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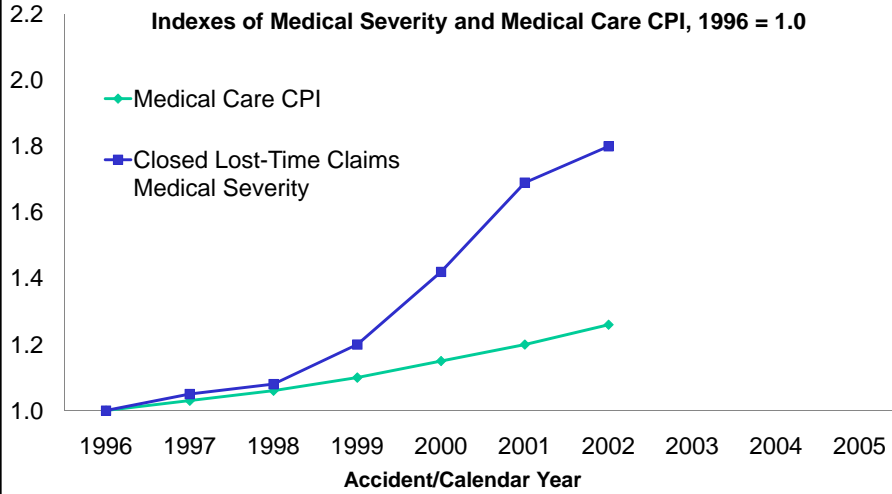


Factors Influencing the Growth in Treatments per Claim

**Presented by
Tanya Restrepo**

CAS Ratemaking and Product Management Seminar
Trends in Workers Compensation Medical Costs
March 10, 2009
Las Vegas, NV

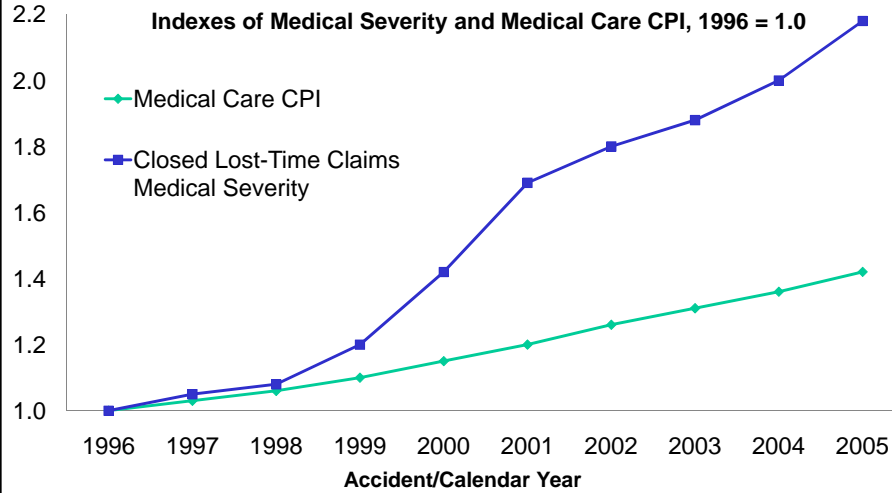
Countrywide Medical Severity Is Outpacing the Medical Care CPI



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Countrywide Medical Severity Is Outpacing the Medical Care CPI



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Key Findings From Phase One Study: Quantification of Effects

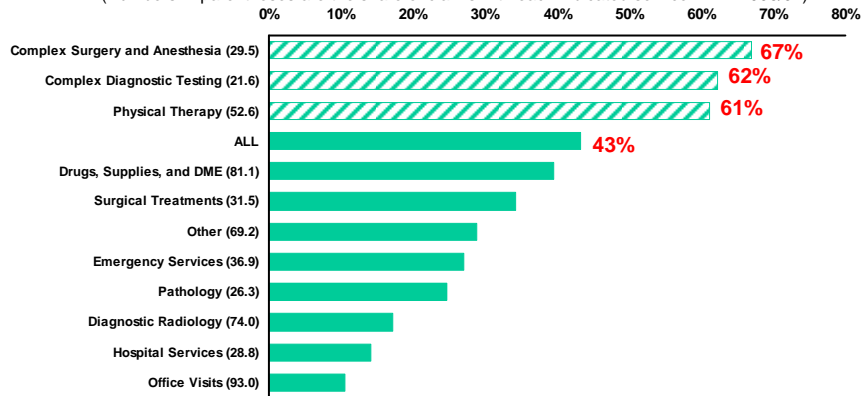
- A shift toward relatively more severe injuries accounts for roughly 20% of the increase in medical severities
- A markedly higher number of treatments per claim within each diagnosis and service category accounts for roughly 50% of the increase
- Medical care price increases and changes in treatment mix account for the remaining 30%

What Is Driving the Significant Increase in Treatments per Claim?

Overall Change in Treatments per Claim

AY 1996/97 to AY 2002/03

(Numbers in parentheses are the share of claims with each indicated service in AY 1996/97)



DME is Durable Medical Equipment
Lost-Time Claims Closed Within 24 Months of Date of Injury, NCCI States
Source: NCCI

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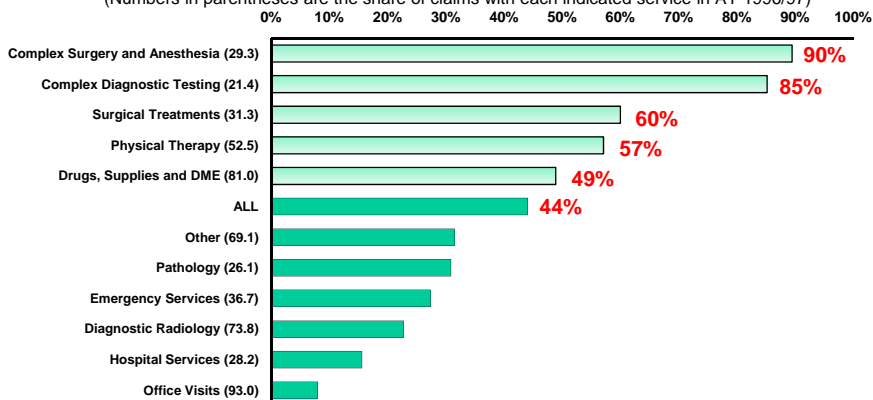
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Overall Change in Treatments per Claim

AY 1996/97 to AY 2004/05

(Numbers in parentheses are the share of claims with each indicated service in AY 1996/97)



DME is Durable Medical Equipment
Lost-Time Claims Closed Within 24 Months of Date of Injury, NCCI States
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Why Such a Large Increase in Treatments per Claim?

- Two approaches:
 - Investigate claims with and without surgery
 - Break the overall increase in treatments per claim into its components
 - Increase in the share of claims with that service
 - Increase in treatments per claim with that service, which can also be broken into:
 - Increase in encounters per claim with that service
 - Increase in treatments per encounter with that service

Key Findings

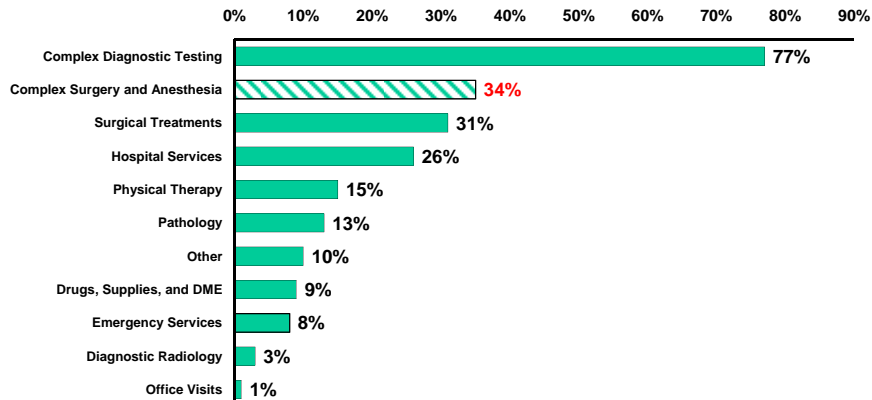
- The increase in the share of claims with surgery accounts for about a quarter of the overall increase in treatments per claim
- The primary drivers of the increase in treatments per claim varied by service group
- Treatments per claim overall are significantly impacted by physical therapy treatments, which constituted about half of all treatments per claim and have leveled off. However, many of the more cost-intensive service groups have continued to increase

Impact of Surgery on the Increase in Treatments per Claim



The Increase in the Share of Claims With Complex Surgery Offers a Clue

Change in Shares of Claims Receiving Indicated Service
AY 1996/97 to AY 2004/05



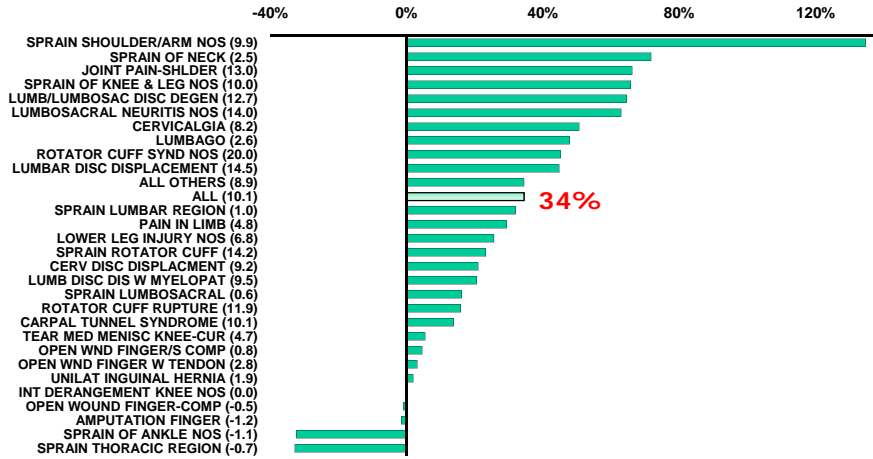
DME is Durable Medical Equipment
Lost-Time Claims Closed Within 24 Months of Date of Injury, NCCI States
Source: NCCI



The Share of Claims With Complex Surgery and Anesthesia Increased in Most Leading Diagnoses

AY 1996/97 to AY 2004/05

(Numbers in parentheses are the point changes in the share of claims AY 1996/97 to AY 2004/05)



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

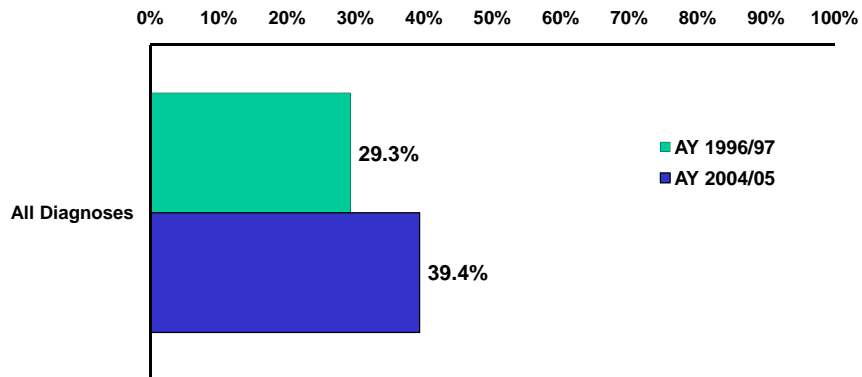
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Share of Claims With Complex Surgery and Anesthesia

AY 1996/97 and AY 2004/05



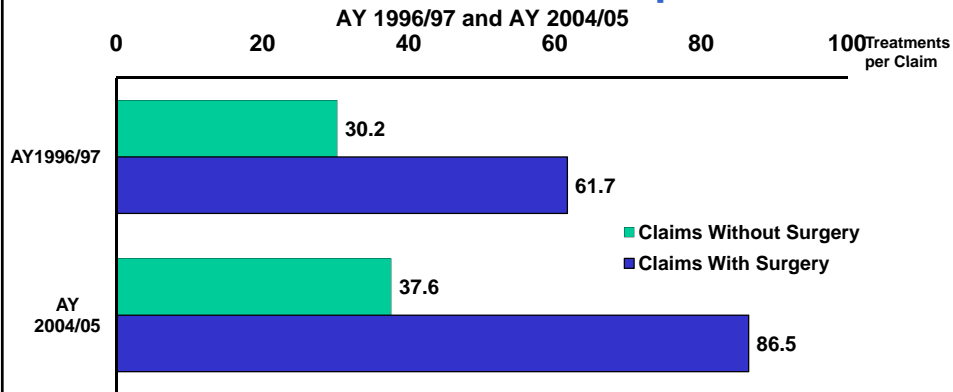
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Claims With Complex Surgery and Anesthesia Have More Than Twice the Number of Treatments per Claim



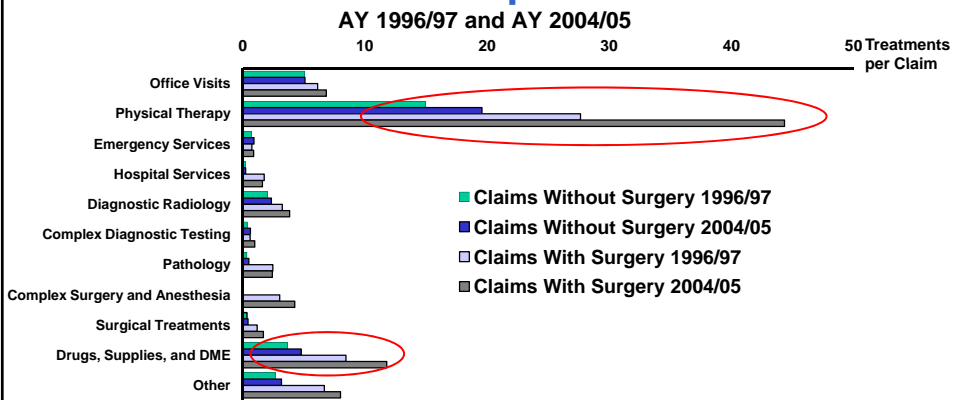
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Claims with Complex Surgery Particularly Have More Physical Therapy and Drug Treatments per Claim



DME is Durable Medical Equipment
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Source: NCCI

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The Increase in the Share of Claims With Complex Surgery Accounts for About a Quarter of the Overall Increase in Treatments per Claim

Treatments per Claim	AY 1996/97	AY 2004/05	Change
Actual: Share of Claims with Surgery Increased 34% from 1996/97 to 2004/05	39.4	56.8	44%
If the Share of Claims with Surgery Remained Unchanged at the 1996/97 Level	39.4	51.9	32%

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

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Breaking the Overall Increase in Treatments per Claim Into its Components:

1. Shares of Claims
2. Encounters per Claim
3. Treatments per Encounter

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Why Such a Large Increase in Treatments per Claim?

- Break the overall increase in treatments per claim into its components:
 - Increase in the share of claims with that service
 - Increase in treatments per claim with that service, which can also be broken into:
 - Increase in encounters per claim with that service
 - Increase in treatments per encounter with that service



Components of the Change in Treatments per Claim

AY 1996/97 to AY 2004/05

Service Group	How much have the number of treatments per claim grown? (A)=(B)*(D)*(E) Ratio of treatments per claim AY 2004/05 vs. AY 1996/97	How much is due to more claims receiving the service? (B) Ratio of shares of claims with indicated service AY 2004/05 vs. AY 1996/97	How much is due to more treatments per claim for claims receiving the service? (C)=(D)*(E) Ratio of treatments per claim with indicated service AY 2004/05 vs. AY 1996/97	Was the increase in treatments per claim for claims receiving the service due to more visits (encounters)? (D) Ratio of encounters per claim with indicated service AY 2004/05 vs. AY 1996/97	Or was it because there were more treatments per visit? (E)=(C)/(D) Derived ratio of treatments per encounter with indicated service AY 2004/05 vs. AY 1996/97
Complex Surgery and Anesthesia	1.90	1.34	1.41	1.04	1.35
Complex Diagnostic Testing	1.85	1.77	1.05	1.04	1.01
Physical Therapy	1.57	1.15	1.37	1.33	1.03

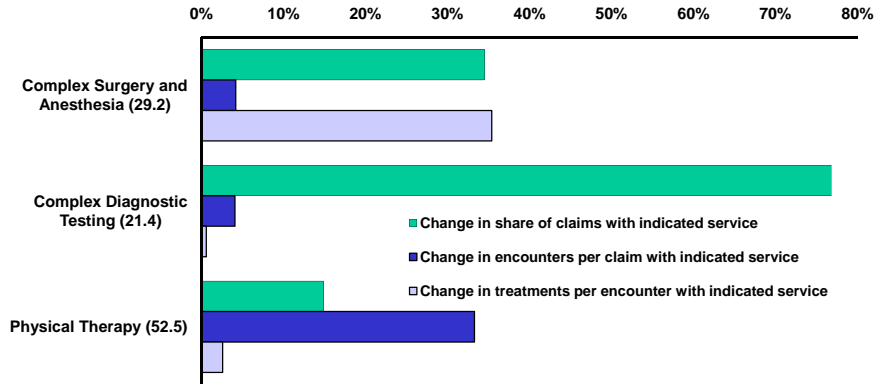
Lost-Time Claims Closed Within 24 Months of Date of Injury, NCCI States
Source: NCCI; differences due to rounding



Breakdown of Change in Treatments per Claim

AY 1996/97 to AY 2004/05

(Numbers in parentheses are the share of claims with each indicated service in AY 1996/97)



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

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Components of the Change in Treatments per Claim

AY 1996/97 to AY 2004/05

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Surgical Treatments	1.60	1.31	1.22	----	----
Drugs, Supplies and DME	1.49	1.09	1.37	----	----

Lost-Time Claims Closed Within 24 Months of Date of Injury, NCCI States
Source: NCCI; differences due to rounding

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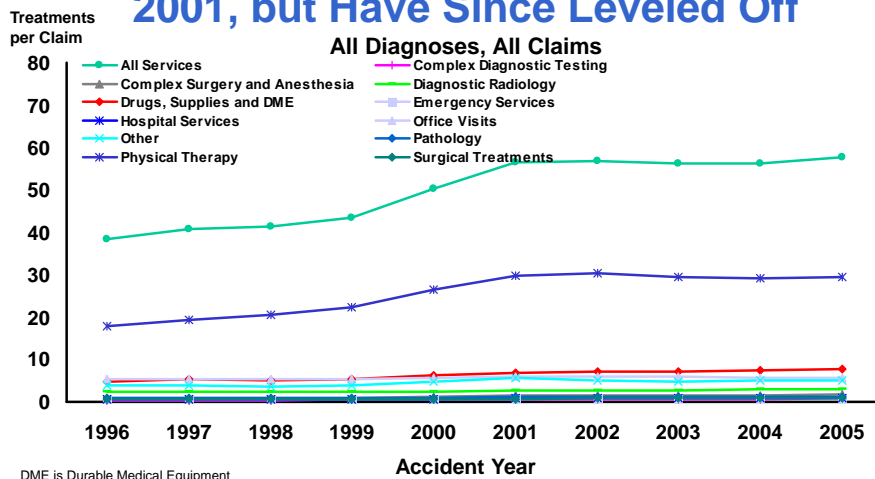
Physical Therapy Is a Primary Factor in the Changes in Treatments per Claim

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Overall, Treatments per Claim Increased Significantly in 2000 and 2001, but Have Since Leveled Off

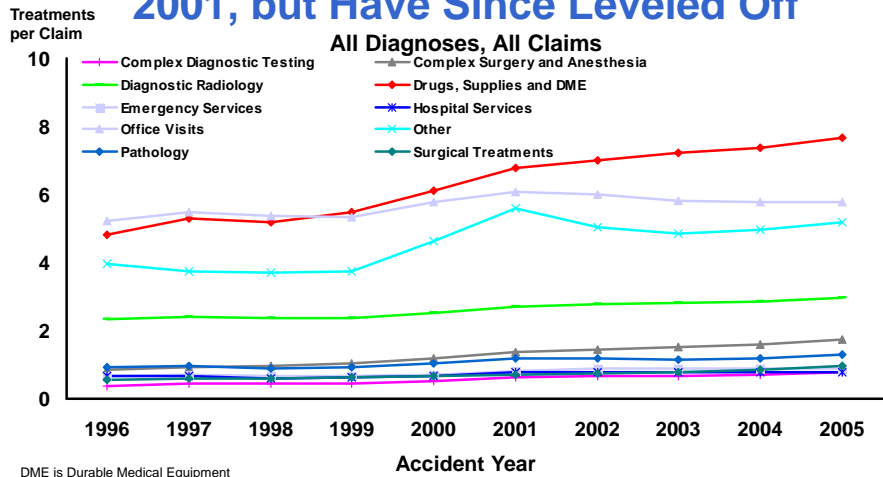


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Overall, Treatments per Claim Increased Significantly in 2000 and 2001, but Have Since Leveled Off



Key Findings



Why Such a Large Increase in Treatments per Claim?

- To some extent, it is due to an increase in shares of claims with surgery
 - For certain diagnoses, this may reflect a greater availability of arthroscopic surgical options
- Surgical claims involve more than twice the number of treatments per claim, particularly physical therapy and drug treatments
- The increase in the share of claims with surgery accounts for about a quarter of the overall increase in treatments per claim

Why Such a Large Increase in Treatments per Claim?

- The primary drivers differ by service group
- Complex Surgery and Anesthesia
 - An increase in the share of claims
 - An increase in treatments per encounter
- Complex Diagnostic Testing
 - An increase in the share of claims
- Physical Therapy
 - An increase in the number of encounters per claim
 - An increase in the share of claims

Why Such a Large Increase in Treatments per Claim?

- The primary drivers differ by service group
- Surgical Treatments
 - An increase in the share of claims
- Drugs, Supplies, and DME
 - An increase in the number of treatments per claim receiving those services

Why Such a Large Increase in Treatments per Claim?

- Treatments per claim overall were significantly impacted by physical therapy treatments, which constituted approximately 50% of all treatments per claim.
- Overall, the most significant increases in treatments per claim occurred in 2000 and 2001, and have slowed more recently. However, many of the more cost-intensive service groups have continued to increase.

Questions and More Information

- Two papers on this subject are available for download in the Research and Outlook Section on **ncci.com**
 - “Measuring the Factors Driving Medical Severity: Price, Utilization, Mix” posted in Spring 2007
 - “Factors Influencing the Growth in Treatments per Claim” posted in September 2008