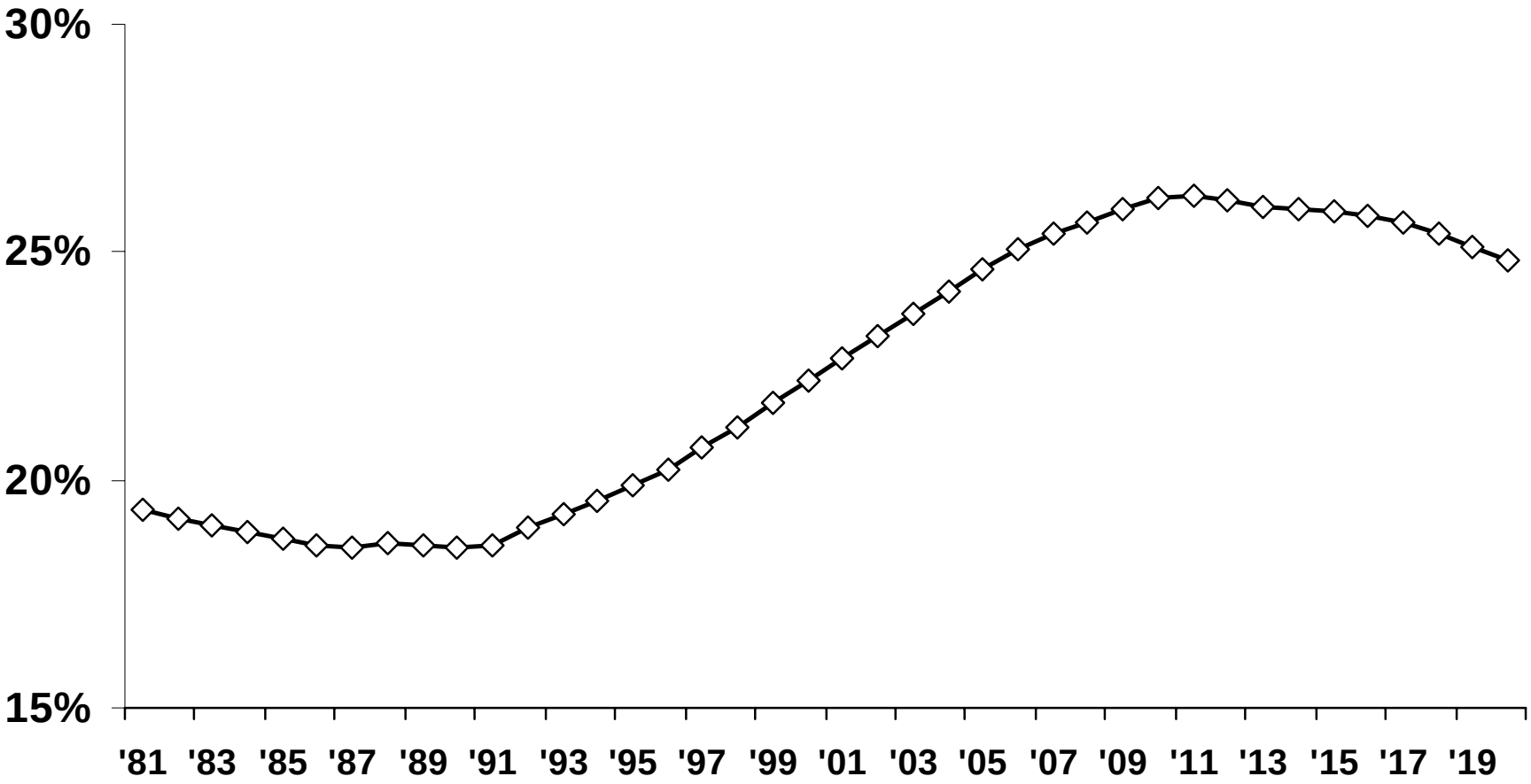
The Share of the US Population Aged 45 to 64 Is Expected to Peak in 2011



Source: US Census Bureau, Moody's Economy.com

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Price as a Driver of Medical Severity

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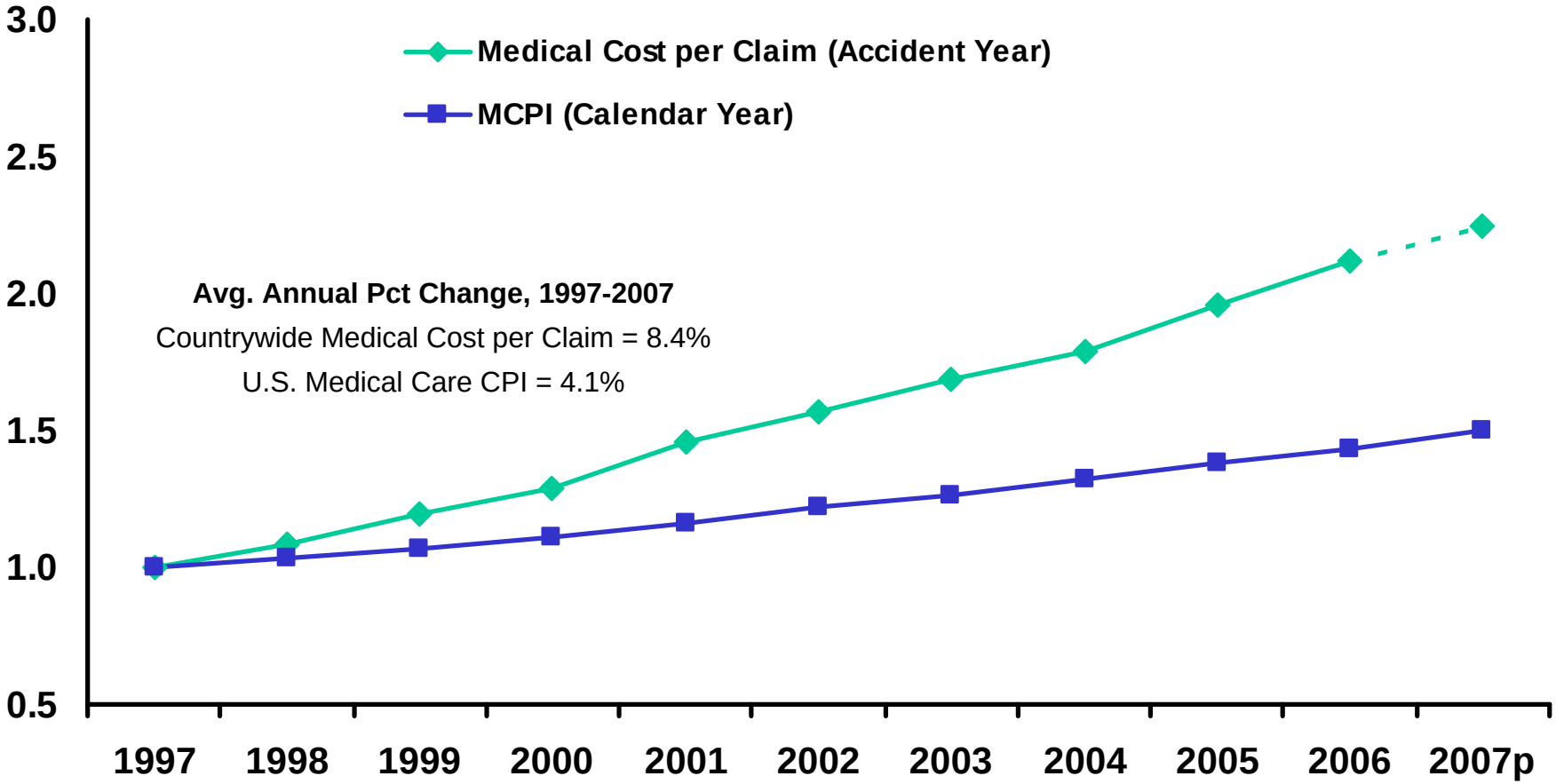
Countrywide Medical Severity Is Outpacing the Medical Care CPI

Indexes of Medical Severity* and Medical Care CPI, 1997 = 1.0



* Lost-time claims

Medical Severity is represented above as unlimited medical losses at ultimate without adjustments for either wage or benefit changes

Source: NCCI; U.S. Bureau of Labor Statistics

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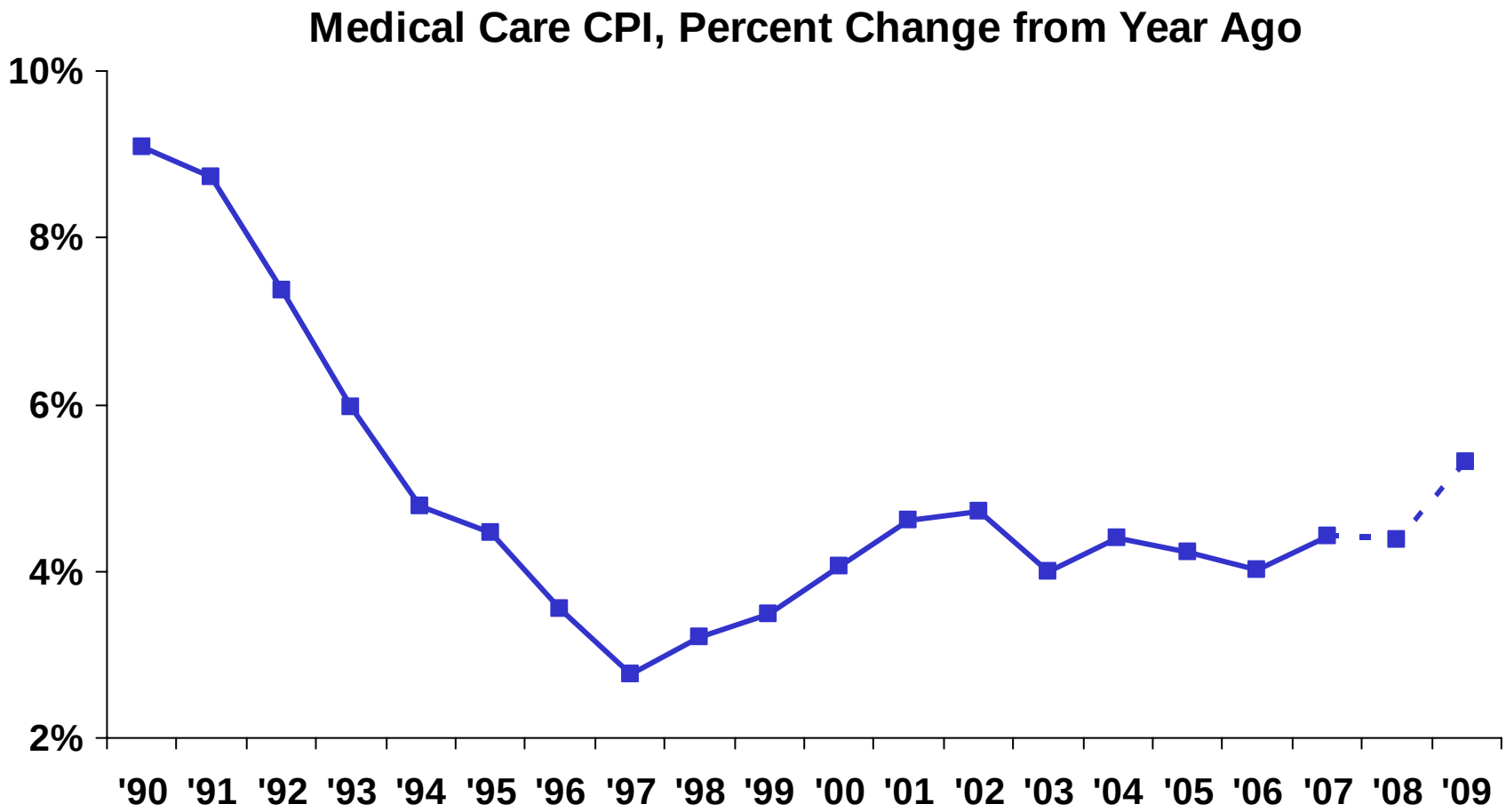
Further Increases in Medical Care Inflation Are Expected Through 2009



Source: U.S. Bureau of Labor Statistics and Moody's Economy.com for forecasts

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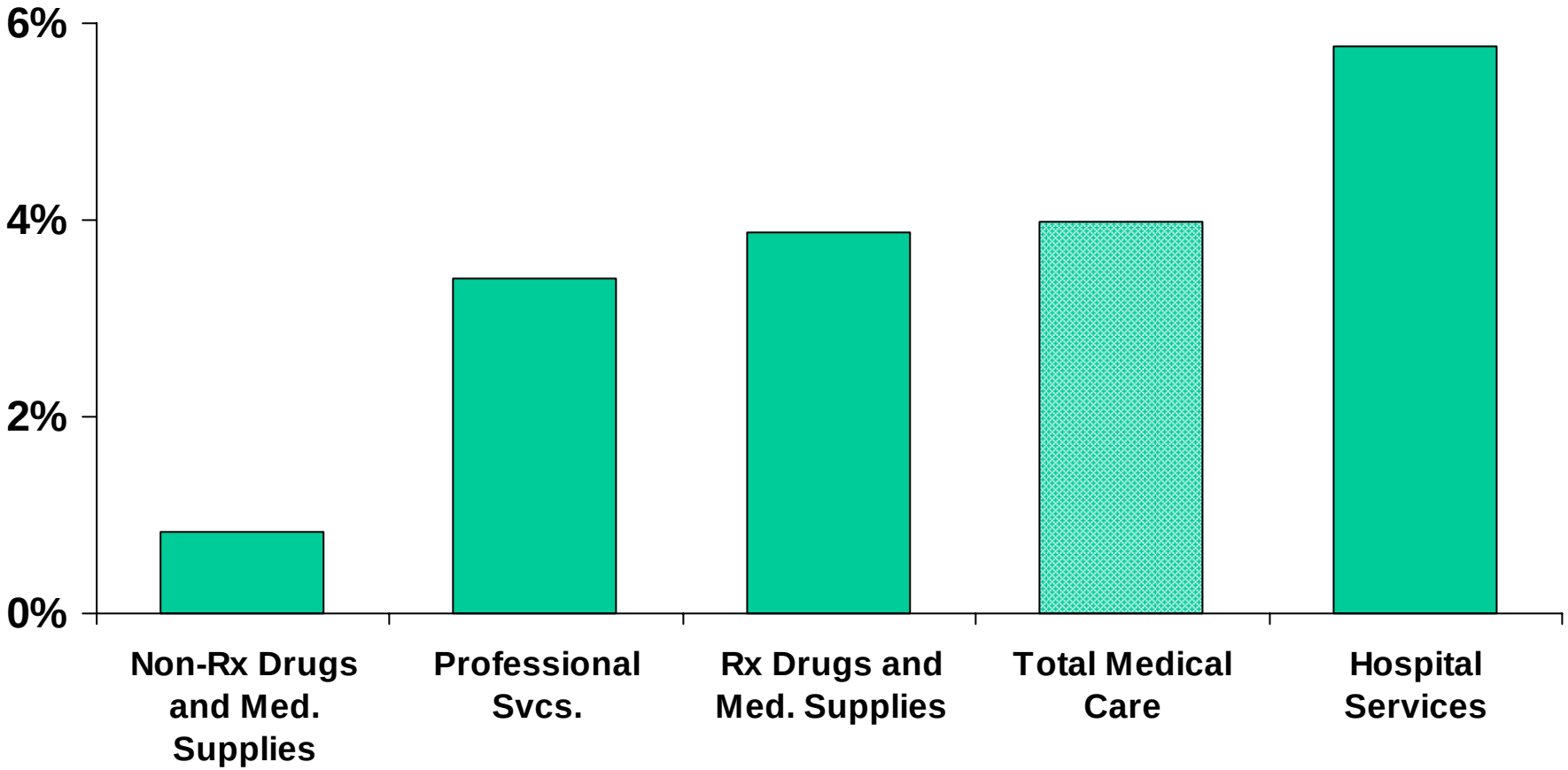
Medical Care Price Increases Are Highest for Hospital Services

Average Annual Pct. Change in Components of the US Medical Care CPI, 1996–2007



Source: US Bureau of Labor Statistics

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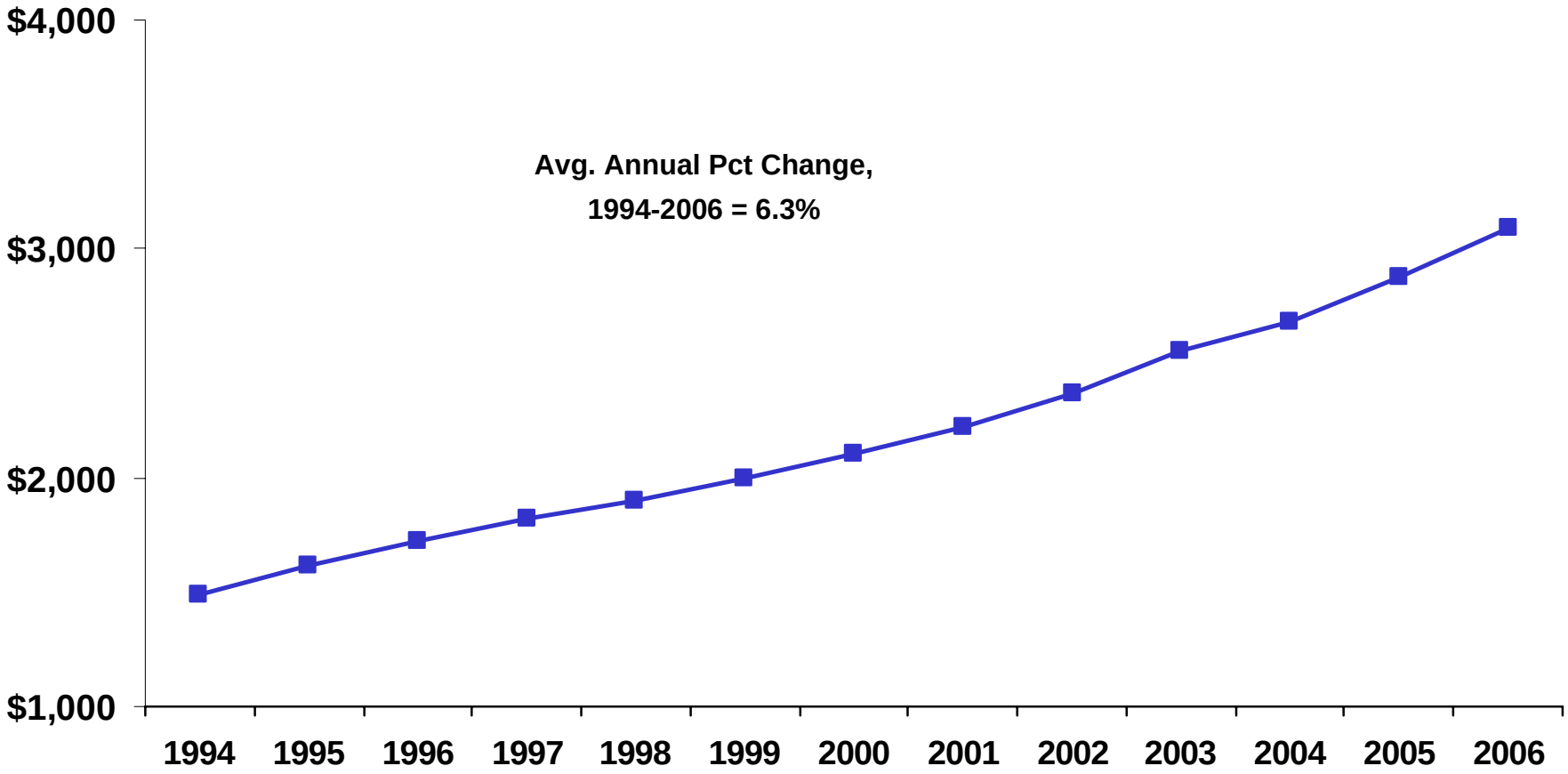
Avg. Hospital Cost per Day Is Increasing at Roughly 6% a Year for the US as a Whole



Source: American Hospital Association

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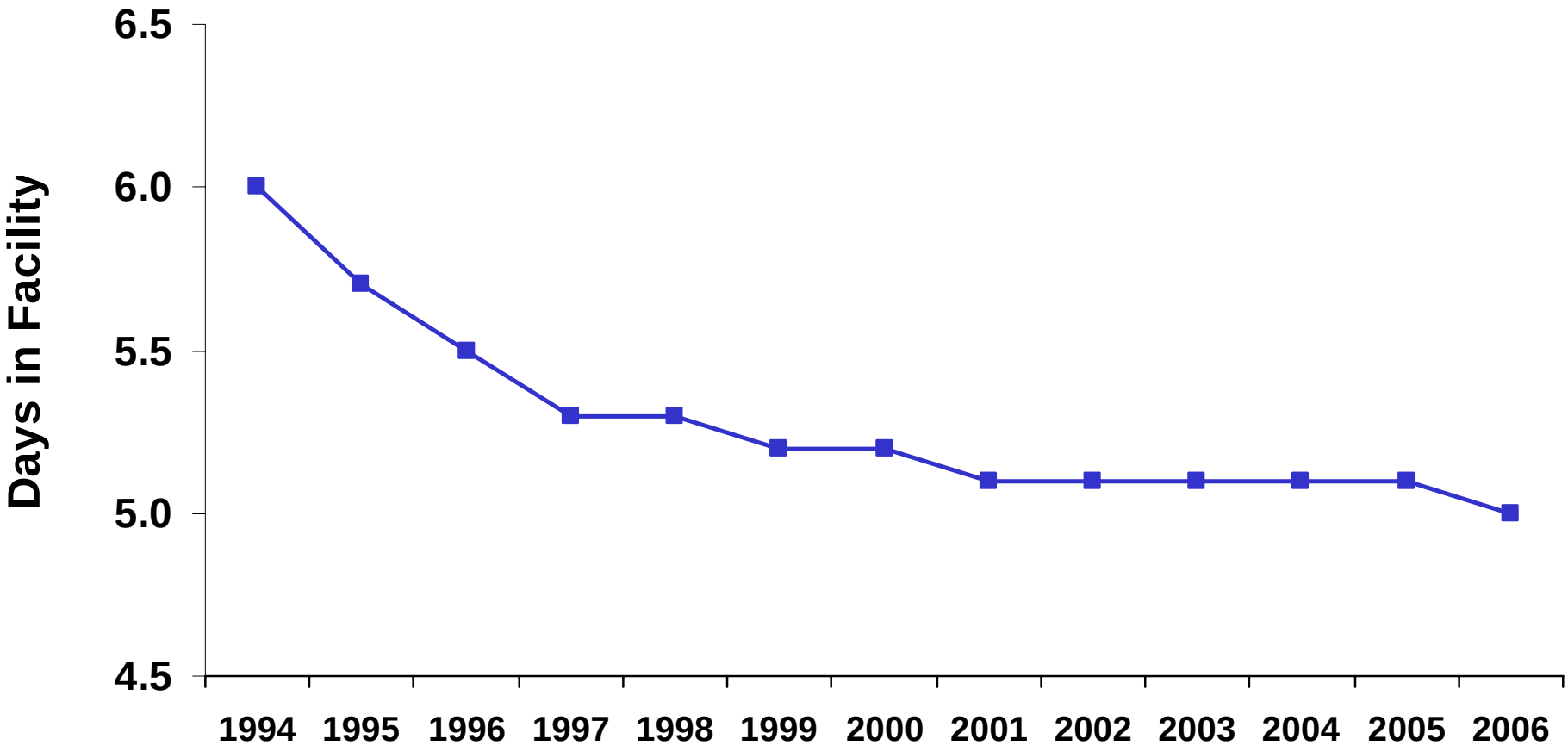
Average Length of a Hospital Stay in the US Has Shown Little Change Recently



Source: American Hospital Association

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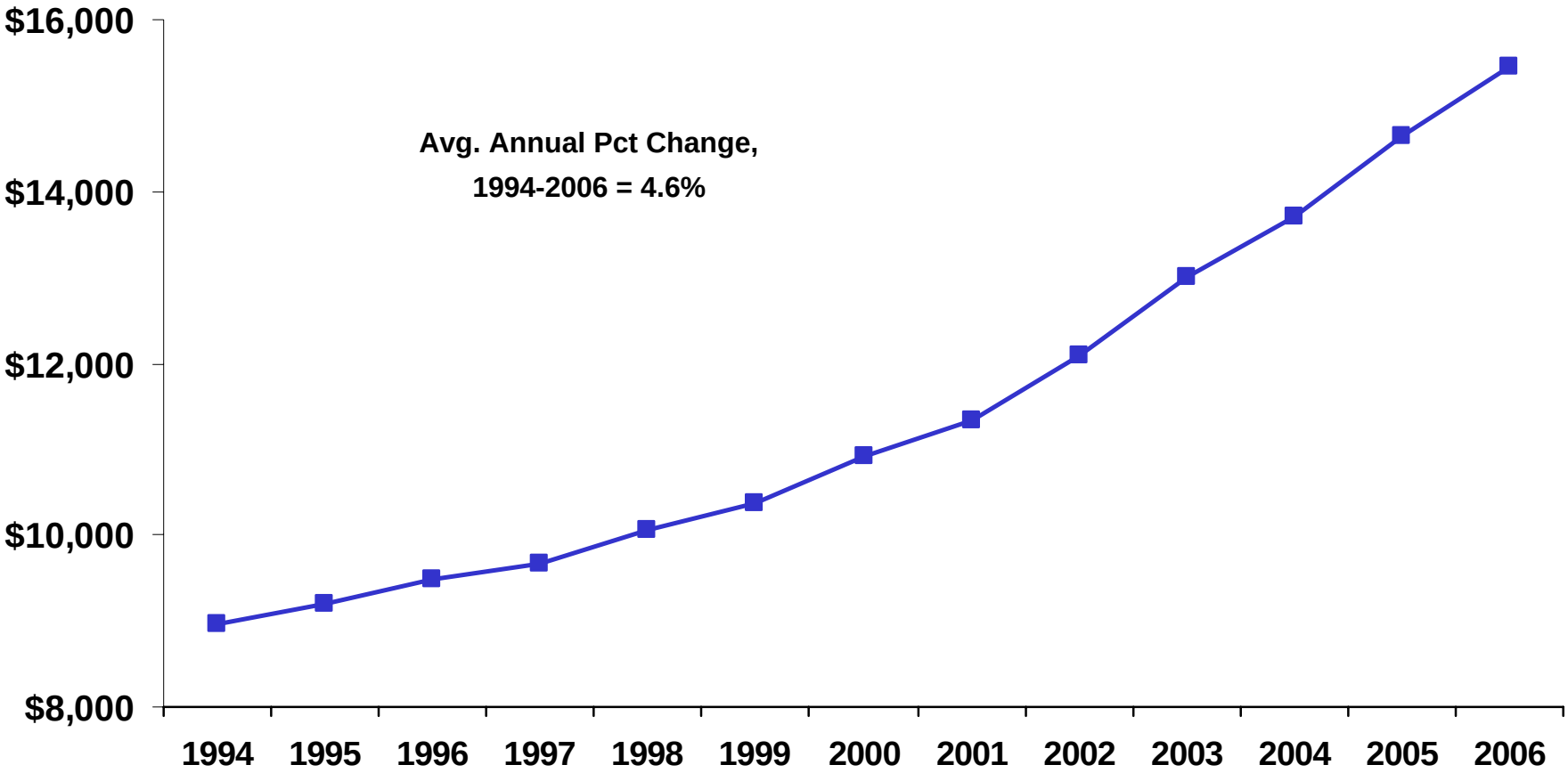
Avg. Hospital Cost per Stay in the US Is Increasing Moderately



Source: American Hospital Association

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Influence of Utilization on Medical Severity

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Changes in Utilization Can Come From Many Sources

- Changes in the number of services provided
- Changes in treatment modalities (use of MRIs instead of X-rays)
- Introduction of newer pharmaceuticals/generics
- Adaptive practices by providers

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Utilization Changes Are Key to Understanding Changes in Medical Severity

- Recent NCCI research quantified the extent to which changes in utilization helped to explain the rise in medical severity
- The study focused on claims closed within 24 months of date of injury between 1996–97 and 2001–02, a period when medical severity rose 73%
- Looked separately at impacts of mix, quantity and price on rise in medical severity

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Changes in Mix

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An Illustration of the Concept of Changes in "Mix"

On Monday, Johnny buys:
3 Golden Delicious Apples at $0.50 each, and
4 Macintosh Apples at $0.25 each
Total cost = (3 x $0.50) + (4 x $0.25) = $2.50

On Wednesday, he buys:
4 Golden Delicious at $0.50 each, and
3 Macintosh at $0.25 each
Total cost = (4 x $0.50) + (3 x $0.25) = $2.75

Average Cost per Apple: Mon. 35.7 cents ($2.50 / 7)
Wed. 39.3 cents ($2.75 / 7)

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Changes in the Mix of Diagnoses

Top 10 Claim Diagnoses by Accident Year for Lost-Time Claims That Closed Within 24 Months of Date of Injury

	Accident Years 1996/1997 Diagnosis and Severity Index		Accident Years 2001/2002 Diagnosis and Severity Index	
1	Sprain Lumbar Region	**0.43**	Sprain Lumbar Region	**0.43**
2	Carpal Tunnel Syndrome	**1.44**	Carpal Tunnel Syndrome	**1.17**
3	Lower Leg Injury, not otherwise specified	**0.87**	Lower Leg Injury, not otherwise specified	**0.76**
4	Lumbar Disc Displacement	**1.94**	Lumbar Disc Displacement	**1.85**
5	**Sprain Lumbosacral**	**0.37**	Tear Medial Cartilage/Meniscus of Knee	**1.64**
6	Lumbago	**0.61**	Cervicalgia	**1.24**
7	Sprain of Ankle, not otherwise specified	**0.25**	Lumbago	**0.56**
8	Cervicalgia	**1.33**	**Sprain Rotator Cuff**	**2.14**
9	Tear Medial Cartilage/Meniscus of Knee	**2.03**	Unilateral Inguinal Hernia	**0.82**
10	Unilateral Inguinal Hernia	**1.11**	Sprain of Ankle, not otherwise specified	**0.24**

The severity index is the ratio of paid medical severity for that diagnosis to overall average paid medical severity.
Source: NCCI

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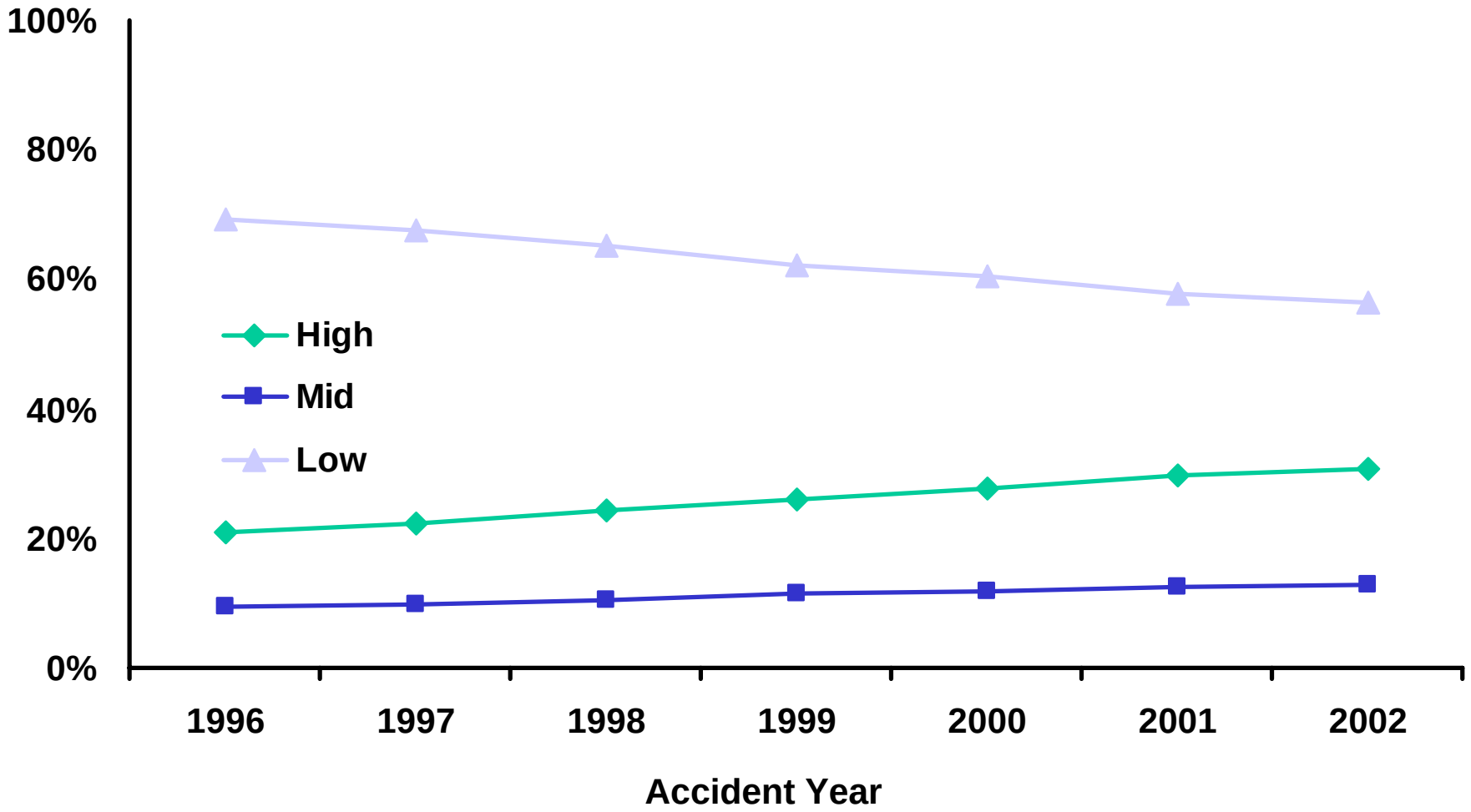
The Share of Diagnoses with "Low" Medical Severity Has Declined While the Share of "Mid" and "High" Has Increased

All Lost-Time Claims at 24 Months After Date of Injury



Injuries by diagnosis were classified as high, mid, and low, based on paid medical severity in Accident Year 1998.
Source: NCCI

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Changes in Number of Treatments

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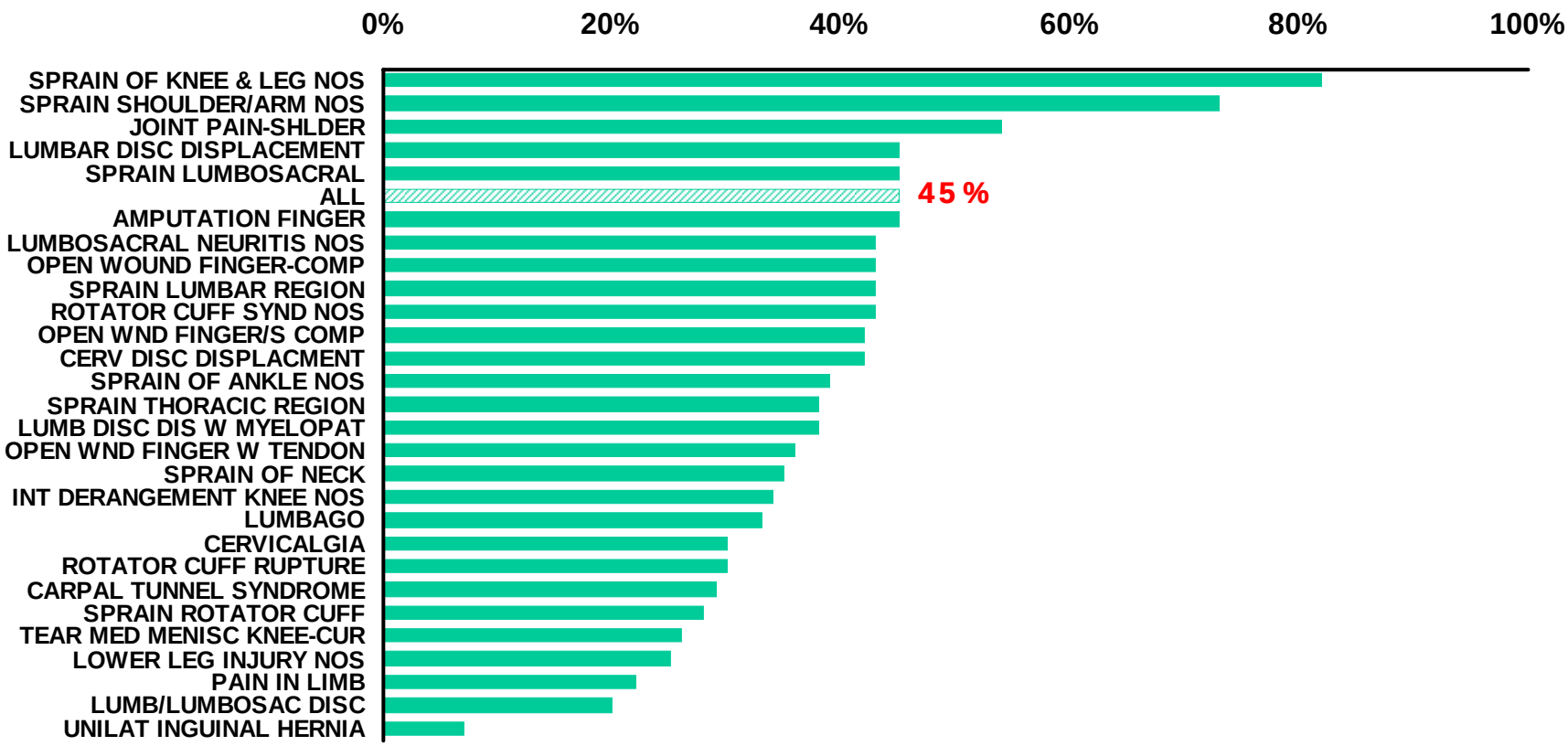
The Number of Treatments per Claim Increased in All Leading Diagnoses

Percentage Increase in Number of Treatments per Claim by Diagnosis Code
Accident Years 2001/2002 Over 1996/1997



Lost-Time Claims Closed Within 24 Months of Date of Injury
Source: NCCI

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What Contributes to These Increases?

Let’s Look at the Range of Services

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Treatments per Claim Up the Most for Physical Therapy, Complex Surgery, and Complex Diagnostic Testing

Treatment Service Group	Average Treatments per Claim		
	Accident Years 1996/1997	Accident Years 2001/2002	% Difference
Physical Therapy	19.5	32.6	67%
Complex Surgery and Anesthesia	1.0	1.5	60%
Complex Diagnostic Testing	0.4	0.7	57%
Other	4.4	6.1	39%
Drugs, Supplies, and DME	5.6	7.5	34%
Surgical Treatments	0.6	0.7	26%
Pathology	1.1	1.4	26%
Emergency Services	0.8	0.9	19%
Hospital Services	0.9	1.0	15%
Diagnostic Radiology	2.6	2.9	14%
Office Visits	5.8	6.4	11%
Total Treatments	**42.6**	**61.8**	**45%**

Lost-Time Claims Closed Within 24 Months of Date of Injury
Source: NCCI

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Why the Dramatic Increase in the Number of Treatments?

Were More Claims Receiving a Service?

Or . . .

Was There an Increase in the Number of Treatments per Service?

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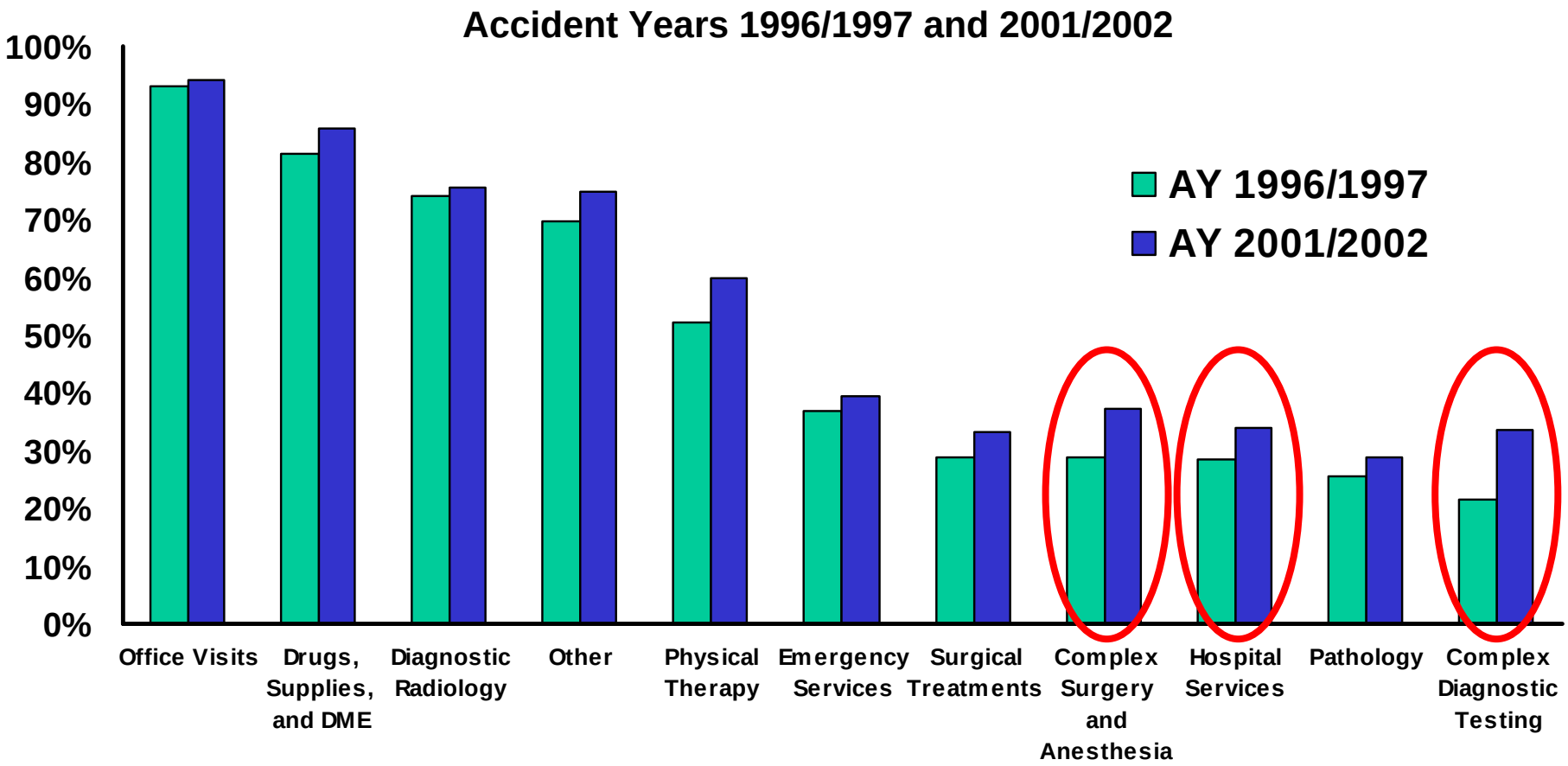
The Percentage of Claims Receiving the Indicated Service Increased for All Service Groups



Lost-Time Claims Closed Within 24 Months of Date of Injury
Source: NCCI

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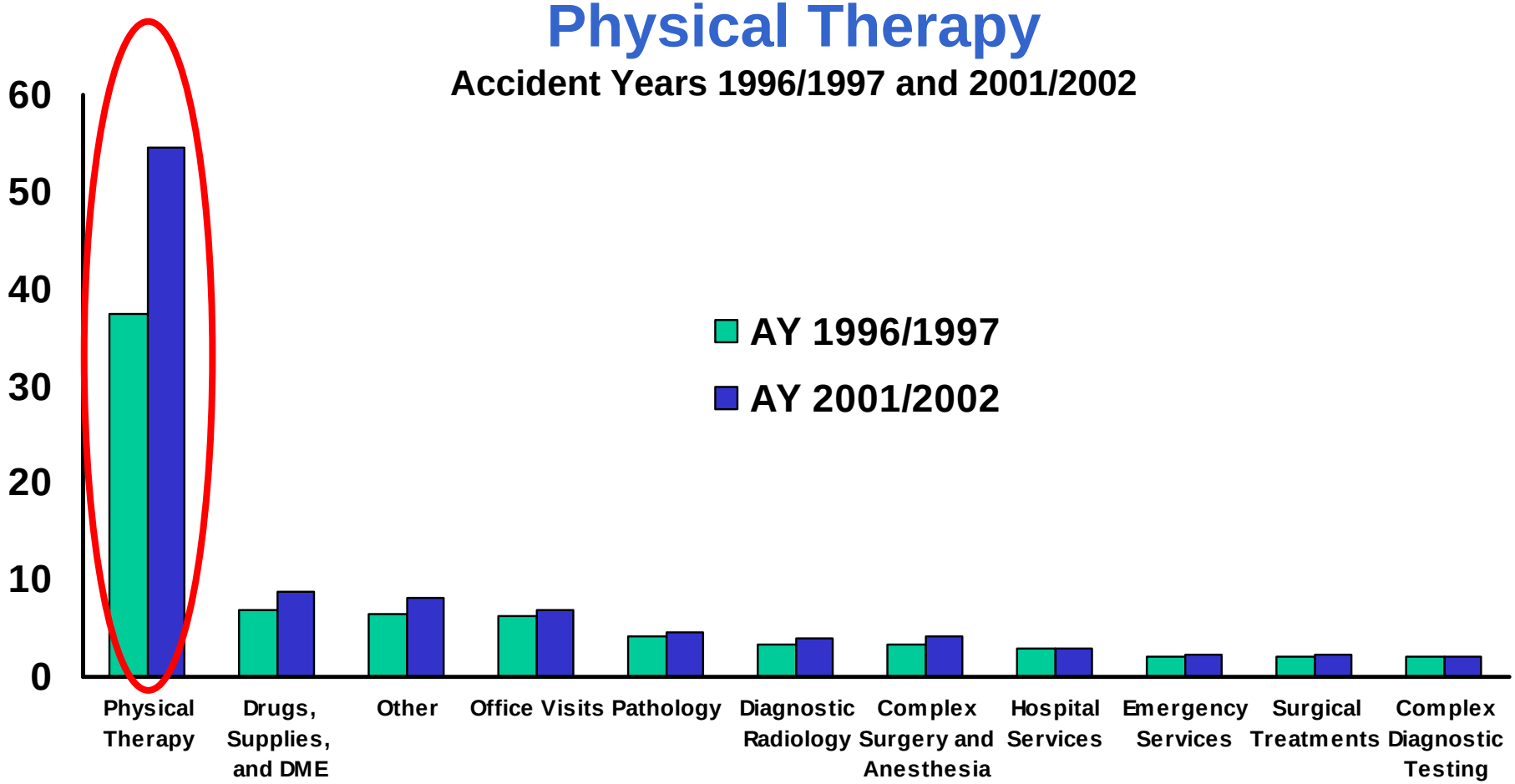
Quantity—The Number of Treatments per Claim Receiving Indicated Service Increased Most for Physical Therapy



Lost-Time Claims Closed Within 24 Months of Date of Injury
Source: NCCI

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Role of Price Changes

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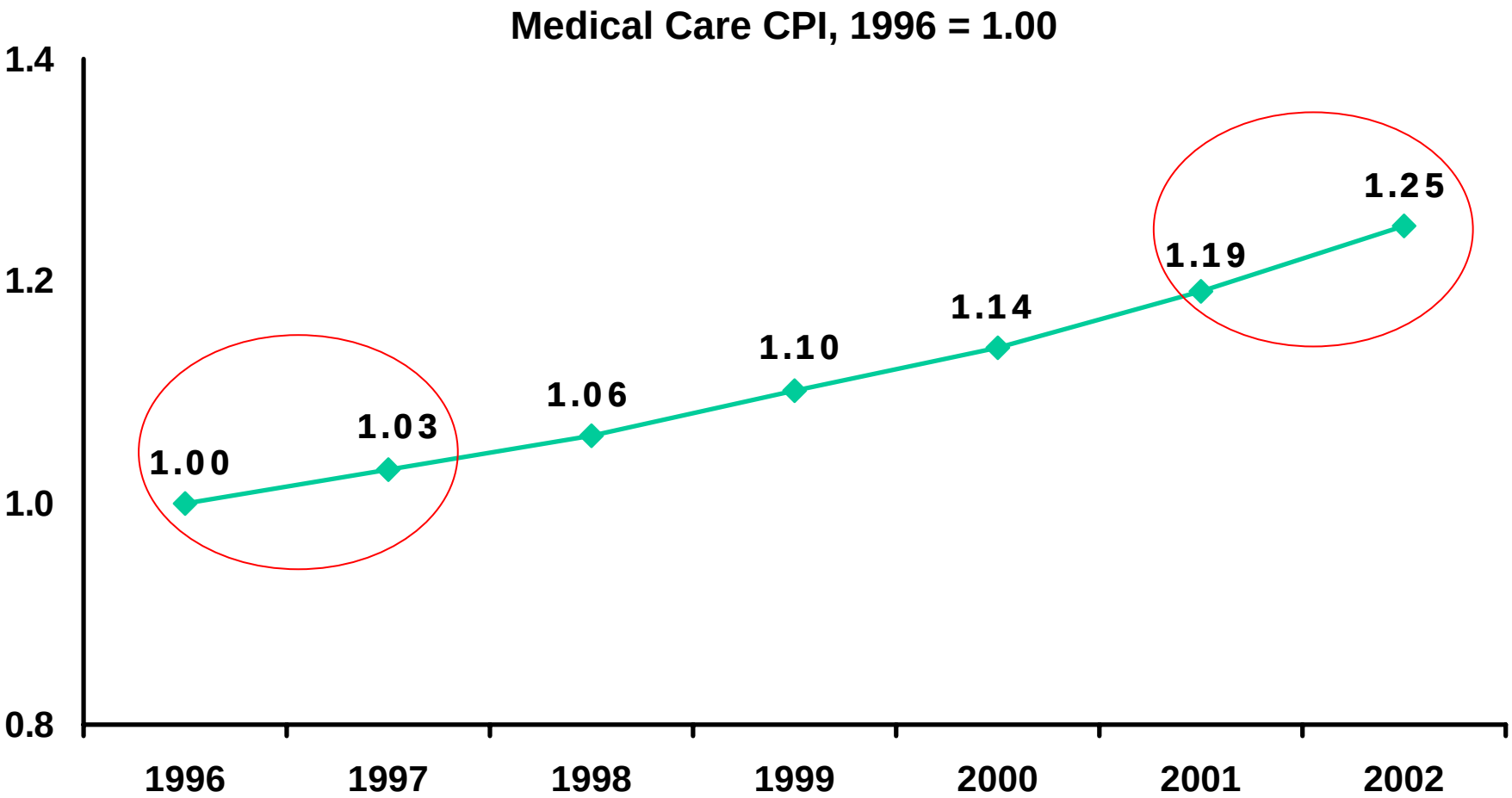
The Medical CPI Increased by an Average of 21% Between 1996–1997 and 2001–2002



Lost-Time Claims Closed Within 24 Months of Date of Injury
Source: NCCI; US Bureau of Labor Statistics

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Changes in Mix and in Number of Treatments Explain the Major Portion of the Increase in Paid Medical Severity

Paid Medical Severities on Lost-Time Claims Closed Within 24 Months of Date of Injury

	Percentage of Severity Increase, Accident Years 2001/02 vs. 1996/97
Unadjusted Medical Severities on Lost-Time Claims	100%
Increase Due to Diagnosis Mix Differences	21%
Increase Due to Number of Treatments	52%
Remaining Increase Due to Price and Other Factors	27%

Source: NCCI

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Key Takeaways

- Medical benefits are trending higher and are an increasing share of total benefits
- The aging of the workforce is placing upward pressure on medical care costs in workers compensation
- Medical care price increases provide only a partial explanation of the rise in medical severity

more

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Key Takeaways (cont'd)

- The main factor contributing to the rise in medical care costs is utilization, which reflects both mix and quantity
  - Shifts in mix:
    - To more expensive diagnoses
    - To more expensive treatments
    - To more expensive services
  - Increases in number of treatments:
    - More claims receiving a service
    - More treatments per claim receiving a service

more

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Key Takeaways (cont'd)

- A shift toward relatively more severe injuries accounts for roughly 20% of the increase in medical severity
- A markedly higher number of treatments within each diagnosis and service category accounts for roughly 50% of the increase
- Medical care price increases and other factors (including demographics) account for the remaining 30%

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Prescription Drug Study—2007 Update

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Topics for Discussion

- Are Prescription Costs Stabilizing?
- Key Role of Utilization
- Major Drugs in Workers Compensation
- Cost Containment Options

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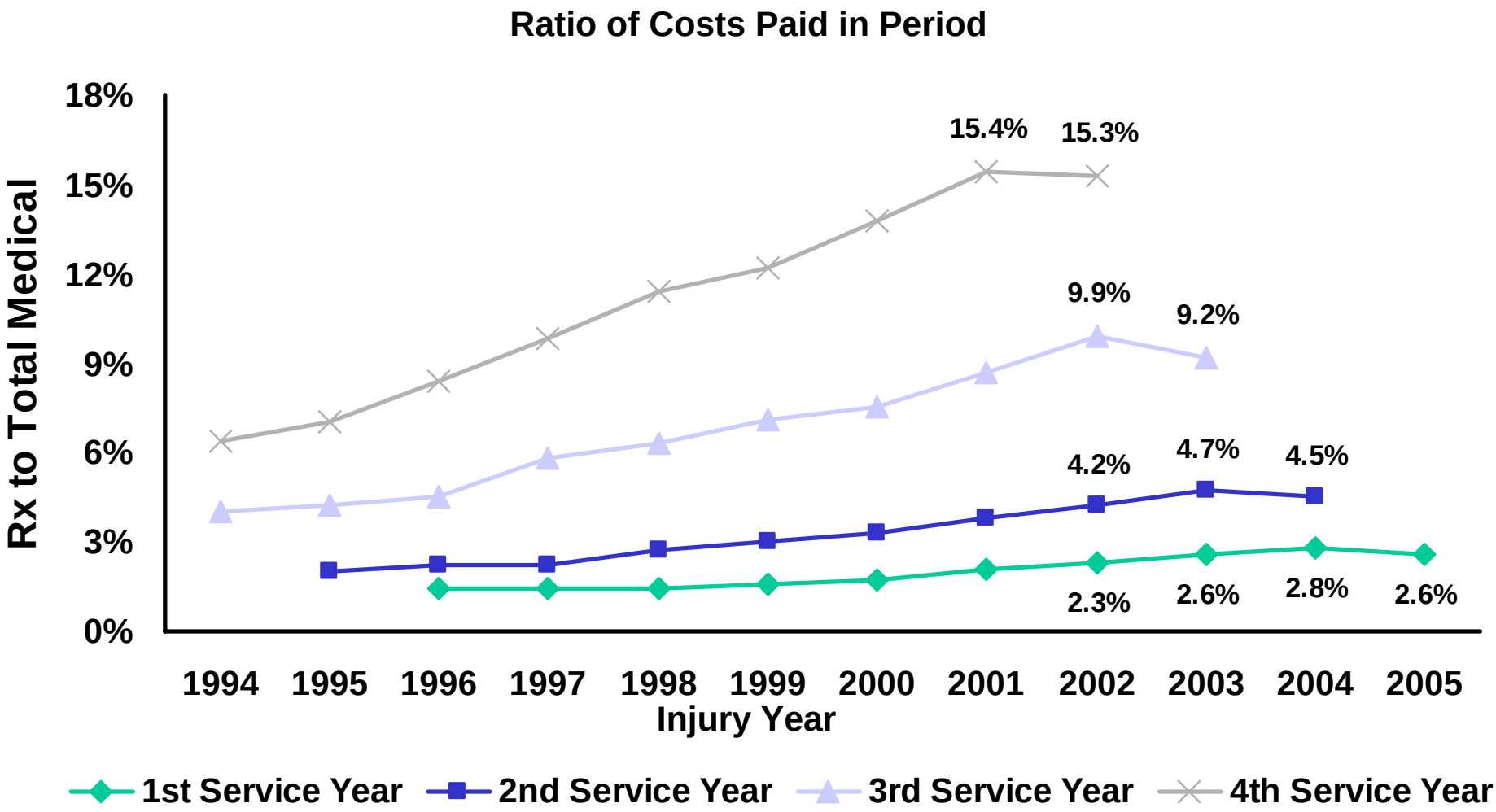
Is the WC Ratio of Prescription Drug Costs to Medical Costs Stabilizing?



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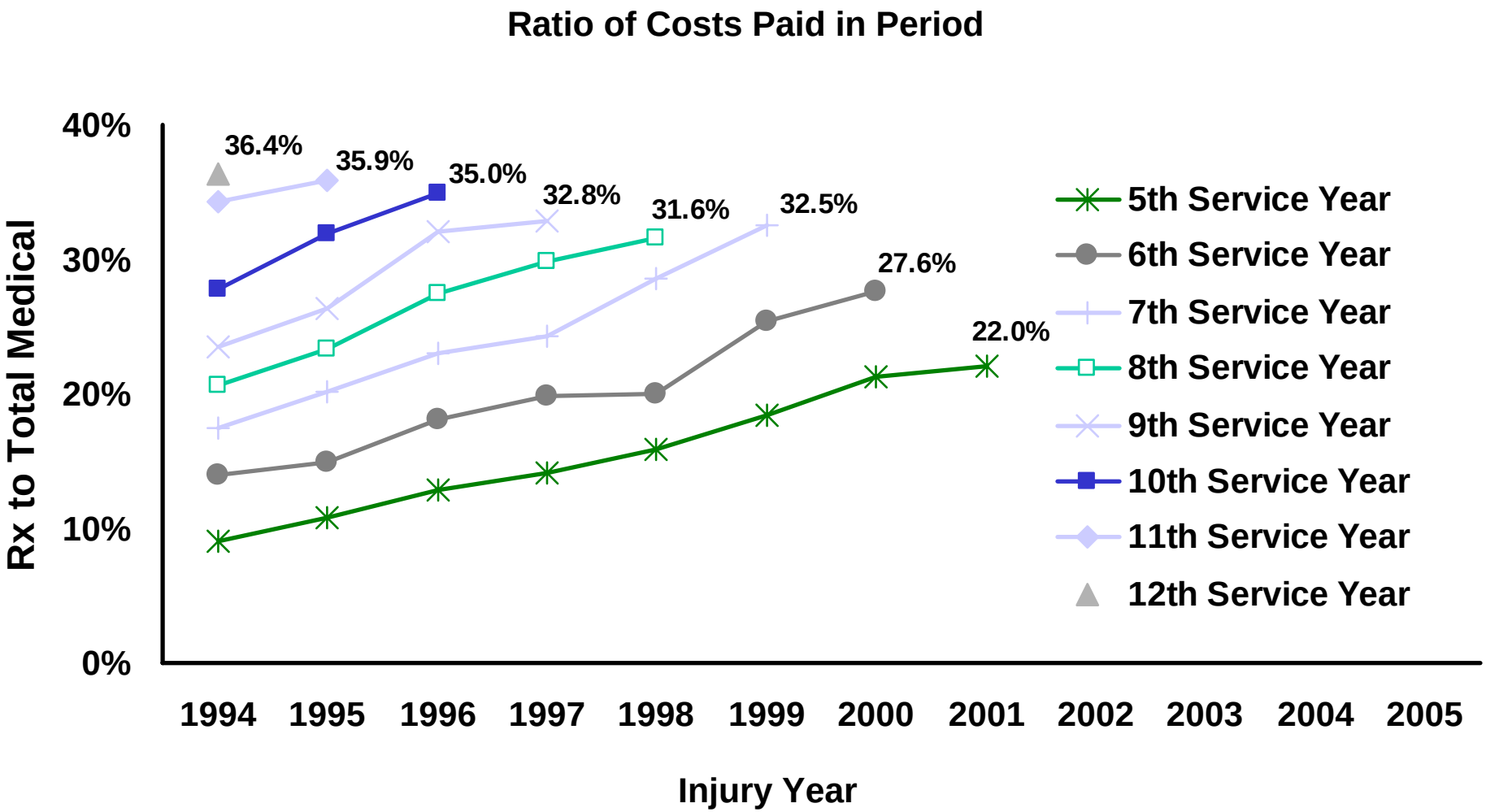
Is the Share of Prescription Drug Costs to Medical Costs Stabilizing?



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Key Role of Utilization

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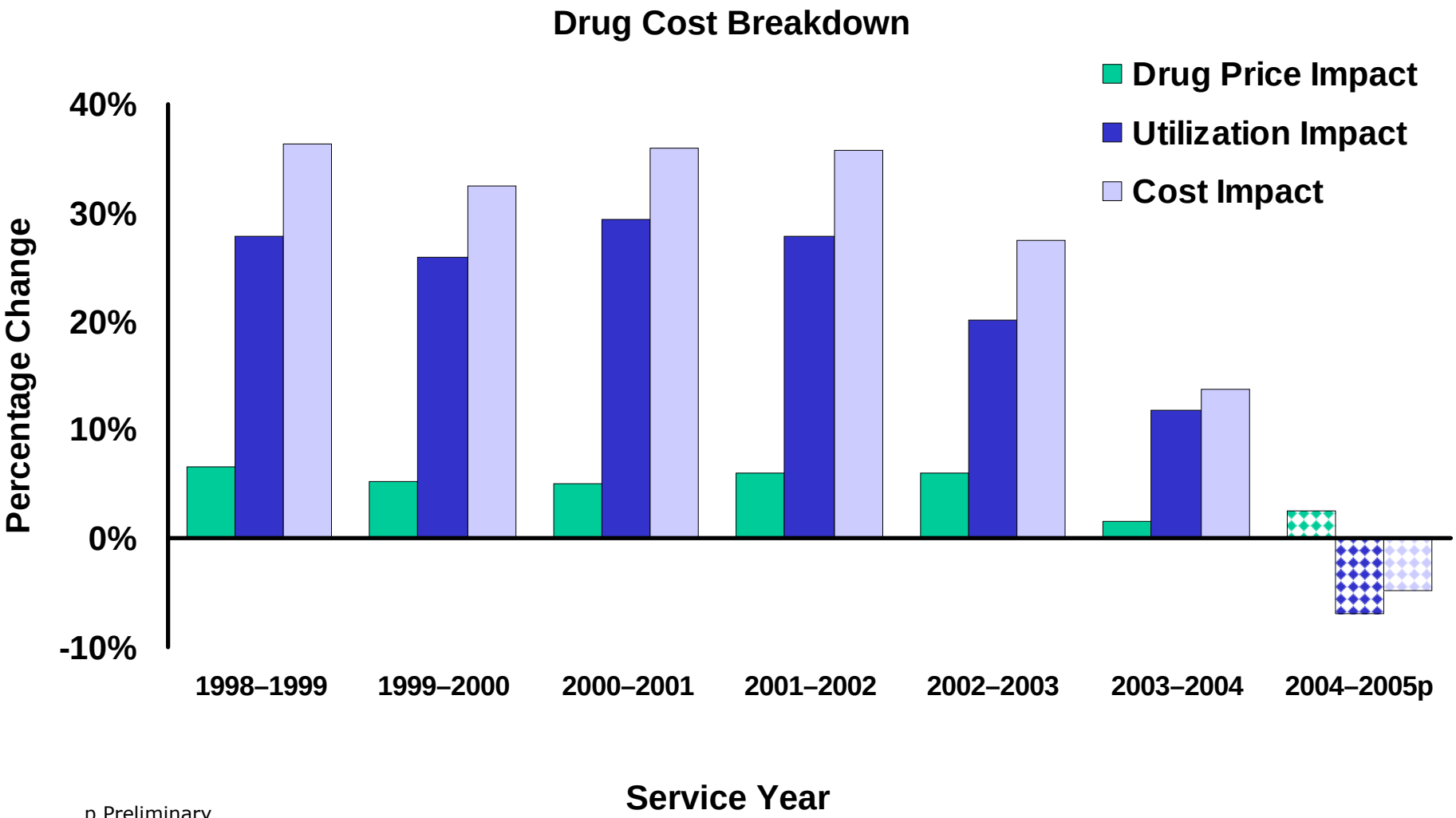
Utilization Is a Bigger Cost Driver Than Price



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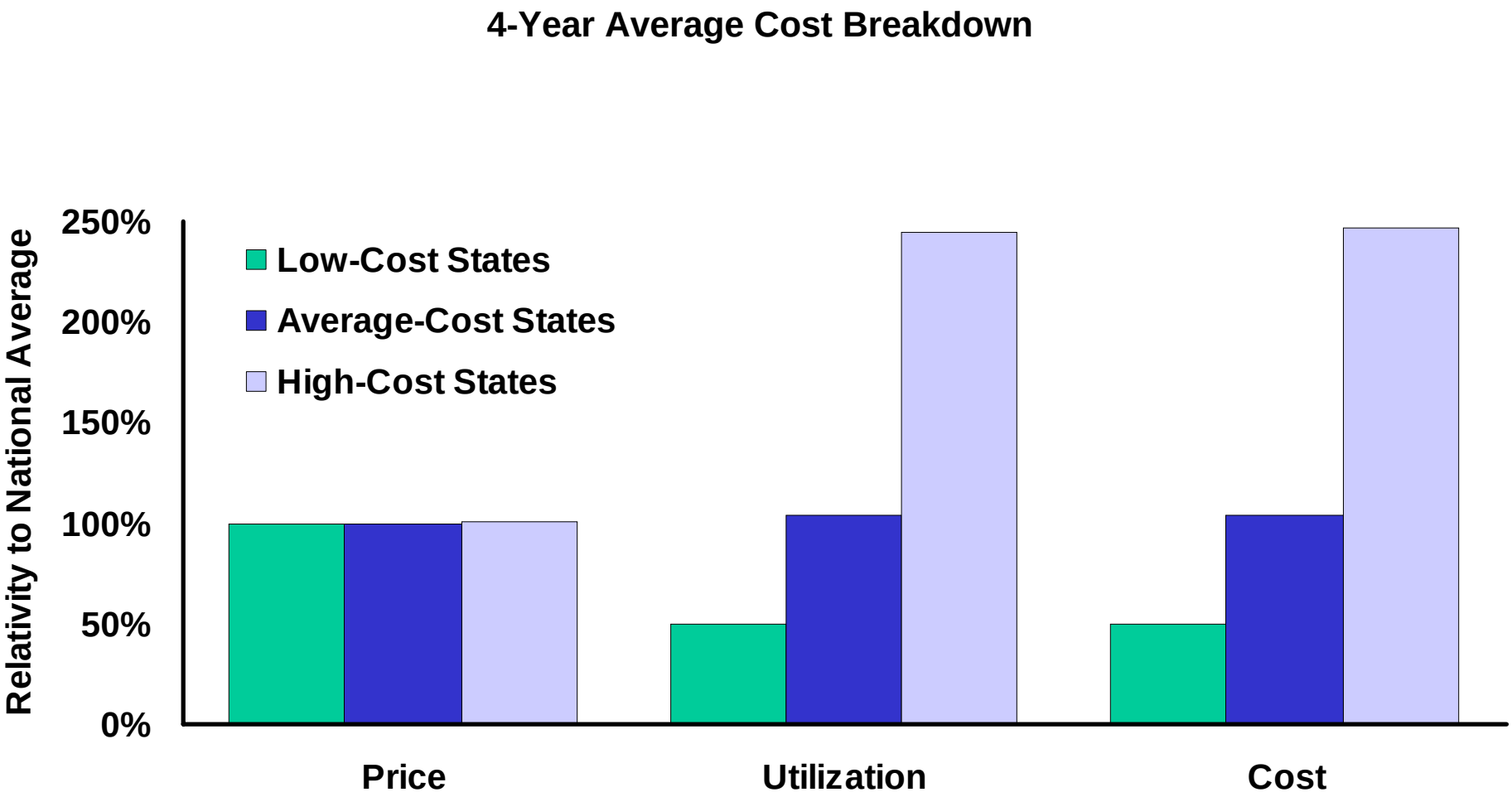
Utilization Is the Cost Driver



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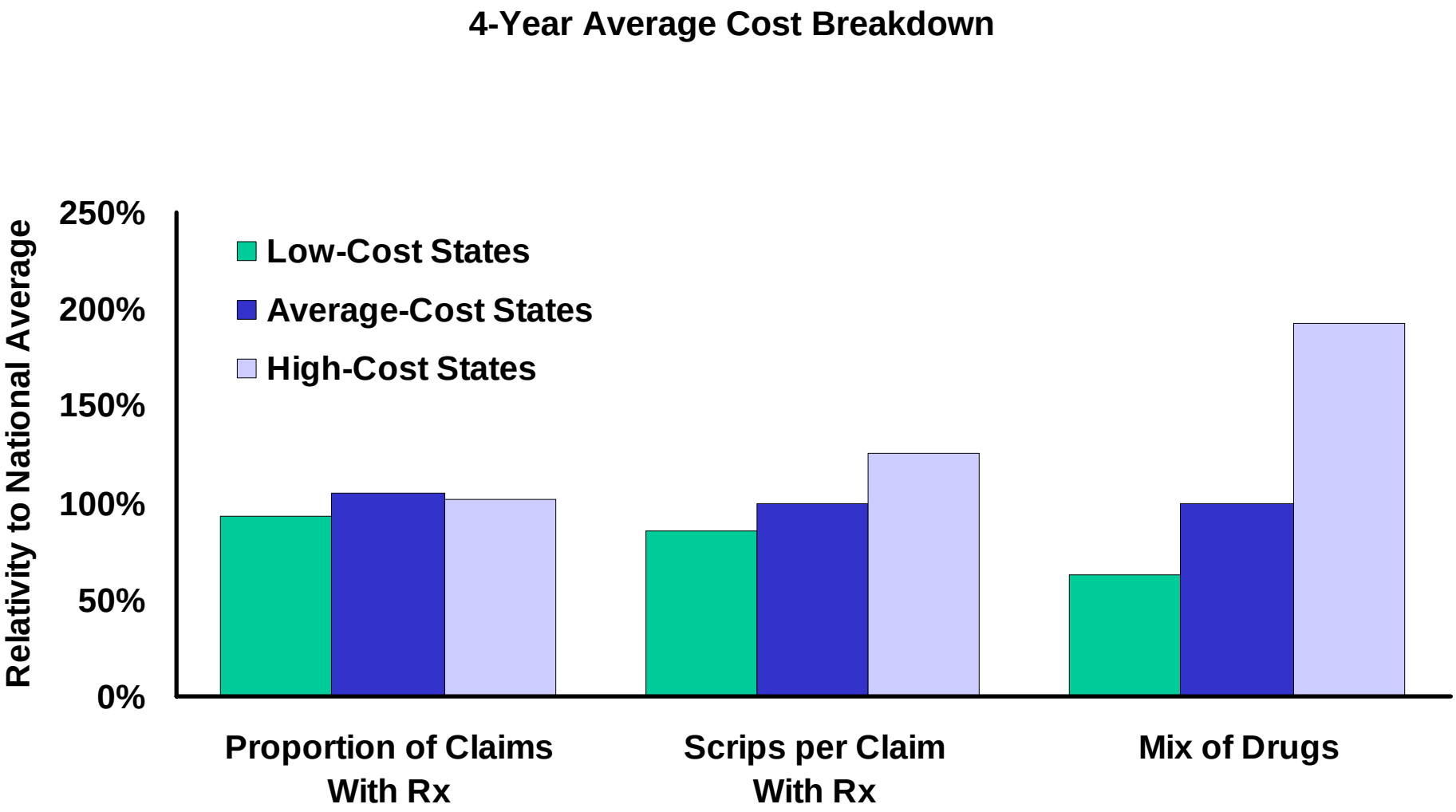
Utilization Is the Cost Driver



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Detailed View

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Top Drugs for 2005

Most Prescribed Drugs by Total Paid in WC

Drug Name	FDA Approval	Ranking			
		2005	2004	2003	2001–2005
Hydrocodone/Acetaminophen	7/85	1	3	4	3
Gabapentin	9/03	2	37	*	17
OxyContin®	12/95	3	1	1	1
Carisoprodol	<1/82	4	6	6	6
Celebrex®	12/98	5	2	2	2
Lidoderm®	3/99	6	10	15	11
Skelaxin®	4/64	7	9	10	9
Mobic®	8/00	8	21	25	18
Oxycodone HCL	<1/82	9	27	83	24
Naproxen	3/94	10	11	9	8
Actiq®	11/98	11	15	30	20

* Gabapentin was released in late 2003

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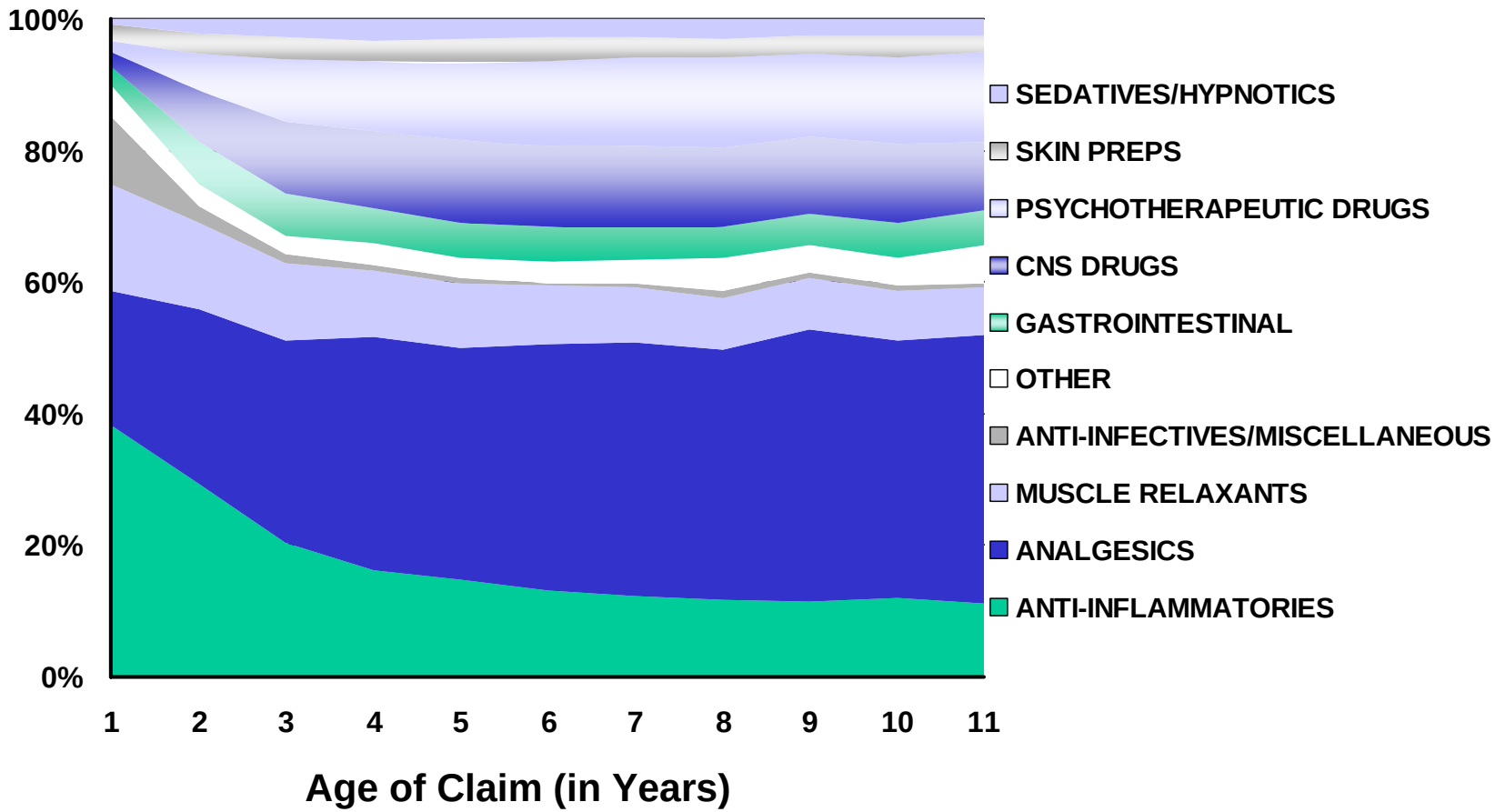
Shares Change as Claims Age



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Cost Containment Options

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WC Prescription Drug Cost Containment Options

- Prescription drug-fee schedules
  - Used in a majority of states
  - Many use Average Wholesale Price (AWP)
  - Most also add a dispensing fee
- Negotiation of lower prices
- Mandated use of generic drugs
- Pharmacy Benefit Managers (PBMs)
- Formularies

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Key Takeaways

- There are some signs that the WC prescription drug share of medical costs is leveling off, at least temporarily

- Utilization is the significant driving force behind total cost

- Anti-inflammatories and painkillers represent about half of total amount paid for drugs in 2005, and comprise 6 of the top 10 drugs

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An Emerging Issue for Workers Compensation—
Aging Baby Boomers and a Growing Long-Term Care Industry

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Topics for Discussion

- What Is Included in Long-Term Care
- Growth Prospects
- Long-Term Care Claim Characteristics
  - Frequency
  - Severity

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What's Included in Long-Term Care

- Nursing home facilities
  - Usually more of an "institutional-type" environment and residents require more medical care
- Retirement living centers
  - Usually more of a "home-type" environment and residents require less medical care
- Home healthcare services
  - Healthcare services in homes of patients such as giving medications, intravenous therapy and injections, wound care, checking vital signs, and giving physical therapy treatments

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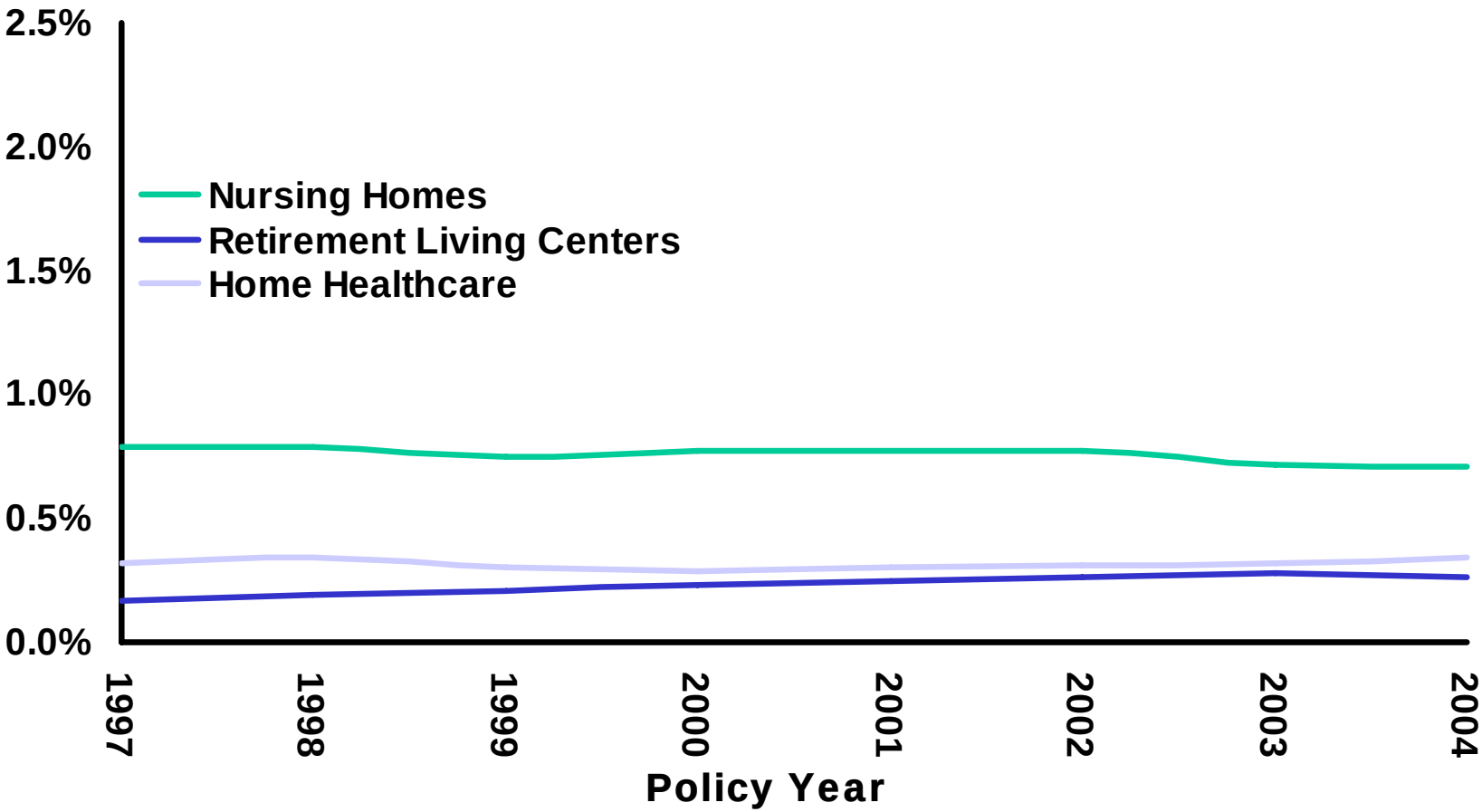
Each Long-Term Care Category Makes Up Less Than 1% of Total Payroll



Source: NCCI's Integrated Database, Policy Years 1997–2004

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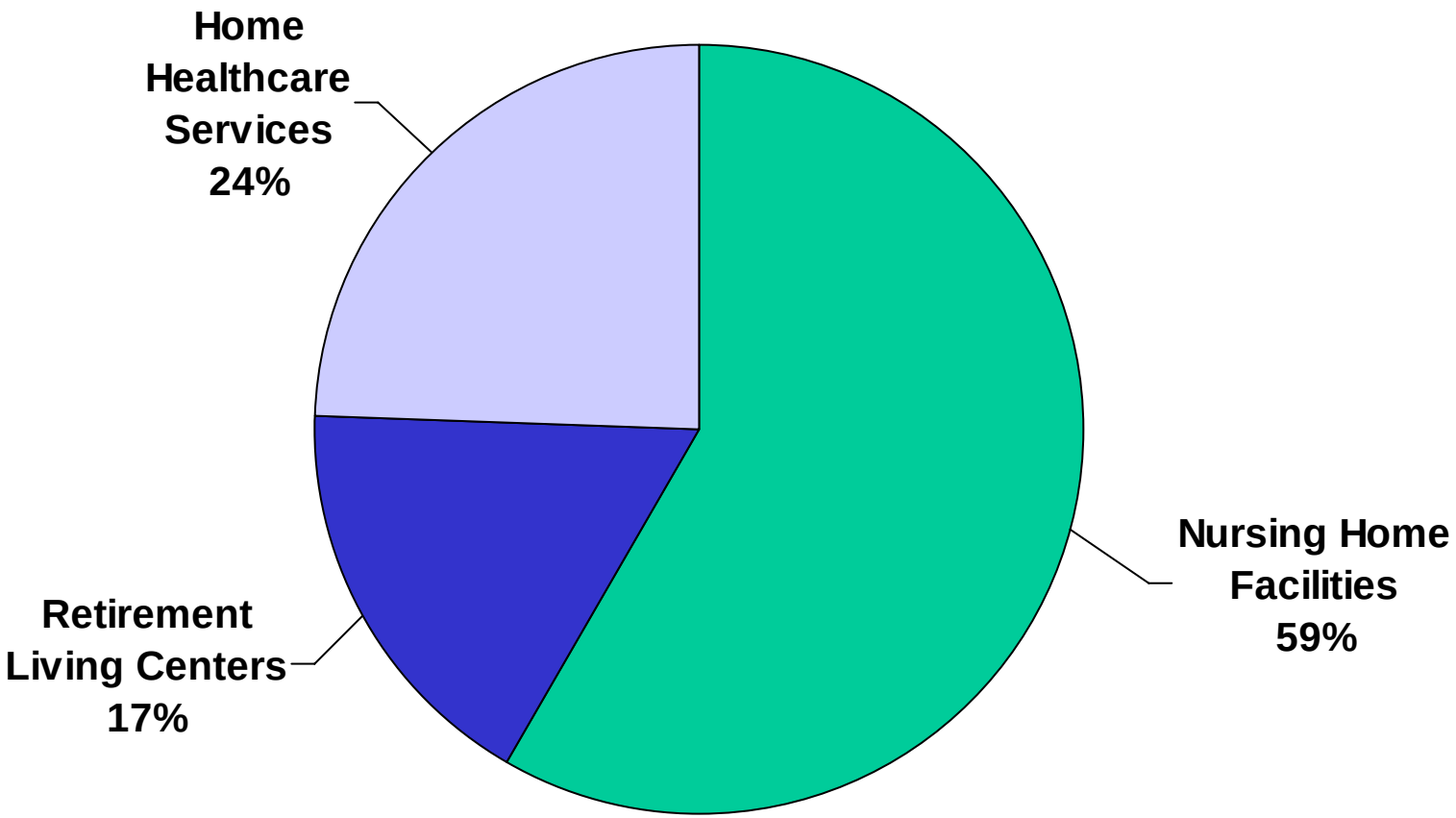
Composition of the Long-Term Care Industry

Exposure for NCCI States, 1996–2004



Source: NCCI's Integrated Database, Policy Years 1996–2004

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Strong Growth Is Forecast for Long-Term Care

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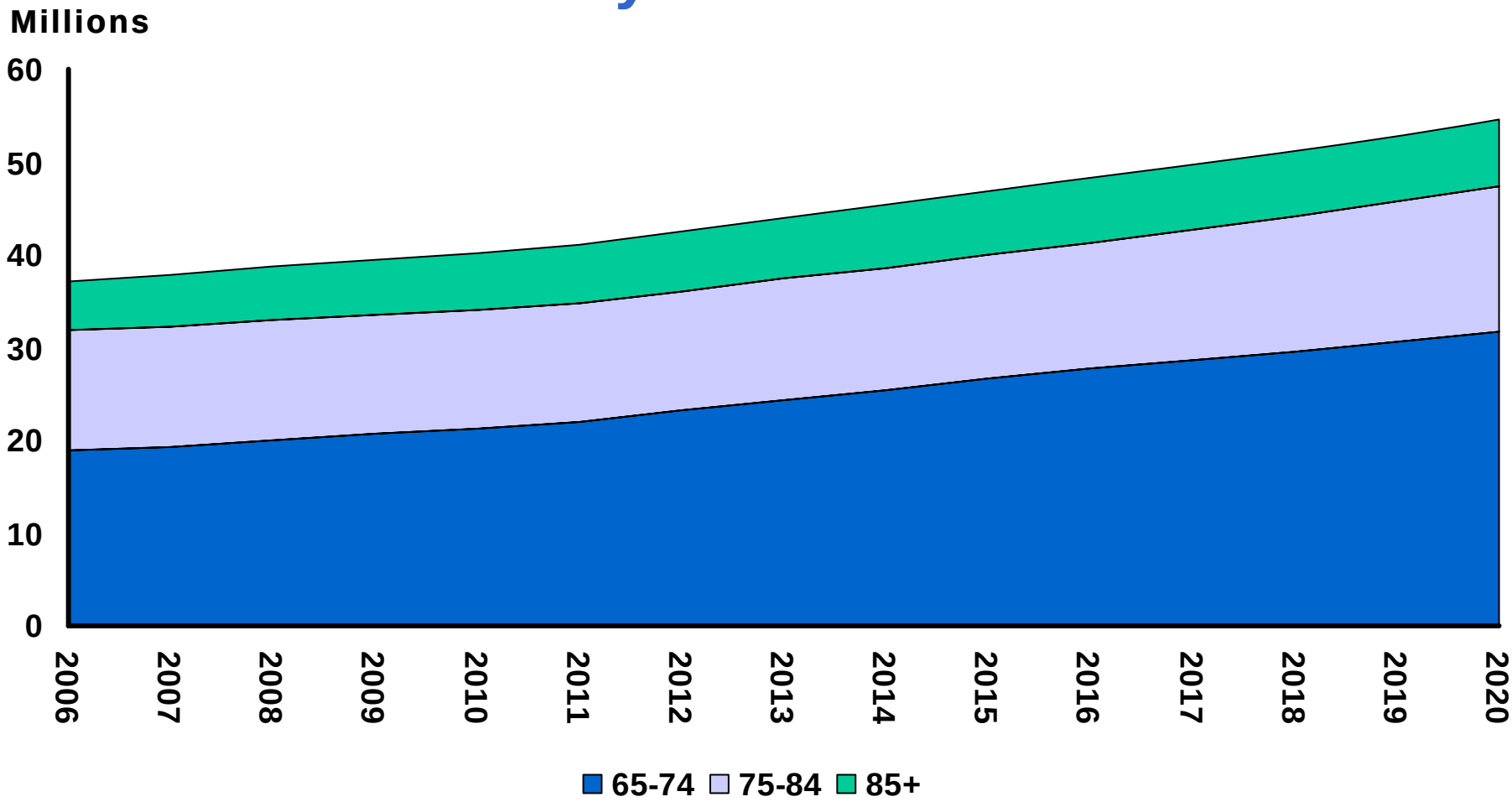
The Population 65 and Older Is Projected to Grow by 17 Million



Source: US Census Bureau, Calendar Years 2006–2020, Population in Millions by Age Cohort 65 and Older

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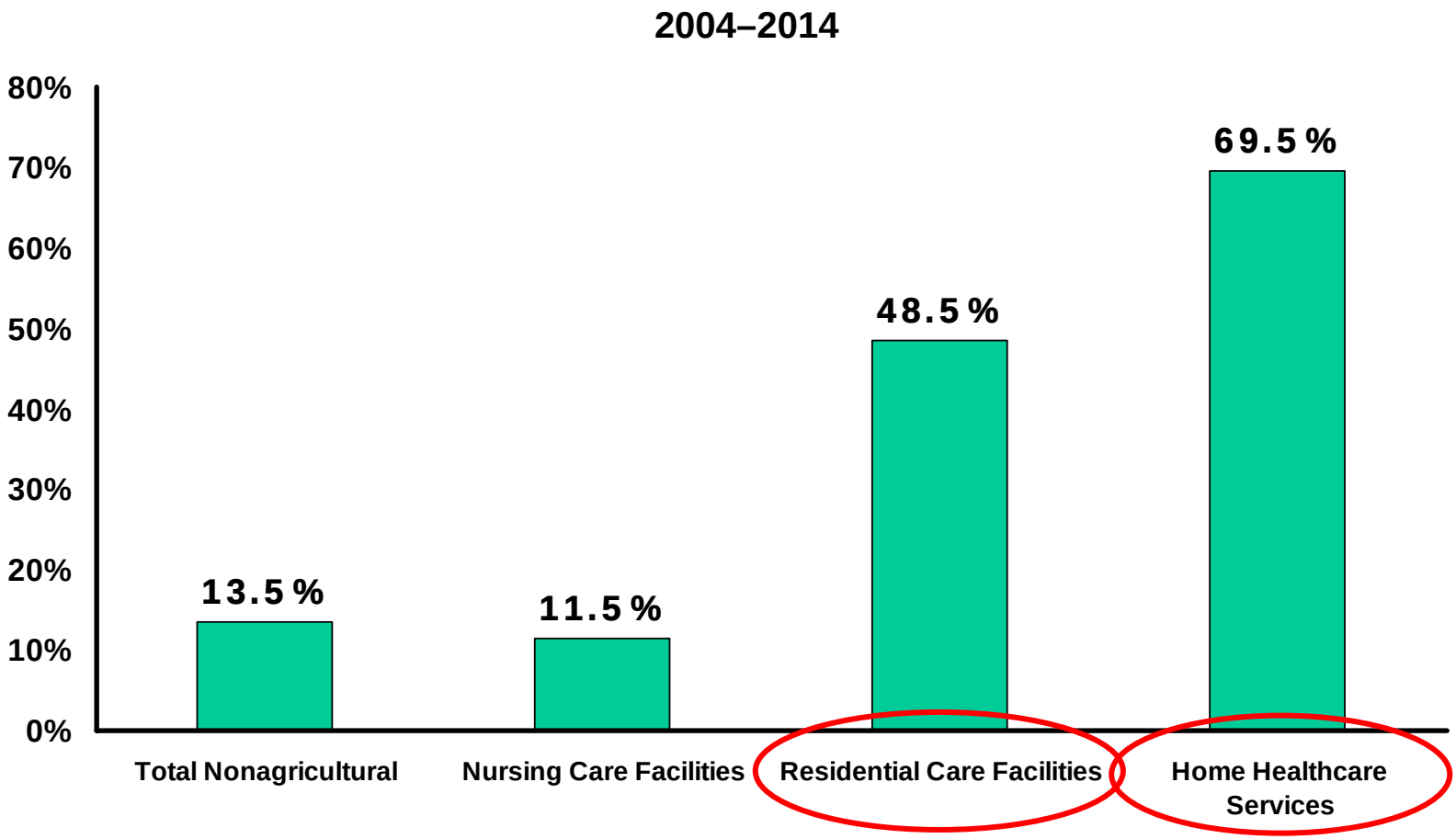
Employment Forecasts for Home Healthcare and Residential Care Facilities Are Significantly Above Average



Source: US Bureau of Labor Statistics, Calendar Years 2004-2014,
Employment Growth Forecasts for Long-Term Care Industry Sectors

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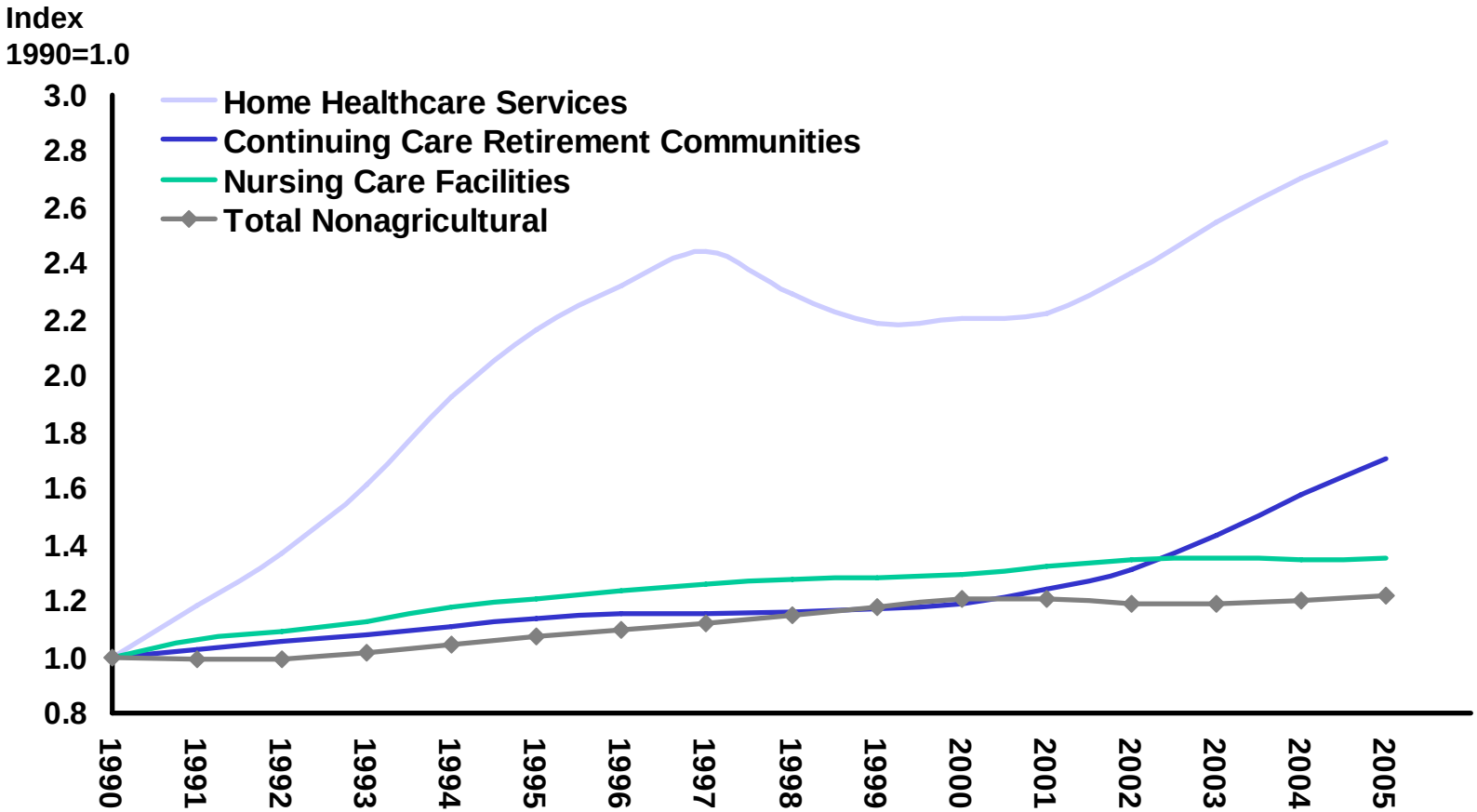
Since 1990, Employment Growth in Home Healthcare Services Has Far Surpassed Other Healthcare Industries



Source: US Bureau of Labor Statistics, Calendar Years 1990–2005

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Long-Term Care Claims Characteristics

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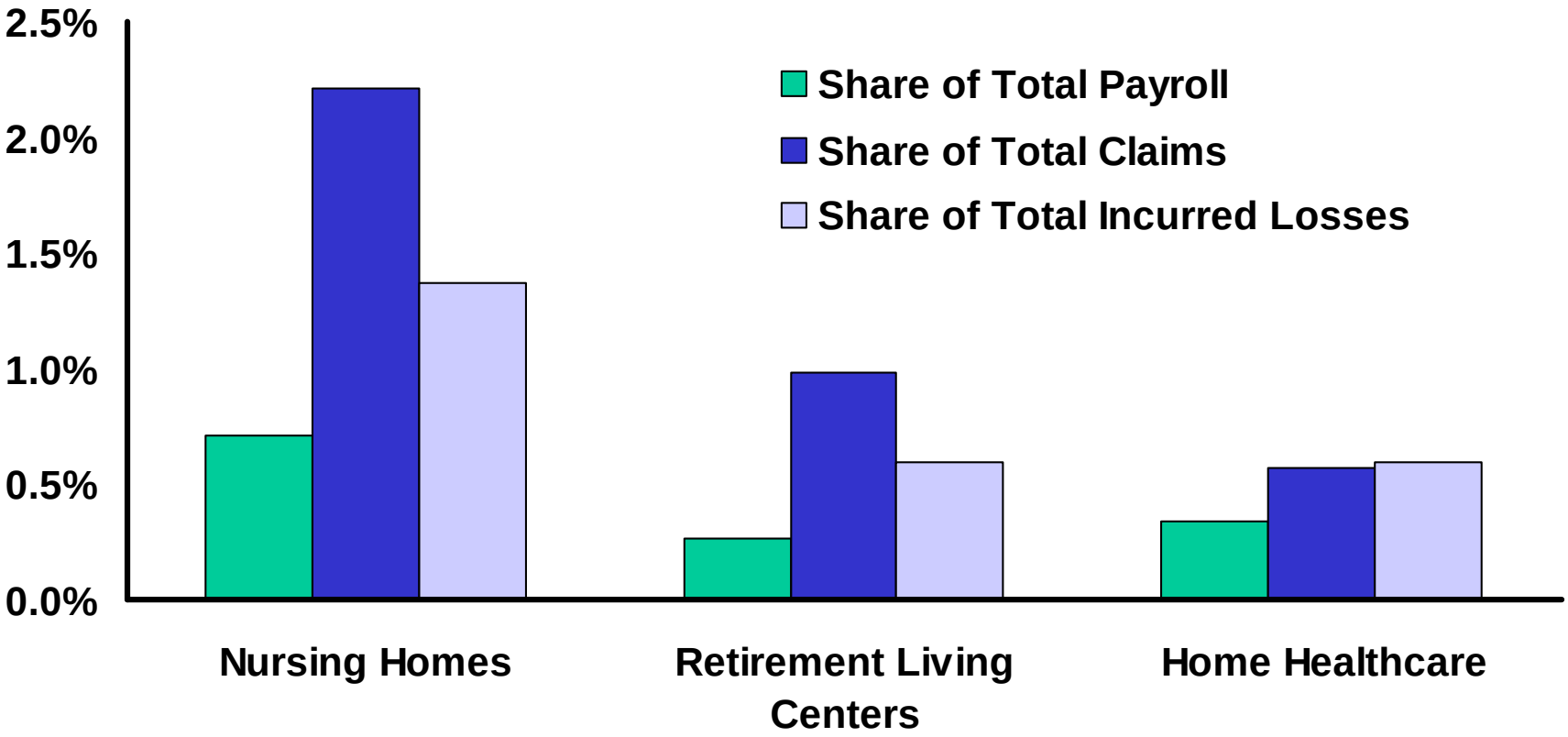
All Three Long-Term Care Industries Composed a Larger Share of Claims and Losses Than That of Exposure in 2004



Source: NCCI's Integrated Database, Accident Year 2004 for claims and total incurred dollars, Policy Year 2004 for payroll, 2nd report

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Frequency Is Above Average in Long-Term Care

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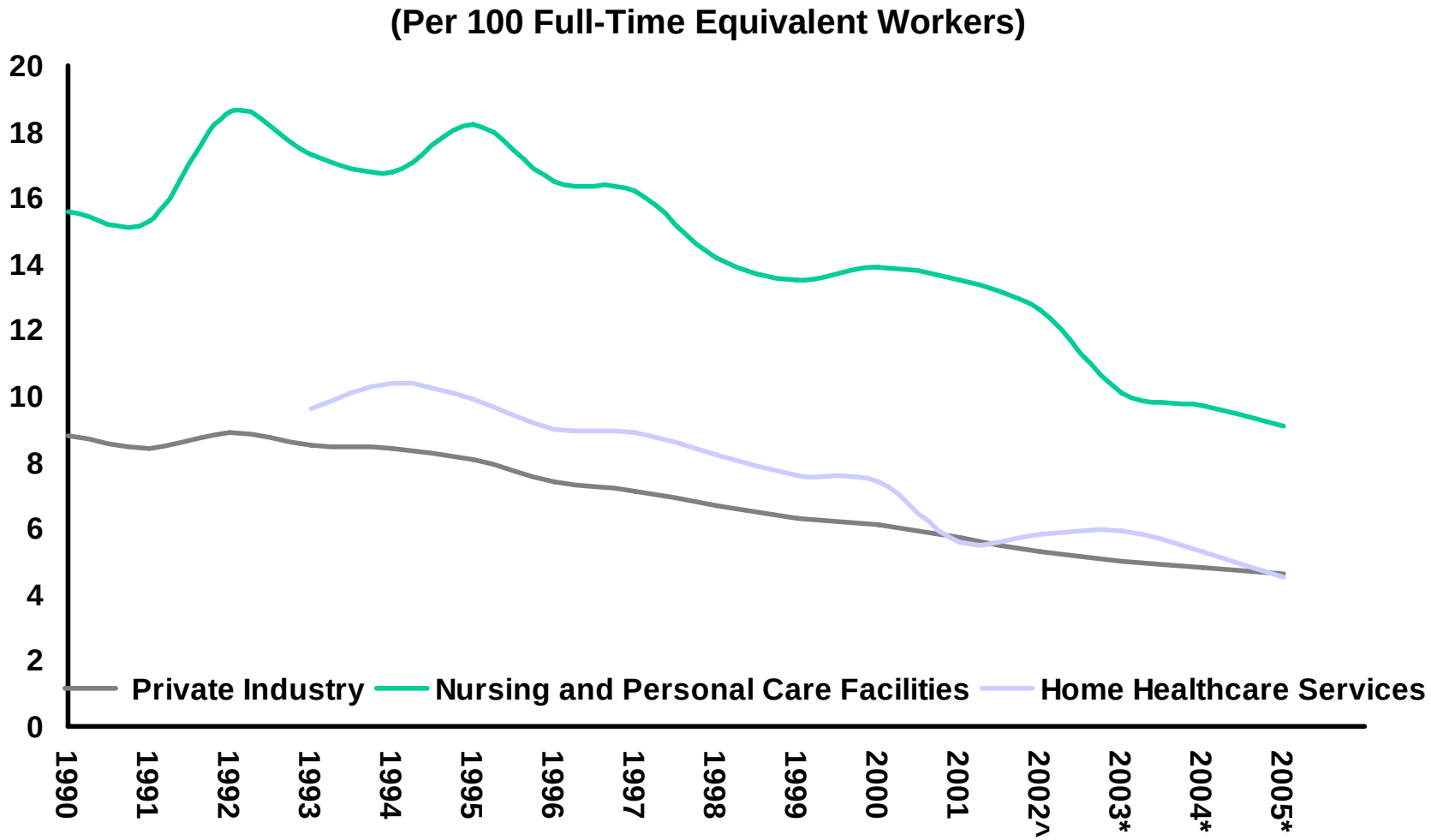
Incidence Rates for Total Cases Are Above Average in Long-Term Care Industries



Source: US Bureau of Labor Statistics, Calendar Years 1990–2005
^ Not comparable to previous years due to change in category definitions
* Not comparable to previous years due to change to NAICS

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Severity Is Below Average to Average in Long-Term Care Industries

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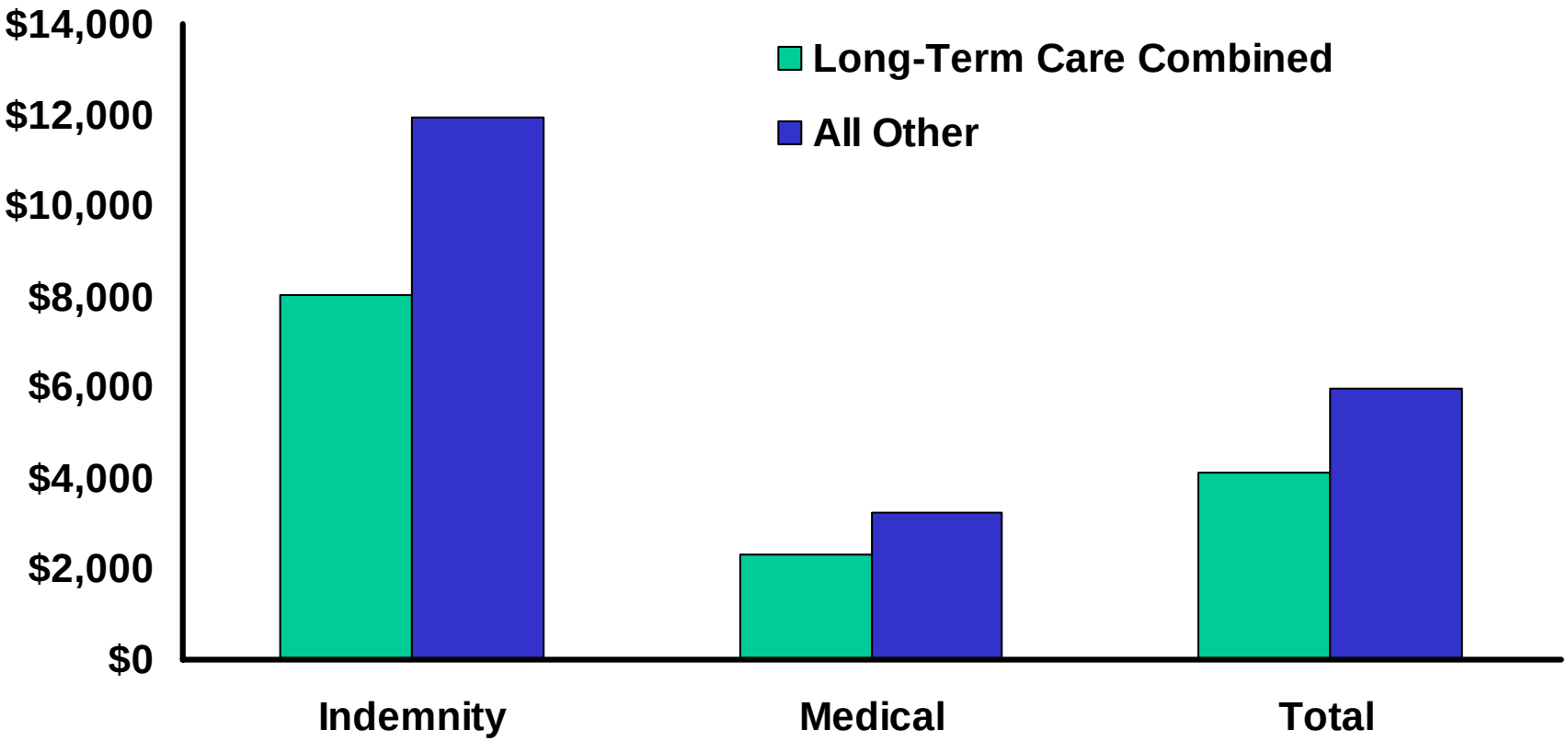
Average Severity in Long-Term Care Is Below All Other Industries



Source: NCCI's Integrated Database, Accident Years 1997–2004,
Average Incurred Severity at 2nd Report

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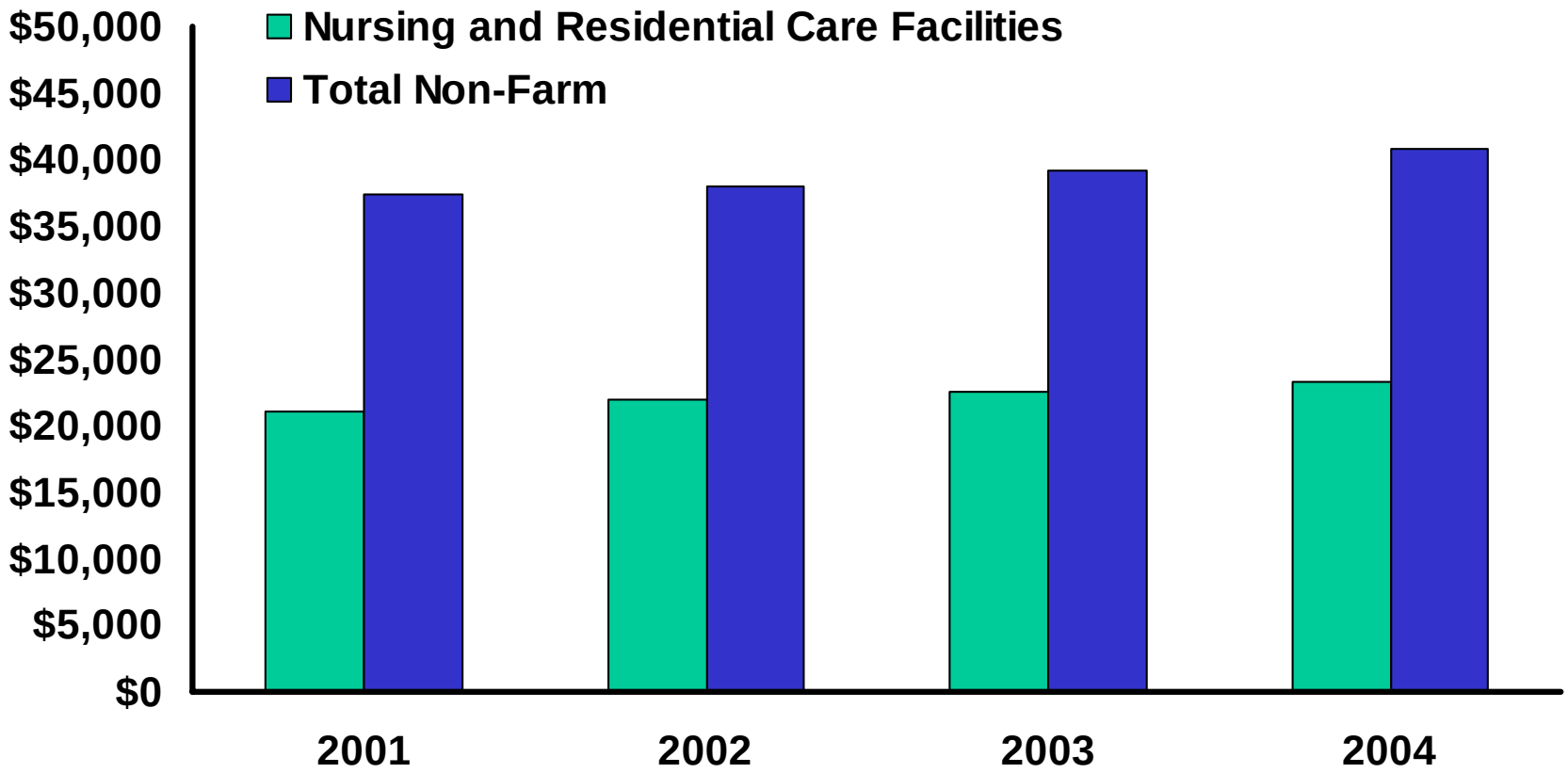
Indemnity Severity Is Likely Below Average Due to Below Average Annual Wages



Source: US Bureau of Labor Statistics and US Bureau of Economic Analysis, Calendar Years 2001–2004

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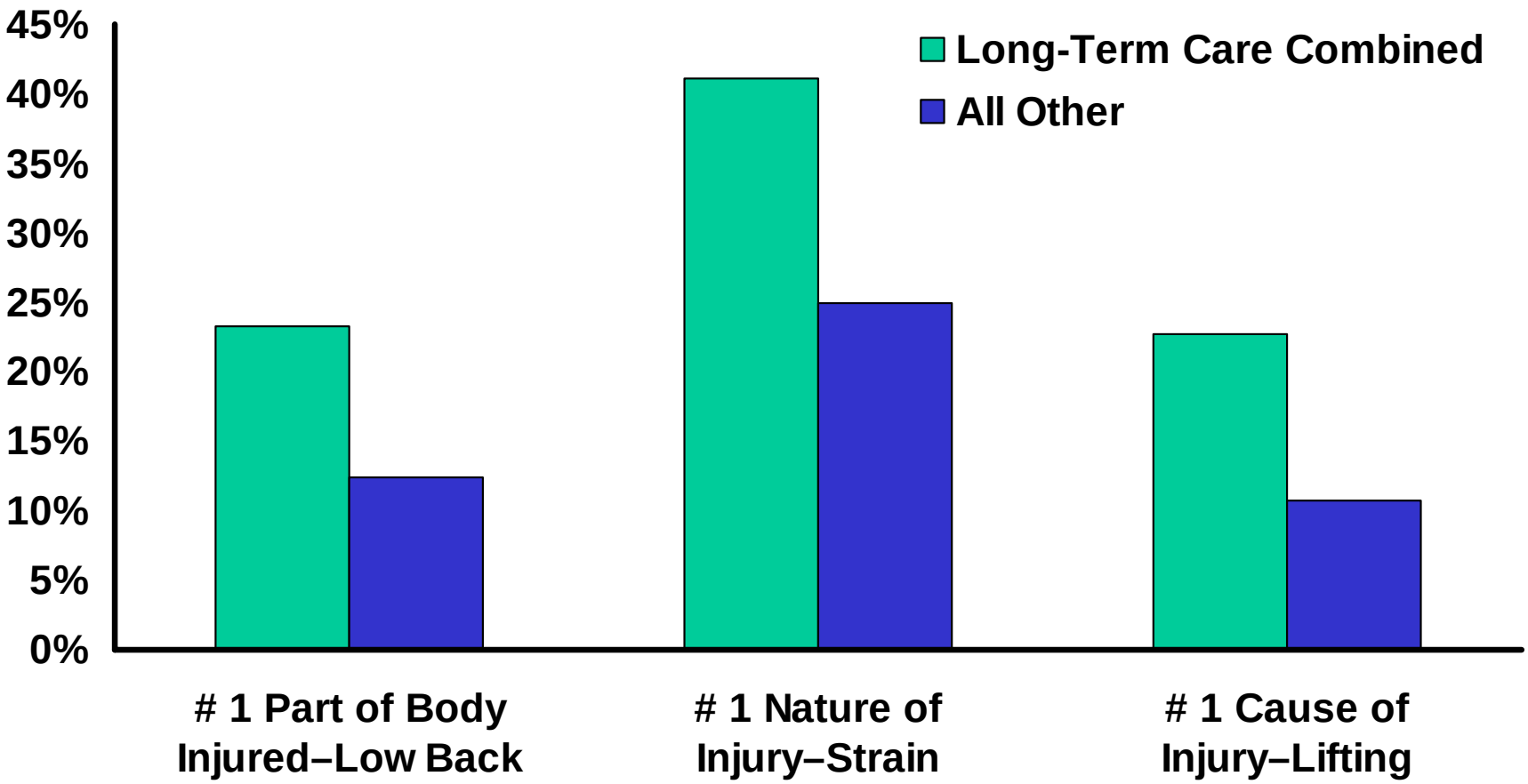
Back Strains Due to Lifting Are the Leading Injury for Workers Compensation Claims, but Are Much More Common in Long-Term Care



Source: NCCI's Integrated Database, Accident Years 1997–2004, Shares of Claims for the Most Common Part of Body, Nature of Injury, and Cause of Injury Categories

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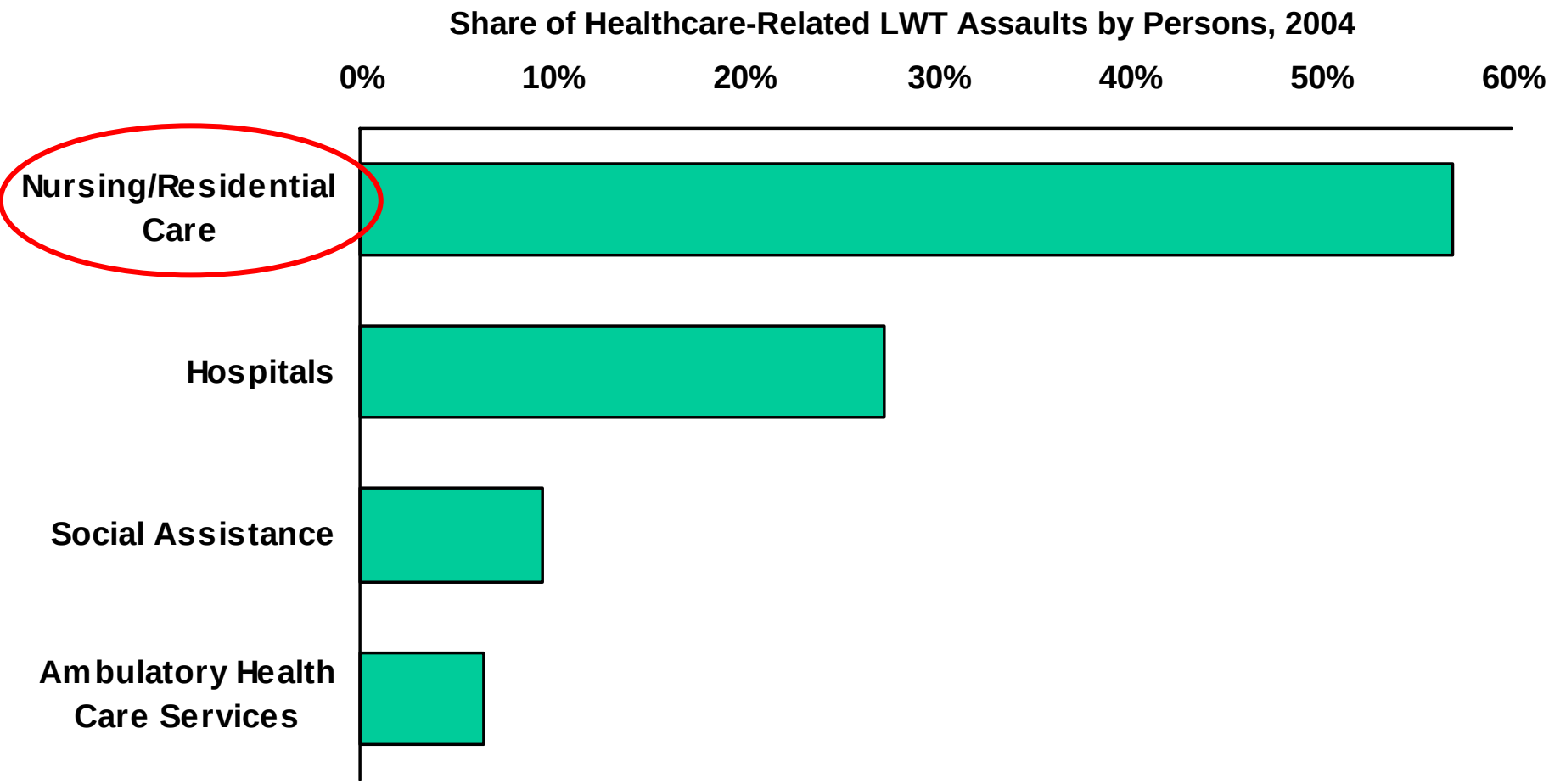
Within the Healthcare Industry, Most Workplace Assaults Occur in Nursing-Related Facilities



Source: US Bureau of Labor Statistics

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Key Takeaways

- The long-term care industry is a growing industry with above average total losses per worker
- Frequency for all long-term care industries is above average
- Severity is below average to average
- Back strains due to lifting are even more common in long-term care than in other industries
- The long-term care industry has significant exposure to injuries due to assaults by patients

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