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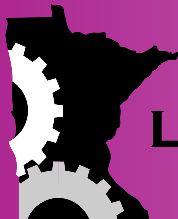
Minnesota
Workers' Compensation System Report, 2007



MINNESOTA DEPARTMENT OF
LABOR & INDUSTRY
POLICY DEVELOPMENT,
RESEARCH AND STATISTICS

Minnesota Workers' Compensation System Report, 2007

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Executive summary

In parallel with nationwide trends, Minnesota's workers' compensation system experienced major reductions in benefit payments and system cost in the early 1990s. Total benefits increased relative to payroll from the mid-1990s to the early 2000s, but have decreased somewhat in more recent years. This has reflected the combined effects of a consistently decreasing claim rate and increasing benefits per claim, particularly medical benefits, through 2003. Total system cost has been stable relative to payroll in the mid-2000s.

This report, part of an annual series, presents data from 1997 through 2007 about several aspects of Minnesota's workers' compensation system — claims, benefits and costs; vocational rehabilitation; and disputes and dispute resolution. The purpose of the report is to describe statistically the current status and direction of workers' compensation in Minnesota and to offer explanations where possible for recent developments. The report also presents workers' compensation medical cost data from a major insurer to provide insight into current medical cost issues.

These are the report's major findings:

- The claim rate fell continually from 1997 through 2007.
- Workers' compensation system cost has fluctuated mildly relative to payroll since 1997, with a somewhat lower value for 2007 than for 1997.
- Adjusted for average wage growth, average medical and indemnity benefits per insured claim rose substantially between 1997 and 2006.
- Relative to payroll, medical benefits have risen since 1997 while indemnity benefits have fallen, reflecting the net effect of the falling claim rate and higher benefits per claim.
- The increase in indemnity benefits per claim is due primarily to increasing benefit duration and increases in the frequency and amounts of stipulated benefits.
- In vocational rehabilitation:
    - The participation rate increased steadily from 1997 to 2003, but has changed relatively little since 2003.
    - Average cost per participant rose steadily from 1998 to 2007 (adjusting for average wage growth).
    - Average service duration showed little change from 1998 to 2007.
    - The percentage of participants with a job at the conclusion of services declined between 1998 and 2007.
- The dispute rate rose substantially from 1997 to 2007.
- According to medical cost data from a large insurer for 1997 to 2007:
    - The service groups contributing the largest amounts to the recent increases in medical costs were outpatient facility services, inpatient hospital facility services, radiology and drugs.
    - Almost all service categories showed an increase in the expensiveness of service mix; this was most pronounced for radiology.
    - Service and provider groups not subject to the fee schedule showed the largest increases in cost per unit of service. A majority of the service and provider groups subject to the fee schedule showed decreases in unit cost.
    - Facility and nonfacility providers contributed roughly equal shares of the overall medical cost increase.
    - These findings are affected by cost-control measures taken by the insurer concerned.

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Introduction

During the early and middle 1990s, through cost-control measures by employers and insurers and law changes in most states, workers' compensation benefits and costs fell nationwide.[1] In Minnesota, a combination of employer and insurer efforts and law changes in 1992 and 1995 produced major cost reductions in the first half of the 1990s, followed by a period of stability in the second half of the decade. Since the late 1990s, a decreasing claim rate has counteracted increases in benefits per claim (particularly medical benefits) to bring about continued stability in cost relative to payroll.

This report, part of an annual series, presents data from 1997 through 2007 about several aspects of Minnesota's workers' compensation system — claims, benefits and costs; vocational rehabilitation; and disputes and dispute resolution. Its primary purpose is to describe statistically the current status and direction of workers' compensation in Minnesota. The report also presents workers' compensation medical cost data from a major insurer to provide insight into current medical cost issues.

Chapter 2 presents overall claim, benefit and cost data. Chapter 3 provides more detailed data about indemnity (cash) benefit trends. Chapters 4 and 5 provide statistics about vocational rehabilitation and about disputes and dispute resolution. Chapter 6 presents workers' compensation medical cost trends for a large insurer.

Appendix A contains a glossary with descriptions of, among other things, the major types of benefits. Appendix B summarizes portions of the 2000 law changes relevant to trends in this report. Appendix C describes data sources and estimation procedures.

The following points should be kept in mind throughout the report:

Developed statistics — Most statistics in this report are presented by injury year or insurance policy year.[2] An issue with such data is that the originally reported numbers for more recent years are not mature because of longer claims and reporting lags. In this report, all injury year and policy year data is "developed" to a uniform maturity to produce statistics that are comparable over time. The technique uses "development factors" (projection factors) based on observed data for older claims.[3] ***The injury year (and policy year) statistics are projections of what the actual numbers will be when all claims are complete and all data is reported. Therefore, the statistics for any given injury year (especially for more recent years) are subject to change when more recent data becomes available. When revisions occur, however, the trends generally show little change from the prior versions.***

Adjustment of cost data for wage growth — Several figures in the report present costs over time. As wages and prices grow, a given cost in dollar terms represents a progressively smaller economic burden from one year to the next. If the total cost of indemnity and medical benefits grows at the same rate as wages, there is no net change in cost as a percentage of payroll. Therefore, all costs (except those costs expressed relative to payroll) are adjusted for average wage growth. The adjusted trends reflect the extent to which cost growth exceeds (or falls short of) average wage growth.[4]

[1] "Benefits" refers to monetary benefits, medical benefits, and vocational rehabilitation benefits. "Costs" refers to the combined costs of these benefits and other costs such as insurer expenses.

[2] Definitions in Appendix A. Some insurance data is by accident year, which is equivalent to injury year.

[3] See Appendix C for more detail.

[4] See Appendix C for computational details.

2

Claims, benefits and costs: overview

This chapter presents overall indicators of the status and direction of Minnesota's workers' compensation system.

Major findings

- The number of paid claims dropped 36 percent relative to the number of full-time-equivalent (FTE) workers from 1997 to 2007 (Figure 2.1).
- The total cost of Minnesota's workers' compensation system relative to payroll was 6 percent lower in 2007 than in 1997 (Figure 2.2).
- Adjusted for average wage growth, average indemnity benefits per insured claim rose 32 percent from 1997 to 2006 (the most recent year available); average medical benefits per claim rose 68 percent (Figure 2.4).
- Relative to payroll, indemnity benefits were down 18 percent from 1997 to 2007, while medical benefits were up 7 percent (Figure 2.6). The trends in benefits relative to payroll are the net result of a falling claim rate and higher benefits per claim.
- Pure premium rates for 2009 were down 23 percent from 1997 and 10 percent from 1998 (Figure 2.9).

Background

The following basic information is necessary for understanding the figures in this chapter. See Appendix A for more detail.

Workers' compensation benefits and claim types

Workers' compensation provides three basic types of benefits:

- ***Indemnity benefits*** compensate the injured or ill worker (or dependents) for wage loss, permanent functional impairment or death.
- ***Medical benefits*** consist of reasonable and necessary medical services and supplies related to the injury or illness.
- ***Vocational rehabilitation benefits*** consist of a variety of services to help eligible injured workers return to work. These benefits are counted as indemnity benefits in insurance data but are counted separately in DLI data. They are considered separately in Chapter 4.

Claims with indemnity benefits are called ***indemnity claims;*** these claims typically have medical benefits also. The remainder of claims are called ***medical-only claims*** because they only have medical benefits.

Insurance arrangements

Employers cover themselves for workers' compensation in one of three ways. The most common is to purchase insurance in the "voluntary market," so named because an insurer may choose whether to insure any particular employer. Employers unable to insure in the voluntary market may insure through the Assigned Risk Plan, the insurance program of last resort administered by the Department of Commerce. Employers meeting certain financial requirements may self-insure.

Rate-setting

Minnesota is an open-rating state for workers' compensation, meaning rates are set by insurance companies rather than by a central authority. In determining their rates, insurance companies start with "pure premium rates" (also known as "loss costs"). These rates represent expected losses (indemnity and medical) per $100 of payroll for some 600 payroll classifications. The Minnesota Workers' Compensation Insurers Association (MWCIA) — Minnesota's workers' compensation data service organization and rating bureau — calculates the pure premium rates every year from insurers' most recent pure premium and losses. Insurance companies add their own expenses to the pure premium rates and make other modifications in determining their own rates.

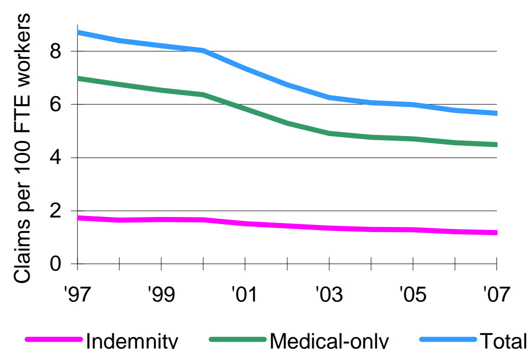
Since the pure premium rates are calculated from prior data, a lag of two to three years exists between benefit trends and pure premium rate changes.

Claim rates

Claim rates declined continually from 1997 to 2007.

- In 2007, there were:
  - 5.7 paid claims per 100 FTE workers, down 29 percent from 2000;
  - 1.2 paid indemnity claims per 100 FTE workers, down 29 percent from 2000; and
  - 4.5 paid medical-only claims per 100 FTE workers, down 30 percent from 2000.
- The overall paid claim rate for 2007 was down 36 percent from 1997.
- Since 1997, indemnity claims have made up 20 to 21 percent of all paid claims, while medical-only claims have constituted the remaining 79 to 80 percent.

Figure 2.1 Paid claims per 100 full-time-equivalent workers, injury years 1997-2007 [1]



Injury year	Indemnity claims	Medical-only claims	Total claims
1997	1.74	7.0	8.7
2000	1.66	6.4	8.0
2003	1.34	4.9	6.3
2004	1.29	4.8	6.1
2005	1.28	4.7	6.0
2006	1.22	4.6	5.8
2007	1.17	4.5	5.7

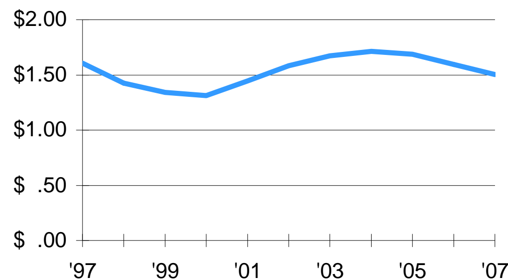
1. Developed statistics from DLI data and other sources (see Appendix C).

System cost

The total cost of Minnesota's workers' compensation system per $100 of payroll was somewhat less in 2007 than in 1997, although it fluctuated between those two years.

- The total cost of the system was an estimated $1.50 per $100 of payroll in 2007, 6 percent less than in 1997.
- The total cost of workers' compensation in 2007 was an estimated $1.6 billion.
- These figures reflect benefits (indemnity, medical and vocational rehabilitation) plus other costs such as brokerage, claim adjustment, litigation, and taxes and assessments. The figures are computed primarily from actual premium for insured employers (adjusted for costs under deductible limits) and experience-modified pure premium for self-insured employers (see Appendix C).

Figure 2.2 System cost per $100 of payroll, 1997-2007 [1]



	Cost per $100 of payroll
1997	$1.61
2000	1.31
2003	1.67
2004	1.71
2005 [2]	1.69
2006 [2]	1.59
2007 [2]	1.50

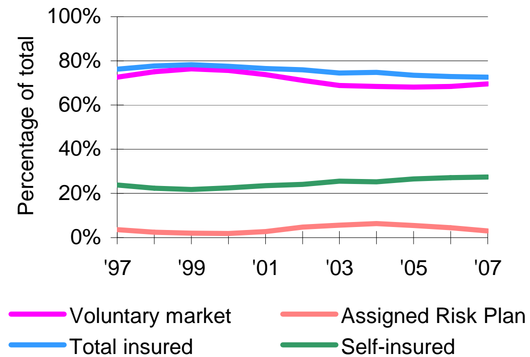
1. Data from several sources (see Appendix C). Includes insured and self-insured employers.
2. Subject to revision.

Insurance arrangements

The voluntary market lost market share from 1999 through 2007.[5]

- The voluntary market share of paid indemnity claims was 69 percent in 2007, slightly above the prior few years but down from 76 percent in 1999.
- The self-insured share increased from 22 percent in 1999 to 27 percent in 2007.
- The Assigned Risk Plan share was 3 percent in 2007, about the same as in 1997 and down from the recent peak of 6.4 percent in 2004.
- These shifts are at least partly due to changes in insurance costs shown in Figure 2.2. Rate increases in the voluntary market tend to cause shifts from the voluntary market to both the Assigned Risk Plan and self-insurance, while rate decreases tend to cause shifts in the opposite direction.

Figure 2.3 Market shares of different insurance arrangements as measured by paid indemnity claims, injury years 1997-2007 [1]



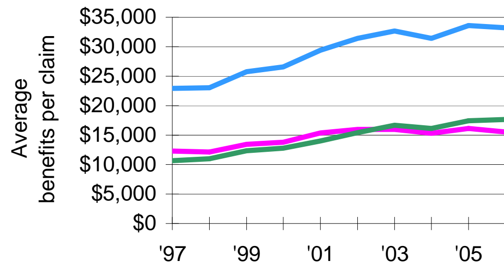
Injury year	Voluntary market	Assigned Risk Plan	Total insured	Self-insured
1997	72.7%	3.6%	76.3%	23.7%
1999	76.3	2.0	78.3	21.7
2003	68.9	5.6	74.5	25.5
2004	68.3	6.4	74.7	25.3
2005	68.1	5.4	73.5	26.5
2006	68.4	4.6	72.9	27.1
2007	69.6	3.0	72.6	27.4

1. Data from DLI.

[5] When market share is measured by pure premium (not shown here), the trends are similar.

Figure 2.4 Average indemnity and medical benefits per insured claim, adjusted for wage growth, policy years 1997-2006 [1]

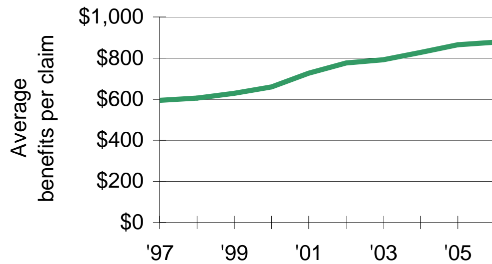
A: Indemnity claims



Policy year	Indemnity benefits [2]	Medical benefits	Total benefits
1997	$12,300	$10,700	$22,900
2002	16,000	15,400	31,400
2003	16,000	16,700	32,700
2004	15,300	16,100	31,400
2005	16,200	17,400	33,600
2006	15,500	17,700	33,200

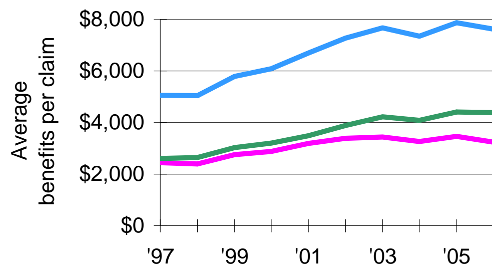
Indemnity [2] Medical Total

B: Medical-only claims



Policy year	Medical benefits	Total benefits
1997	$595	$595
2003	792	792
2004	828	828
2005	865	865
2006	878	878

C: All claims



Policy year	Indemnity benefits [2]	Medical benefits	Total benefits
1997	$2,450	$2,600	$5,060
2002	3,390	3,880	7,280
2003	3,440	4,230	7,670
2004	3,260	4,090	7,350
2005	3,470	4,420	7,880
2006	3,240	4,390	7,630

Indemnity [2] Medical Total

1. Developed statistics from MWCIA data (see Appendix C). Includes the voluntary market and Assigned Risk Plan; excludes self-insured employers. Benefits are adjusted for average wage growth between the respective year and 2007. 2006 is the most recent year available.
2. Since these statistics are from insurance data, indemnity benefits include vocational rehabilitation benefits.

Benefits per claim

Adjusted for wage growth, average medical benefits per insured claim rose rapidly between 1997 and 2003 but more slowly from 2003 to 2006. Indemnity benefits per claim rose through 2002 but were stable from that point until 2006.

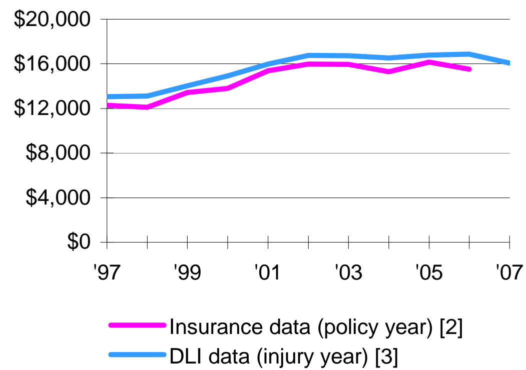
- For all claims combined, in 2006 relative to 1997:
  - average indemnity benefits were up 32 percent;
  - average medical benefits were up 68 percent; and
  - average total benefits were up 51 percent.

Indemnity benefits per indemnity claim: insurance and DLI data

DLI data broadly corroborates the insurance data on average indemnity benefits per indemnity claim.

- Adjusting for wage growth, both the DLI and insurance data show increases in average indemnity benefits per claim through 2002. Both the data sources show average indemnity benefits holding steady after 2002 with some fluctuation.[6]

Figure 2.5 Average indemnity benefits per indemnity claim, adjusted for wage growth, 1997-2007: insurance and DLI data [1]



Policy or injury year	Insurance data [2]	DLI data [3]
1997	$12,300	$13,100
2002	16,000	16,800
2003	16,000	16,700
2004	15,300	16,500
2005	16,200	16,800
2006	15,500	16,900
2007	[4]	16,100

1. Benefits are adjusted for average wage growth between the respective year and 2007.
2. From Figure 2.4. Excludes self-insured employers, supplementary benefits and second-injury claims. Includes the Assigned Risk Plan and vocational rehabilitation benefits.
3. Developed statistics (see Appendix C). Includes self-insured employers, the Assigned Risk Plan, supplementary benefits and second-injury claims. Excludes vocational rehabilitation benefits.
4. Not yet available.

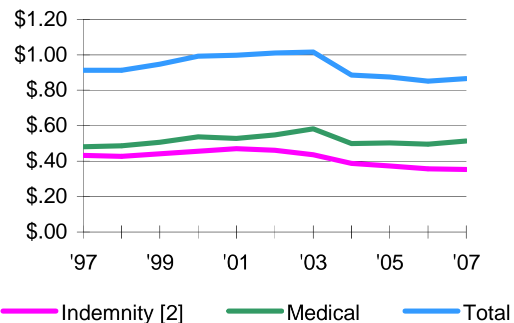
[6] Because these are developed statistics (projections of what the numbers will be at full claim maturity) and the downturn in the DLI data for 2007 is a one-year fluctuation, this downturn should be viewed with caution.

Benefits relative to payroll

Relative to payroll, medical benefits rose between 1997 and 2007 while indemnity benefits fell, although both benefit types fluctuated between the two years.

- From 1997 to 2007, relative to payroll:
  - indemnity benefits fell 18 percent;[7]
  - medical benefits rose 7 percent; and
  - total benefits fell 5 percent.
- These changes are the net result of a decreasing claim rate (Figure 2.1) and higher indemnity and medical benefits per claim (Figures 2.4, 2.5). The different trends in indemnity and medical benefits relative to payroll occur because medical benefits per claim rose more than indemnity benefits per claim (Figure 2.4).

Figure 2.6 Benefits per $100 of payroll in the voluntary market, accident years 1997-2007 [1]



Accident year	Indemnity benefits [2]	Medical benefits	Total benefits
1997	$.43	$.48	$ .91
2001	.47	.53	1.00
2003	.43	.58	1.02
2004	.39	.50	.89
2005	.37	.50	.88
2006	.36	.50	.85
2007	.35	.51	.87

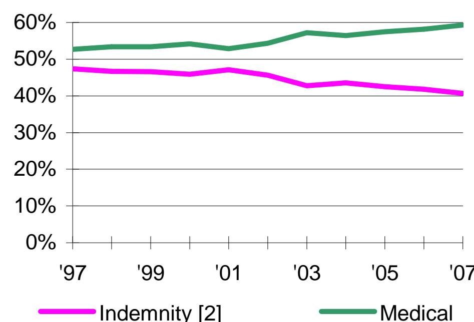
1. Developed statistics from MWCIA data (see Appendix C). Excludes self-insured employers, the Assigned Risk Plan and those benefits paid through DLI programs (including supplementary and second-injury benefits).
2. Includes vocational rehabilitation benefits.

Indemnity and medical shares

The medical share of total benefits rose between 1997 and 2007. The increase occurred primarily during the latter part of the period.

- Reflecting the data in Figure 2.6:
  - **medical benefits rose from a 53-percent share of total benefits in 1997 to 59 percent in 2007, and**
  - **indemnity benefits fell from 47 percent of total benefits to 41 percent during the same period.**

Figure 2.7 Indemnity and medical benefit shares in the voluntary market, accident years 1997-2007 [1]



Accident year	Indemnity benefits [2]	Medical benefits
1997	47.3%	52.7%
2001	47.1	52.9
2003	42.8	57.2
2004	43.6	56.4
2005	42.5	57.5
2006	41.8	58.2
2007	40.7	59.3

1. Developed statistics from MWCIA data (see Appendix C). Excludes self-insured employers, the Assigned Risk Plan and those benefits paid through DLI programs (including supplementary and second-injury benefits).
2. Includes vocational rehabilitation benefits.

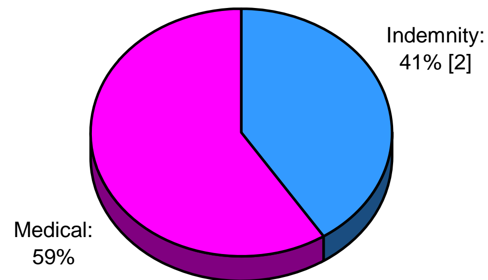
[7] The indemnity benefit trend in Figure 2.6, from insurance data, is corroborated by DLI data.

Indemnity and medical shares, 2007

Medical benefits accounted for 59 percent of total benefits in the voluntary market for accident year 2007.

- Figure 2.8 presents the 2007 data from Figure 2.7.

Figure 2.8 Indemnity and medical benefit shares in the voluntary market, accident year 2007 [1]



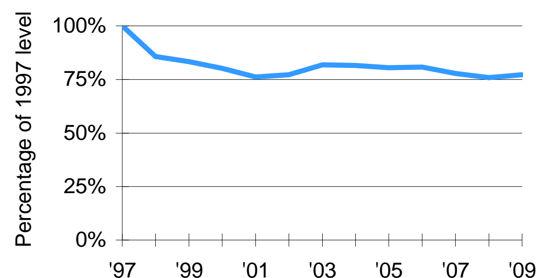
1. Developed statistics from MWCIA data (see Appendix C). Excludes self-insured employers, the Assigned Risk Plan and those benefits paid through DLI programs (including supplementary and second-injury benefits).
2. Includes vocational rehabilitation benefits.

Pure premium rates

After a large decrease in 1998, pure premium rates have drifted downward slightly.

- Pure premium rates in 2009 were down 23 percent from 1997 and 10 percent from 1998.[8] They were just slightly above the low-point reached in 2001.
- Pure premium rates are ultimately driven by the trend in benefits relative to payroll (Figure 2.6). However, this occurs with a lag of two to three years because the pure premium rates for any period are derived from prior premium and loss experience.[9]
- Insurers in the voluntary market consider the pure premium rates, along with other factors, in determining their own rates, which in turn affect total system cost (Figure 2.2).

Figure 2.9 Average pure premium rate as percentage of 1997 level, 1997-2009 [1]



Effective year	Percentage of 1997
1997	100.0%
1998	85.7
2001	76.1
2003	81.7
2006	80.8
2007	77.9
2008	75.8
2009	77.1

1. Data from the MWCIA. Pure premium rates represent expected indemnity and medical losses per $100 of covered payroll in the voluntary market.

[8] A "percent increase" means the proportionate increase in the initial percentage, not the number of percentage points of increase. For example, an increase from 10 percent to 15 percent is a 50-percent increase.

[9] Changes in pure premium rates directly following law changes also include estimated effects of those law changes.

3

Claims, benefits and costs: detail

This chapter presents additional data about claims, benefits and costs. Most of the data provides further detail about the indemnity claim and benefit information in Chapter 2. Some of the data relates to costs of special benefit programs and state agency administrative functions.

Major findings

- The average duration of total disability benefits was 21 percent higher in 2007 than in 1997. Average temporary partial disability (TPD) benefit duration was 19 percent higher (Figure 3.3).
- Average indemnity benefits per indemnity claim (adjusted for wage growth) were 23 percent higher in 2007 than in 1997 (Figure 3.6).[10] This is primarily attributable to:
  - the increase in total disability duration; and
  - increases in the frequency and average amount of stipulated benefits (Figures 3.2, 3.5).
- State agency administrative costs in 2007 amounted to about 2.9 cents per $100 of covered payroll. This figure has fallen since 1997 (Figure 3.8).

Background

The following basic information is necessary for understanding the figures in this chapter. See Appendix A for more detail.

[10] These figures are somewhat different from comparable figures in Chapter 2, because they are from a different data source (DLI vs. insurance industry) and they include self-insured employers.

Benefit types

- ***Temporary total disability (TTD)*** — A weekly wage-replacement benefit paid to an employee who is temporarily unable to work because of a work-related injury or illness, equal to two-thirds of pre-injury earnings subject to a weekly minimum and maximum and a duration limit. TTD ends when the employee returns to work (among other reasons).
- ***Temporary partial disability (TPD)*** — A weekly wage-replacement benefit paid to an injured employee who has returned to work at less than his or her pre-injury earnings, generally equal to two-thirds of the difference between current earnings and pre-injury earnings subject to weekly maximum and total duration provisions.
- ***Permanent partial disability (PPD)*** — A benefit that compensates for permanent functional impairment resulting from a work-related injury or illness. The benefit is based on the employee's impairment rating and is unrelated to wages.
- ***Permanent total disability (PTD)*** — A weekly wage-replacement benefit paid to an employee who sustains one of the severe work-related injuries specified in law or who, because of a work-related injury or illness in combination with other factors, is permanently unable to secure gainful employment (subject to a permanent impairment rating threshold).
- ***Stipulated benefits*** — Indemnity and/or medical benefits specified in a claim settlement — "stipulation for settlement" — among the parties to a claim. A stipulation usually occurs in a dispute, and stipulated benefits are usually paid in a lump sum.

- ***Total disability*** — The combination of TTD and PTD benefits. Most figures in this chapter — those presenting DLI data — use this category because the DLI data does not distinguish between TTD and PTD benefits.

Counting claims and benefits: insurance data and department data

The first figure in this chapter uses insurance data (from the MWCIA); all other figures use DLI data.

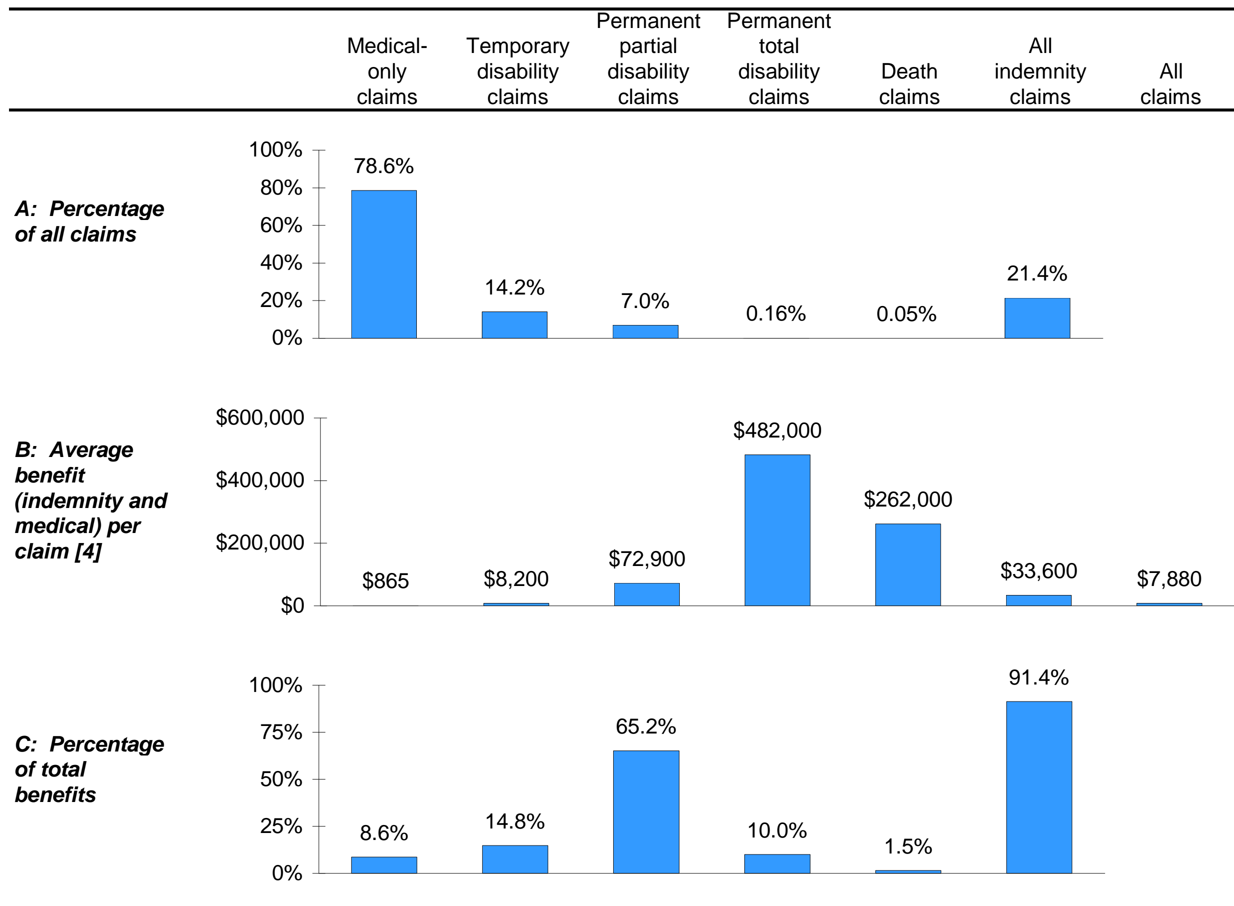
In the insurance data, claims and benefits are categorized by "claim type," defined according to the most severe type of benefit on the claim. In increasing severity, the benefit types are medical, temporary disability (TTD or TPD), PPD, PTD and death. For example, a claim with medical, TTD and PPD payments is a PPD claim. PPD claims also include claims with temporary disability benefits lasting more than one year and claims with stipulated settlements. All benefits on a claim are counted in the one claim-type category into which the claim falls.

In the DLI data, by contrast, each claim may be counted in more than one category, depending on the types of benefits paid. For example, the same claim may be counted among claims with total disability benefits and among claims with PPD benefits.

Costs supported by Special Compensation Fund assessment

DLI, through its Special Compensation Fund (SCF), levies an annual assessment on insurers and self-insured employers to finance (1) costs in DLI, the Office of Administrative Hearings and other state agencies to administer the workers' compensation system and (2) certain benefits for which DLI is responsible. Primary among these benefits are supplementary benefits and second-injury benefits. Although these programs have been eliminated, benefits must still be paid on old claims (see Appendices B and C). Insurers collect the assessment amount from employers through a premium surcharge, and this is included in total workers' compensation system cost (Figures 2.2).

Figure 3.1 Benefits by claim type for insured claims, policy year 2005 [1]



1. Developed statistics from MWCIA data (see Appendix C). 2005 is the most recent year available.
2. Because of large annual fluctuations, data for PTD and death claims is averaged over 2003-2005 (see Appendix C).
3. Indemnity claims consist of all claim types other than medical-only.
4. Benefit amounts in panel B are adjusted for overall wage growth between 2005 and 2007.

Benefits by claim type

Each claim type (in the insurance data) contributes to total benefits paid depending on its relative frequency and average benefit. PPD claims account for the majority of total benefits.

(As indicated above, in the insurance data, the benefits for each claim type include all types of benefits paid on that type of claim. PPD claims, for example, may include medical, TTD and TPD benefits in addition to PPD benefits.)

- PPD claims accounted for 65 percent of total benefits in 2005 (panel C in figure) through a combination of low frequency (panel A) and higher-than-average benefits per claim (panel B).
- Other claim types contributed smaller amounts to total benefits because of very low frequency (PTD and death claims) or relatively low average benefits (medical-only and temporary disability claims).
- **Indemnity claims were 21 percent of all paid claims, but accounted for 91 percent of total benefits because they have far higher benefits on average than medical-only claims ($33,600 vs. $865 for 2005).**
- The percentages and relative benefit amounts in the figure have been fairly stable during the past several years.

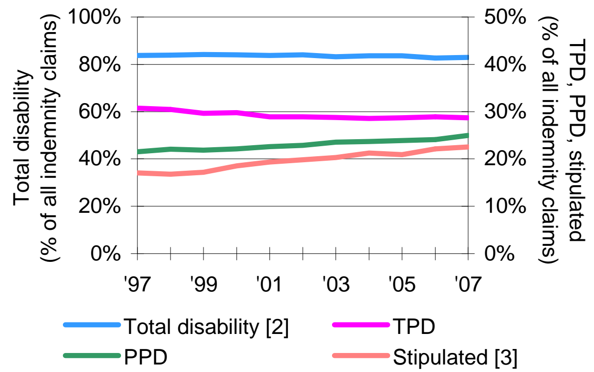
Claims by benefit type

Since 1997, as a proportion of all paid indemnity claims, claims with PPD benefits and claims with stipulated benefits have increased, claims with TPD benefits have decreased slightly and claims with total disability benefits have been stable.

- From 1997 to 2007:
  - the percentage of claims with PPD benefits rose more than three percentage points;
  - the percentage of claims with stipulated benefits rose more than five percentage points; and
  - the percentage of claims with TPD benefits fell about two percentage points.

- **The increase in the percentage of claims with stipulated benefits is related to a similar increase in the dispute rate (Figure 7.1).**

Figure 3.2 Percentages of paid indemnity claims with selected types of benefits, injury years 1997-2007 [1]



Injury year	Total disab.[2]	TPD	PPD	Stipu-lated [3]
1997	83.8%	30.7%	21.5%	17.1%
1999	84.2	29.7	21.9	17.2
2003	83.2	28.8	23.5	20.3
2004	83.6	28.5	23.6	21.2
2005	83.7	28.7	23.9	20.9
2006	82.7	28.9	24.1	22.1
2007	82.9	28.7	25.0	22.5

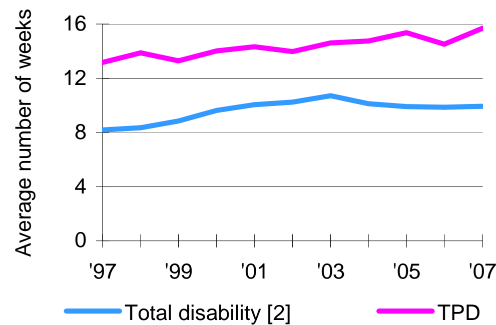
1. Developed statistics from DLI data (see Appendix C). An indemnity claim may have more than one type of benefit paid. Therefore, the sum of the figures for the different benefit types is greater than 100 percent.
2. Total disability includes TTD and PTD.
3. Includes indemnity, medical and vocational rehabilitation components.

Benefit duration

The average durations of total disability benefits and TPD benefits were greater in 2007 than in 1997.

- Total disability duration rose 31 percent from 1997 to 2003, but fell 7 percent from 2003 to 2007. The 2007 average of 9.9 weeks was 21 percent above 1997.
- TPD duration averaged 15.7 weeks in 2007, 19 percent above 1997.
- These trends in duration affect indemnity cost per claim (Figures 2.4, 2.5, 3.5, 3.6). As a result, they also affect pure premium rates and system cost (Figures 2.2, 2.9).

Figure 3.3 Average duration of wage-replacement benefits, injury years 1997-2007 [1]



Injury year	Total disab.[2]	TPD
1997	8.2	13.2
1999	8.9	13.3
2003	10.7	14.6
2004	10.1	14.7
2005	9.9	15.4
2006	9.9	14.5
2007	9.9	15.7

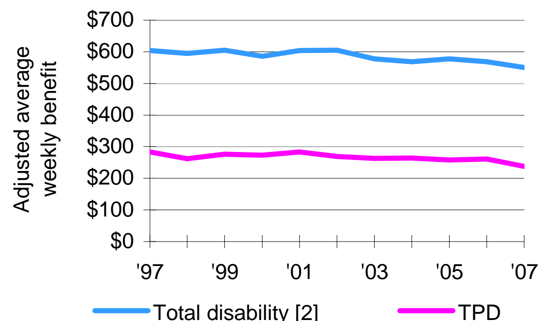
1. Developed statistics from DLI data (see Appendix C).
2. Total disability includes TTD and PTD.

Weekly benefits

After adjusting for average wage growth, average weekly total disability and TPD benefits decreased slightly between 1997 and 2007.

- Adjusted average weekly total disability benefits were 9 percent lower in 2006 than in 1997; average weekly TPD benefits were down 16 percent.
  - *Unadjusted* average weekly benefits rose during the period examined, but at a somewhat less rapid pace than the statewide average weekly wage (SAWW), causing the slight declines in *adjusted* average weekly benefits shown here.
- The average pre-injury wage of injured workers (which affects average weekly benefits) fell about 7 percent relative to the statewide average weekly wage from 1997 to 2007. This explains most of the decline in (adjusted) average weekly total disability benefits and part of the decline in average weekly TPD benefits.

Figure 3.4 Average weekly wage-replacement benefits, adjusted for wage growth, injury years 1997-2007 [1]



Injury year	Total disab. [2]	TPD
1997	$603	$284
1999	605	276
2003	577	263
2004	569	264
2005	577	258
2006	569	261
2007	551	237

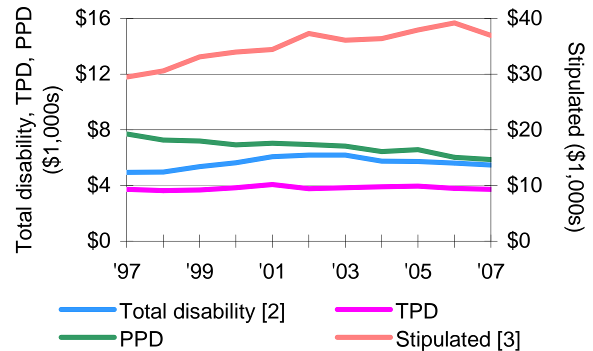
1. Developed statistics from DLI data (see Appendix C). Benefit amounts are adjusted for average wage growth between the respective year and 2007.
2. Total disability includes TTD and PTD.

Average indemnity benefits by type

Adjusting for average wage growth, average benefit amounts (per claim with the given benefit type) showed different trends from 1997 to 2007: average total disability benefits and average stipulated benefits increased, average PPD benefits fell and average TPD benefits showed little change.

- From 1997 to 2007, after adjusting for average wage growth:
  - average total disability benefits rose 10 percent;
  - average TPD benefits were unchanged;
  - average PPD benefits fell 24 percent; and
  - average stipulated benefits rose 25 percent.
- The increase in average total disability benefits occurred between 1997 and 2002. After 2002, average total disability benefits declined.
- The trends in average total disability and TPD benefits are driven by the trends in average benefit duration and average weekly benefits. Average total disability benefits rose during the same period (1997 to 2002) when the average duration of these benefits was increasing (Fig. 3.3). The essentially flat trend in average TPD benefits occurred because of offsetting trends in average weekly benefits and duration (Figures 3.3 and 3.4).
- Adjusted average PPD benefits have fallen nearly continually since 1997, with exceptions in 2001 and 2005. This falling trend has occurred primarily because the PPD benefit schedule is fixed, apart from statutory changes. Under the fixed schedule, PPD benefits become smaller relative to rising wages, which is reflected in the adjusted average benefits. The PPD benefit increase in the 2000 law change (see Appendix B) is responsible for the slight increase in average PPD benefits in 2001.

Figure 3.5 Average indemnity benefit by type per claim with the given benefit type, adjusted for wage growth, injury years 1997-2007 [1]



Injury year	Total disability [2]	TPD	PPD	Stipulated [3]
1997	$4,950	$3,730	$7,700	$29,500
2002	6,190	3,760	6,940	37,280
2003	6,180	3,840	6,830	36,080
2004	5,760	3,900	6,450	36,390
2005	5,720	3,960	6,560	37,910
2006	5,620	3,790	6,030	39,180
2007	5,470	3,730	5,870	36,940

1. Developed statistics from DLI data (see Appendix C). Benefit amounts are adjusted for average wage growth between the respective year and 2007.
2. Total disability includes TTD and PTD.
3. Includes indemnity, medical and vocational rehabilitation components.

Indemnity benefits per indemnity claim

Adjusting for average wage growth, average indemnity benefits per indemnity claim rose rapidly between 1997 and 2002, but were steady between 2002 and 2007.[11] The 1997-to-2002 increase resulted from an increase in total disability and stipulated benefits per claim. The increase in total disability benefits per claim in turn resulted from increased duration.

Note: Figure 3.6 differs from Figure 3.5 in that it shows the average benefit of each type *per indemnity claim,* rather than *per claim with the respective type of benefit.* Figure 3.6 reflects the percentage of indemnity claims with each benefit type (Figure 3.2) and the average benefit amount per claim with the respective benefit type (Figure 3.5).

- Adjusting for average wage growth, total indemnity benefits per indemnity claim were 23 percent higher in 2007 than in 1997. These numbers (last column of Figure 3.6) are the DLI numbers in Figure 2.5.

- The increase in total indemnity benefits per claim took place from 1997 to 2002 and resulted from increases in total disability benefits and stipulated benefits.

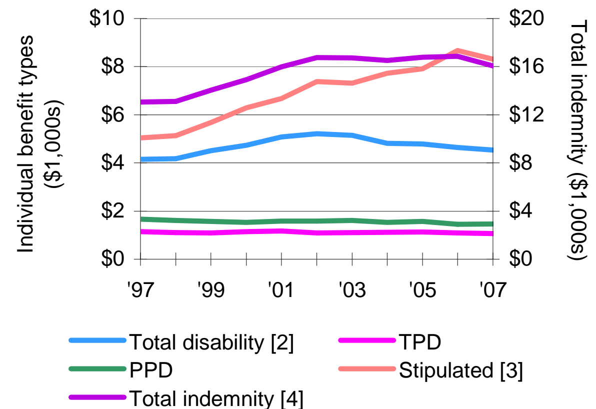
    - The increase in total disability benefits per indemnity claim resulted from an increase in duration (Figure 3.3). (The percentage of indemnity claims with total disability benefits was stable (Figure 3.2).)
    - The increase in stipulated benefits per indemnity claim resulted from an increase in average stipulated benefit amounts (Figure 3.5) and an increase in the proportion of claims with these benefits (Figure 3.2).

- In 2007, total disability benefits were three times as large as total PPD benefits and more than four times as large as total TPD benefits. Stipulated benefits were 80 percent larger than total disability benefits.

- As a proportion of total indemnity benefits, stipulated benefits increased from 38 percent in 1997 to 52 percent in 2007.

[11] See note 6 on p. 7.

Figure 3.6 Average indemnity benefit by type per paid indemnity claim, adjusted for wage growth, injury years 1997-2007 [1]



Injury year	Total disabilty [2]	TPD	PPD	Stipulated [3]	Total indemnity [4]
1997	$4,150	$1,150	$1,660	$5,040	$13,050
2002	5,210	1,090	1,590	7,380	16,750
2003	5,140	1,110	1,610	7,320	16,730
2004	4,810	1,110	1,520	7,720	16,520
2005	4,780	1,140	1,570	7,910	16,790
2006	4,640	1,090	1,450	8,670	16,860
2007	4,540	1,070	1,470	8,320	16,070

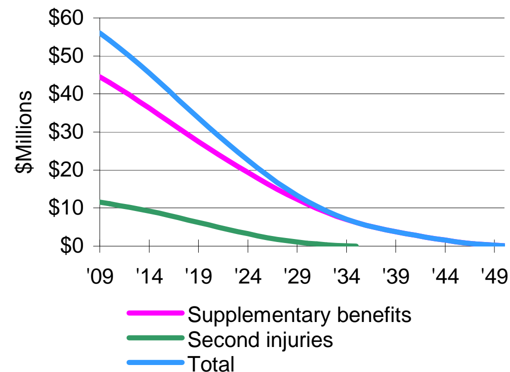
1. Developed statistics from DLI data (see Appendix C). Benefit amounts are adjusted for average wage growth between the respective year and 2007.
2. Total disability includes TTD and PTD.
3. Includes indemnity, medical and vocational rehabilitation components.
4. Excludes vocational rehabilitation benefits (except those included in stipulated benefits). Because some benefit types are not shown, total indemnity benefits are greater than the sum of the benefit types shown.

Supplementary benefit and second-injury costs

DLI produces an annual projection of supplementary benefit and second-injury reimbursement costs as they would exist without future settlement activity. The total annual cost is projected to fall nearly in half by 2020 and to disappear by 2050.

- **The total projected cost for 2009, $56 million, is about 3.4 percent of projected total workers' compensation system cost for that year.**
- The 2009 cost consists of roughly $45 million for supplementary benefits and $12 million for second injuries.
- Without settlements, supplementary benefit claims are projected to continue until 2050 and second-injury claims until 2034.
- Claim settlements will reduce future projections of these liabilities. Settlements amounted to $2.3 million in fiscal year 2008.

Figure 3.7 Projected cost of supplementary benefit and second-injury reimbursement claims, fiscal claim-receipt years 2009-2050 [1]



Fiscal year of claim receipt	Projected amount claimed ($millions)		
	Supple-mentary benefits	Second injuries	Total
2009	$44.5	$11.6	$56.0
2015	34.5	8.7	43.2
2020	25.7	5.6	31.4
2030	11.0	.8	11.8
2050	.1	.0	.1

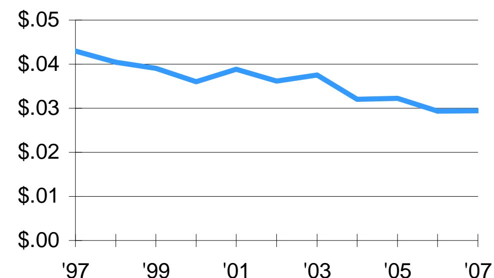
1. Projected from DLI data, assuming no future settlement activity. See Appendix C.

State agency administrative cost

State agency administrative cost has fallen as a proportion of workers' compensation covered payroll during the past several years.

- In fiscal year 2007, state agency administrative cost (see note in figure) came to 2.9 cents per $100 of payroll.
- **Administrative cost for 2007 was about $29 million, or about 1.9 percent of total workers' compensation system cost.**

Figure 3.8 Net state agency administrative cost per $100 of payroll, fiscal years 1997-2007 [1]



Fiscal year	Admin. cost per $100 of payroll
1997	$.043
2003	.038
2004	.032
2005	.032
2006	.029
2007	.029

1. Includes costs of workers' compensation functions in DLI, the Office of Administrative Hearings, the Workers' Compensation Court of Appeals and the Department of Commerce, as well as the cost of Minnesota's OSHA program. Excludes costs of benefit payments reimbursed by the Special Compensation Fund (such as supplementary and second-injury benefits). Costs are net of fees for service. Data from DLI, MWCIA and WCRA.

4

Vocational rehabilitation

This chapter provides data about vocational rehabilitation (VR) services in Minnesota's workers' compensation system.

Major findings

- After increasing in the late 1990s, participation in vocational rehabilitation has remained fairly steady between 20 percent and 21 percent of indemnity claims since 2001. A projected 5,240 workers injured in 2007 will receive VR services (Figure 4.1).
- **The average cost of VR services was an estimated $7,810 for workers injured in 2007, 33 percent higher than for 1998 after adjusting for average wage growth.** The total cost of VR services for workers injured in 2007 is projected at $41 million, about 2.5 percent of workers' compensation system cost (Figure 4.2).
- **The percentage of VR participants with a job at plan closure decreased from 71 percent for injury year 1998 to 61 percent for 2007 (Figure 4.5).**
- The average time from injury to the start of VR services was 6.7 months for injury year 2007, down 23 percent from 1998 (Figure 4.3).
- Average VR service duration for injury year 2007 was 12.5 months, the same as for 1998 (Figure 4.4).
- The average VR participant returning to work received a wage about the same as their pre-injury wage, but this varied widely among individuals (Figure 4.7).
- For VR participants injured in 2007, about 54 percent of plan closures are projected to result from plan completion; another 45 percent are projected to result from settlement or agreement of the parties (Figure 4.8).

Background

Vocational rehabilitation is the third type of workers' compensation benefit, supplementing medical and indemnity benefits. VR services are provided to injured workers who need help in returning to work because of their injuries and whose employers are unable to offer them suitable employment.

VR services include:

- vocational evaluation;
- counseling;
- job analysis;
- job modification;
- job development;
- job placement;
- vocational testing;
- transferable skills analysis;
- job-seeking skills training;
- retraining; and
- arrangement of on-the-job training.

Except for retraining, these services are delivered by qualified rehabilitation consultants (QRCs) and job-placement vendors. These providers are registered with DLI and must follow professional conduct standards specified in Minnesota Rules.

QRCs work mostly in private-sector VR firms, and may also provide services to non-workers' compensation clients. (Some VR firms also have job-placement staff.) Some QRCs are employed by insurers and self-insured employers. Injured workers may also receive services from DLI's Vocational Rehabilitation unit, which provides

VR services to injured workers whose claims are involved in primary liability disputes.
QRCs determine whether injured workers are eligible for VR services, develop VR plans for those determined eligible and coordinate service delivery under those plans. Eligibility is determined in a VR consultation, which is typically done within certain timelines or if requested by the employee, employer or DLI.

VR plan costs are generated by hourly charges for services by QRCs and vendors and the costs for certain services, such as retraining and vocational testing. Annual increases in hourly charges are limited to the lesser of the percent increase in the statewide average weekly wage (SAWW) or two percent. For most of 2007, the maximum hourly fee for QRCs was $86.33 and for job development and placement services the maximum rate was $66.40.

On Oct. 1, 2008, the maximum hourly fee for QRCs increased to $91.00 and the maximum hourly rate for job development and placement services, whether provided by rehabilitation vendors or by QRC firms, was set at $69.08. Annual increases in these fees are limited to the lesser of the percent increase in the SAWW or two percent.

Data sources and time period covered

The data in this chapter comes from VR documents filed with DLI for claims with VR activity. Injured workers may receive services from multiple VR service providers (at different times), each of whom may file VR plans. The duration and cost of VR services reported in this chapter are the cumulative values from all plans involved with a particular claim. For brevity, combined plans are referred to simply as plans. The service outcomes are the outcomes of the most recent plan closure.

As in other chapters, all trend statistics in this chapter are by injury year, and are therefore developed as described in Appendix C.

Because the VR system experienced major changes in the early and middle 1990s, most figures in this chapter begin with injury year 1998 rather than 1997.

Participation

The VR participation rate increased steadily from 1997 to 2003, but has changed relatively little since 2003.

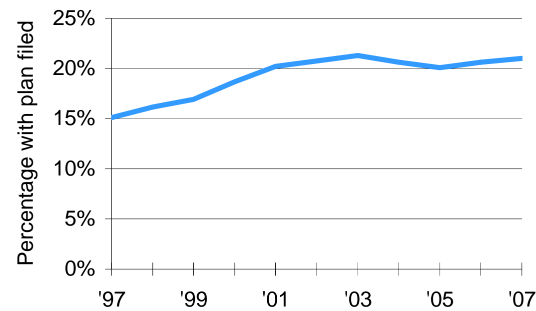
- The participation rate — the percentage of paid indemnity claims with a VR plan filed — increased from 15 percent in 1997 to 21 percent in 2003, and stood at 21 percent in 2007.
- The participation rate varies directly with the amount of time the worker has been off the job. For workers injured between 2003 and 2006, the proportion receiving VR services was:
    - 12 percent for workers with fewer than three months of TTD benefits reported;
    - 63 percent for workers with three to six months of TTD benefits reported;
    - 87 percent for workers with six to 12 months of TTD benefits reported; and
    - 92 percent for workers with more than 12 months of TTD benefits reported.
- About 5,240 workers injured in 2007 are expected to receive VR services. (Some of these people have not yet begun services.)

Cost

Adjusted for average wage growth, the average cost of VR services increased steadily from 1998 to 2007.

- **Average service cost was $7,810 per participant for 2007. Average cost rose 33 percent from 1998 to 2007, while median cost rose 30 percent.**
- Average VR service cost per indemnity claim (counting claims with and without plans) was $1,640 for 2007, a 73-percent increase from 1998 and 7 percent higher than in 2003. These increases reflect the trends in the participation rate (Figure 4.1) and average cost per plan (Figure 4.2).
- Among plans closed in 2007, 73 percent of total cost was for QRC services other than job development and placement, 25 percent was for job development and placement (16 percent by QRCs, 9 percent by outside vendors), and 2 percent was for other items, such as mileage, supplies and tuition.

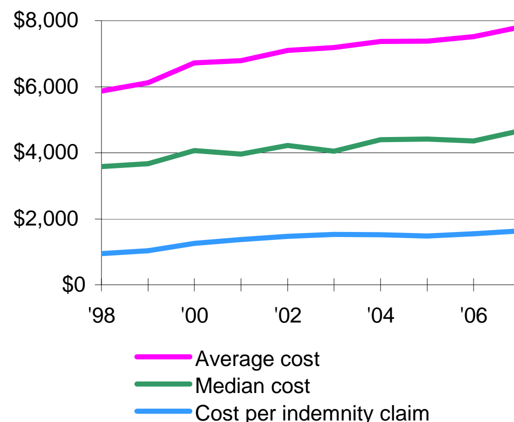
Figure 4.1 Percentage of paid indemnity claims with a VR plan filed, injury years 1997-2007 [1]



Injury year	Percentage with plan
1997	15.1%
2003	21.3%
2004	20.6%
2005	20.1%
2006	20.6%
2007	21.0%

1. Developed statistics from DLI data (see Appendix C).

Figure 4.2 VR service costs, adjusted for wage growth, injury years 1998-2007 [1]



Injury year	Average cost	Median cost	Cost per indemnity claim
1998	$5,870	$3,580	$ 950
2003	7,190	4,040	1,530
2004	7,370	4,400	1,520
2005	7,380	4,420	1,480
2006	7,510	4,360	1,550
2007	7,810	4,670	1,640

1. Developed statistics from DLI data (see Appendix C). Costs are adjusted for average wage growth between the respective year and 2007.

- **The estimated total cost of VR for 2007 was $40.9 million, about 2.5 percent of total workers' compensation system cost.**

Timing of services

The success of VR is closely linked to prompt service provision. The average time from the injury to the start of VR services decreased between 1998 and 2007, with most of the decrease occurring between 1998 and 2001.

- **The average time from injury to the start of VR services was 6.7 months for injury year 2007, down 2.0 months (23 percent) from 1998. The median time was down 18 percent during the same period.**
- Among plans closed in 2007, 37 percent of VR service starts were within three months of the date of injury.
- Among VR participants whose plans closed in 2007, those who started receiving VR services more than one year after their injury, as compared to those starting within three months of injury, had:
    - higher VR costs by 28 percent ($8,240 vs. $6,460);[12]
    - longer VR service durations by 33 percent (14.3 months vs. 10.8 months); and
    - lower chances of returning to work (59 percent vs. 67 percent).

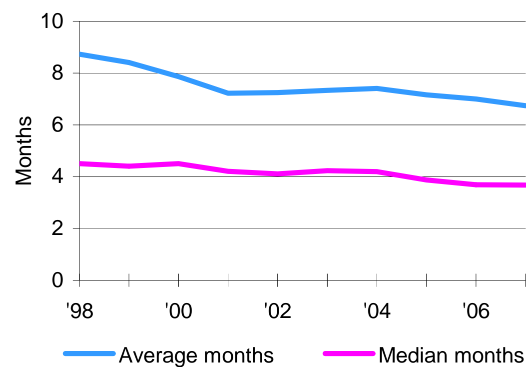
Service duration

Average VR service duration showed little change from 1998 to 2007.

- Average service duration for injury year 2007 was 12.5 months, the same as for 1998. Median duration for 2007 was 8.9 months, compared to 8.0 months for 1998.
- Among plan closures in 2007, average service duration was shortest for participants returning to work with their pre-injury employer (8.3 months); it was longest for those going to a different employer (15.8 months) and for those whose plans closed before they returned to work (15.2 months).

[12] These figures include private-sector providers and the VR unit of DLI.

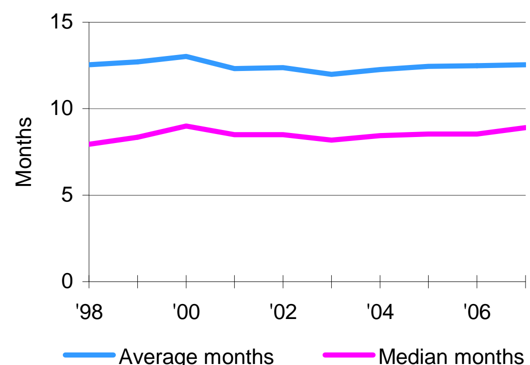
Figure 4.3 Time from injury to start of VR services, injury years 1998-2007 [1]



Injury year	Average months	Median months
1998	8.7	4.5
2001	7.2	4.2
2003	7.3	4.2
2004	7.4	4.2
2005	7.2	3.9
2006	7.0	3.7
2007	6.7	3.7

1. Developed statistics from DLI data (see Appendix C).

Figure 4.4 VR service duration, injury years 1998-2007 [1]



Injury year	Average months	Median months
1998	12.5	8.0
2003	12.0	8.2
2004	12.3	8.5
2005	12.4	8.5
2006	12.5	8.5
2007	12.5	8.9

1. Developed statistics from DLI data (see Appendix C). In previous reports, 1998 through 2001 were not shown because of data-quality issues. Those years are now included because DLI performed major edits of the data concerned.

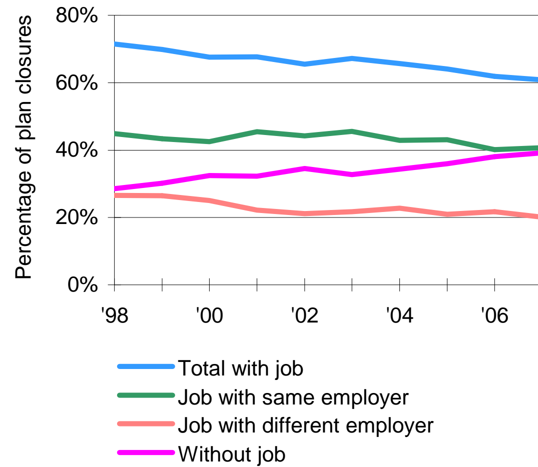
Return-to-work status: same vs. different employer

A key measure of VR performance is whether the injured workers receiving VR services return to work when the VR plans are closed. Return to work is affected by many factors, including the job market, injury severity, availability of job modifications and claim litigation. The percentage of VR participants with a job at plan closure decreased between 1998 and 2007.

- **The percentage of VR participants with a job at plan closure fell from 71 percent in 1998 to 61 percent in 2007.** This decline involved participants finding jobs with the same employer and those going to a different employer:
  - The percentage with a job at the same employer fell from 45 percent to 41 percent.
  - The percentage with a job at a different employer fell from 27 percent to 20 percent.

- Among plan closures in 2007, the average cost of VR services for participants returning to work with their pre-injury employer ($4,120) was less than half the cost for those going to a different employer ($10,850) and for those not returning to work ($8,890).[13]

Figure 4.5 Return-to-work status: same vs. different employer, injury years 1998-2007 [1]



Injury year	With job: Same employer	With job: Different employer	With job: Total with job	Without job
1998	44.9%	26.6%	71.4%	28.6%
2003	45.5	21.7	67.2	32.8
2004	42.9	22.8	65.7	34.3
2005	43.1	20.9	64.1	35.9
2006	40.2	21.7	61.9	38.1
2007	40.7	20.1	60.8	39.2

1. Developed statistics from DLI data (see Appendix C).

[13] These figures include private-sector providers and the VR unit of DLI.

Return-to-work status: type of job

Another way of viewing return-to-work status among VR participants is to consider the type of job for those employed at plan closure. The percentage of participants finding the same type of job as their pre-injury job dropped slightly between 1998 and 2007 (after peaking in 2003), while the percentage finding a different type of job fell significantly (mostly between 1998 and 2002).

- From 1998 to 2007, the percentage of participants finding a different type of job than their pre-injury job decreased from 31 percent to 23 percent.

- This decline seems to explain much of the decreasing percentage finding employment, and in this respect is similar to the decreasing percentage of participants going to a *different employer* (Figure 4.5).

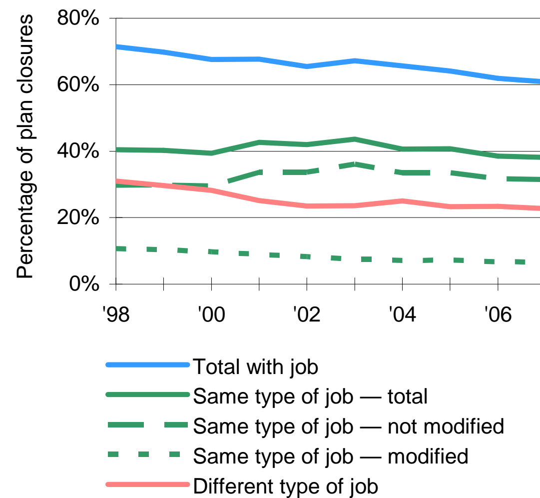
  - The trends in placements *with a different employer* (Figure 4.5) and placements *in a different type of job* (Figure 4.6) are similar because most placements with a different employer are in a different type of job, while most placements with the pre-injury employer are in the same type of job (with or without modifications).

- Most placements into the same type of job as the pre-injury job involve no job modifications, and this became increasingly true between 1998 and 2007.

- Among plan closures in 2007, the average cost of VR services for injured workers returning to the same type of job *without modifications* was $3,550, a third of the cost for injured workers returning to a different type of job ($10,500). The average service cost for injured workers returning to the same type of job *with modifications* was $5,820.[14]

[14] These figures include private-sector providers and the VR Unit of DLI.

Figure 4.6 Return-to-work status: type of job, plan-closure years 1998-2007 [1]



Injury year	With job				
	Same type of job			Different type of job	Total with job
	Not Modifed	Modifed	Total		
1998	29.7%	10.7%	40.4%	31.0%	71.4%
2003	36.1%	7.5%	43.6%	23.6%	67.2%
2004	33.5%	7.1%	40.6%	25.1%	65.7%
2005	33.5%	7.2%	40.7%	23.3%	64.1%
2006	31.8%	6.7%	38.5%	23.4%	61.9%
2007	31.5%	6.6%	38.1%	22.8%	60.8%

1. Developed statistics from DLI data (see Appendix C).

Return-to-work wages

The average return-to-work (RTW) wage of VR participants is about the same as their pre-injury wage. However, it varies widely depending on the type of RTW job.

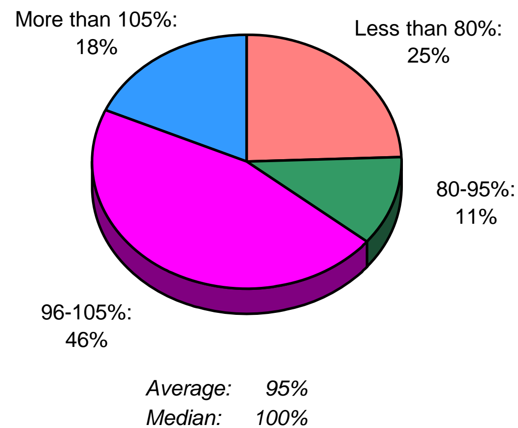
- In 2007, 64 percent of VR participants returning to work earned at least 96 percent of their pre-injury wage, but 25 percent earned less than 80 percent of their pre-injury wage.
- For workers having to find work with a different employer, average RTW wage fell from 93 percent in 2000 to 85 percent in 2004, but increased to 88 percent in 2007.
- For plan closures in 2007, the average RTW wage ratio was:
    - higher for participants who returned to their pre-injury employer (99 percent) than for those who went to a different employer (88 percent); and
    - highest for VR plans of less than six months' duration (100 percent) and progressively lower for longer service durations (e.g., 83 percent for plans longer than 18 months).

Reasons for plan closure

A majority of plans close because they are completed, but the percentage closing for this reason fell between 1998 and 2007.

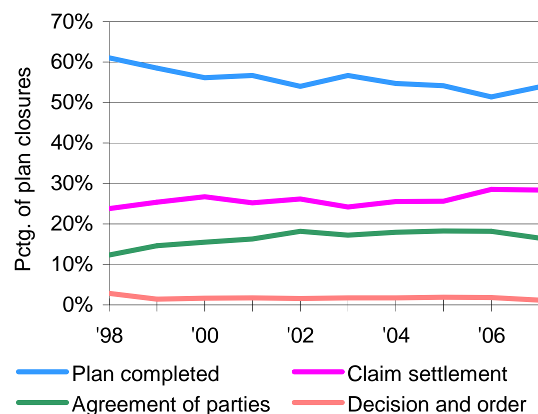
- **The proportion of plans closed because of plan completion fell from 61 percent in injury year 1998 to 54 percent in 2007. Most of the decrease was between 1998 and 2002.**
- The proportion of plans closed by agreement of the parties rose from 12 percent in 1998 to 18 percent in 2006, but decreased slightly in 2007.
- Plan completion almost always involves a return to work. For plans closed for reasons other than completion in 2007, participants returned to work only 28 percent of the time.
- Plan costs vary by type of closure: among closures in 2007, completed plans averaged $5,250; settlements, $10,690; decision-and-orders, $8,890; and agreements, $8,590.

Figure 4.7 Ratio of return-to-work wage to pre-injury wage for participants returning to work, plan-closure year 2007 [1]



1. Data from DLI.

Figure 4.8 Reason for plan closure, injury years 1998-2007 [1]



Injury year	Plan completed	Claim settlement	Agreement of parties	Decision-and-order
1998	61.0%	23.8%	12.3%	2.8%
2002	54.0%	26.2%	18.2%	1.6%
2003	56.7%	24.2%	17.3%	1.8%
2004	54.7%	25.5%	17.9%	1.8%
2005	54.2%	25.6%	18.3%	1.9%
2006	51.4%	28.5%	18.2%	1.8%
2007	53.9%	28.4%	16.5%	1.2%

1. Developed statistics from DLI data (see Appendix C).

5

Disputes and dispute resolution

This chapter presents data about workers' compensation disputes and dispute resolution. At the time this report was released, statistics about dispute filings and dispute-resolution activity through 2008 were available, and are therefore included.

Major findings

- **The overall dispute rate increased from 15.4 percent of filed indemnity claims in 1997 to 19.1 percent in 2007, a 24-percent increase (Figure 5.1). This occurred while the total number of paid claims decreased by an estimated 29 percent.[15]**

- After several years of relative stability, the rate of denial of filed indemnity claims fell from 16.7 percent in 2004 to 12.0 percent in 2007, a 28-pecent decrease. This decrease coincides with the initiation of the DLI denials project, in which DLI is requiring insurers that have not indicated reasons for claim denials in a manner compliant with statute and rules to do so (Figure 5.2).

- For wage-loss claims filed in 2007, the proportion with "prompt first action" (payment initiation or denial within the legal time limit) was 88 percent, an increase from 81 percent in 1997 (Figure 5.3).

- At DLI:
  - Dispute certification activity rose 95 percent from 1999 to 2008, in parallel with an increase in dispute certification requests (Figures 5.4 and 5.6).
  - Resolutions by agreement of the parties (usually through informal intervention) accounted for 79 percent of all resolutions in 2008. This was a decrease from 86 percent in 1999, but an increase from the 70 percent that occurred in 2006. Resolutions by decision-and-order (usually following an administrative conference) accounted for 21 percent of the resolutions in 2008 (Figure 5.10).

- At the Office of Administrative Hearings, the numbers of settlement conferences, discontinuance conferences, medical and rehabilitation conferences and hearings have fallen since 2001.[16] Hearings in 2008 were down 42 percent from 1997 (Figure 5.11).

- At the Workers' Compensation Court of Appeals, the number of cases received fell by more than half from 1997 to 2006 (Figure 5.12).

- The percentage of paid indemnity claims with claimant attorney fees rose from 14.8 percent in 1997 to 18.8 percent in 2007, a 27-percent increase (Figure 5.13).

Background

The following basic information is necessary for understanding the figures in this chapter. See Appendix A for more detail.

Types of disputes

Disputes in Minnesota's workers' compensation system generally concern one or more of the three types of workers' compensation benefits and services:

- monetary benefits,
- medical services and

[15] See note 8 on p. 9. The decrease in paid claims was estimated from DLI and MWCIA data.

[16] Data is not available for years prior to 2001.

- vocational rehabilitation services.[17]

The injured worker and the insurer may disagree over initial eligibility for the benefit or service, the level at which it should be provided or how long it should continue. Disputes may also occur over payment for a service already provided. Payment disputes typically involve a medical or vocational rehabilitation provider and the insurer, and may also involve the injured worker.

Depending on the nature of the dispute, the form on which it is filed, and the wishes of the parties, dispute resolution may be facilitated by a dispute-resolution specialist at the Department of Labor and Industry (DLI) or by a judge in the Office of Administrative Hearings (OAH). Administrative decisions from DLI or OAH can be appealed by requesting a *de novo* hearing at OAH; decisions from an OAH hearing can be appealed to the Workers' Compensation Court of Appeals (WCCA) and then to the Minnesota Supreme Court.

Dispute-resolution activities at the Department of Labor and Industry

DLI carries out a variety of dispute-resolution activities:

Informal intervention — Through informal intervention, DLI provides information or assistance to prevent a potential dispute, or communicates with the parties to resolve a dispute and/or determine whether a dispute should be certified. A resolution through intervention may occur either during or after the dispute certification process. The goal is to avoid a longer, more formal and costly process.

Dispute certification — In a medical or vocational rehabilitation dispute, DLI must certify that a dispute exists and that informal intervention did not resolve the dispute before an attorney may charge for services.[18] The certification process is triggered by either a certification request or a medical or rehabilitation request. DLI specialists attempt to resolve the dispute informally during the certification process.

Mediation — If the parties in a dispute agree to participate, a DLI specialist conducts a mediation to seek agreement on the issues. Any type of dispute is eligible. Mediation agreements are usually recorded in a "mediation award."

Administrative conference — DLI conducts administrative conferences on medical or vocational rehabilitation (VR) issues presented on a medical or rehabilitation request unless it has referred the issues to OAH or the issues have otherwise been resolved. DLI refers medical disputes involving more than $7,500 to OAH, and it may refer medical or VR disputes for other reasons.[19] The DLI specialist usually attempts to bring the parties to agreement during the conference. If agreement is not reached, the specialist issues a "decision-and-order." If agreement is reached, the specialist issues an "order on agreement." A party may appeal a DLI decision-and-order by requesting a *de novo* hearing at OAH.

Dispute-resolution activities at the Office of Administrative Hearings

OAH performs the following dispute-resolution activities:

Mediation — If the parties agree to participate, OAH offers mediation to seek agreement on the issues. Any type of dispute is eligible. Mediation agreements are usually recorded in a "mediation award."

Settlement conference — OAH conducts settlement conferences in litigated cases to achieve a negotiated settlement, where possible, without a formal hearing. If achieved, the settlement typically takes the form of a "stipulation for settlement." A stipulation for settlement is approved by an OAH judge; it may be incorporated into a mediation award or "award on stipulation," usually the latter.

Administrative conference — With some exceptions, OAH conducts administrative

[17] Disputes also occur over other types of issues, such as attorney fees, that do not directly affect the employee.

[18] Minnesota Statutes §176.081, subd. 1(c).

[19] Minnesota Statutes §176.106. The 2005 Legislature increased the monetary threshold for OAH jurisdiction in medical disputes from $1,500 to $7,500. DLI also refers medical disputes to OAH if surgery is involved, and it may refer medical or VR disputes if litigation is pending at OAH or the issues are unusually complex. Primary liability disputes are outside of administrative conference jurisdiction and must be filed on a claim petition, which leads to a settlement conference or hearing at OAH.

conferences on issues presented on a medical or rehabilitation request that have been referred from DLI (see above). In some cases, medical and rehabilitation request disputes referred from DLI are heard in a formal hearing (see below). OAH also conducts administrative conferences where requested by the claimant in a dispute over discontinuance of wage-loss benefits.[20] If agreement is not reached, the OAH judge issues a "decision-and-order." A party may appeal an OAH decision-and-order by requesting a *de novo* hearing at OAH.

Formal hearing — OAH holds formal hearings on disputes presented on claim petitions and other petitions where resolution through a settlement conference is not possible. OAH also conducts hearings on other issues, such as medical request disputes involving surgery, medical or rehabilitation request disputes that have complex legal issues or have been joined with other disputes by an order for consolidation, discontinuance disputes where the parties have requested a hearing, and disputes over miscellaneous issues such as attorney fees. OAH also conducts *de novo* hearings when a party files a request for hearing to appeal an administrative-conference decision-and-order from DLI or OAH. If the parties do not reach agreement, the judge issues a "findings-and-order."

Dispute resolution by the parties

Often, the parties in a dispute reach agreement outside of the dispute-resolution process at DLI or OAH, although this is often spurred by DLI or OAH initiatives such as the scheduling of proceedings. Sometimes the party initiating a dispute or an appeal of a decision-and-order withdraws the dispute or the appeal. Sometimes the parties agree informally, sometimes without notifying DLI or OAH. Often they settle by means of a stipulation for settlement, which may be reached while the dispute is at DLI or OAH. The stipulation for settlement is usually incorporated into an award on stipulation issued by an OAH judge.

Counting disputes

Four "dispute" categories are used in this report:

Claim petition disputes — Disputes about primary liability (see Appendix A) and indemnity benefit issues are typically filed on a claim petition, which triggers a formal hearing or settlement conference at OAH. Some medical and vocational rehabilitation disputes are also filed on claim petitions.

Discontinuance disputes — Discontinuance disputes are disputes over the discontinuance of wage-loss benefits. They are most often initiated when the claimant requests an administrative conference (usually by phone) in response to the insurer's declared intention to discontinue temporary total or temporary partial benefits. These disputes may also be presented on the claimant's *Objection to Discontinuance* form or the insurer's petition to discontinue benefits, either of which leads to a hearing at OAH.

Medical request disputes — Medical disputes are usually filed on a *Medical Request* form, which triggers an administrative conference at DLI or OAH after DLI certifies the dispute.

Rehabilitation request disputes — Vocational rehabilitation disputes are usually filed on a *Rehabilitation Request* form, which leads to an administrative conference at DLI (or in some circumstances OAH) after DLI certifies the dispute.

Many disputes, especially those handled by DLI through informal intervention, are not counted in these categories.

[20] Minnesota Statutes §176.239.

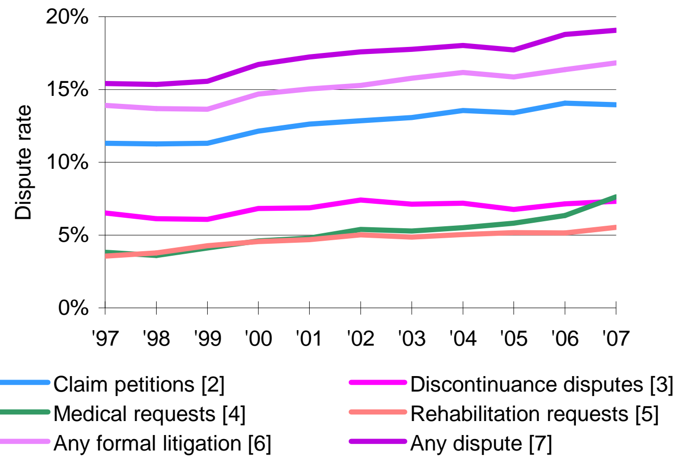
Dispute rates

After a period of stability from 1997 to 1999, the dispute rate rose sharply from 1999 to 2007. The increase was most pronounced for the proportion of claims with medical requests, which doubled during this period.

- The overall dispute rate increased from 15.4 percent in 1997 to 19.1 percent in 2007, a 24-percent increase.[21] During the same period:
  - the rate of claim petitions rose 2.7 percentage points (24 percent);
  - the rate of discontinuance disputes rose 0.8 point (12 percent);
  - the rate of medical requests rose 3.8 points (100 percent);
  - the rate of rehabilitation requests rose 1.9 points (55 percent); and
  - the rate of formal litigation rose 2.9 points (21 percent).

[21] See note 8 on p. 9.

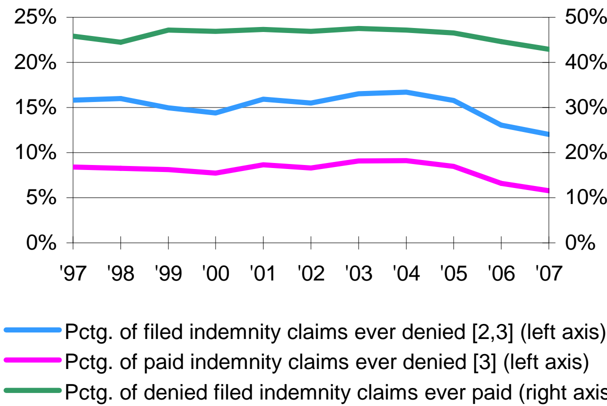
Figure 5.1 Incidence of disputes, injury years 1997-2007 [1]



Injury year	Dispute rate: Claim petitions [2]	Discontinuance disputes [3]	Medical requests [4]	Rehabilitation requests [5]	Any formal litigation [6]	Any dispute [7]
1997	11.3%	6.5%	3.8%	3.6%	13.9%	15.4%
1999	11.3	6.1	4.1	4.3	13.6	15.6
2003	13.1	7.1	5.3	4.9	15.8	17.8
2004	13.6	7.2	5.5	5.1	16.2	18.0
2005	13.4	6.8	5.8	5.2	15.9	17.7
2006	14.1	7.1	6.4	5.2	16.4	18.8
2007	14.0	7.3	7.6	5.5	16.8	19.1

1. Developed statistics from DLI data (see Appendix C).
2. Percentage of filed indemnity claims with claim petitions. (Filed indemnity claims are claims for indemnity benefits, whether ultimately paid or not.)
3. Percentage of paid wage-loss claims with discontinuance disputes.
4. Percentage of paid indemnity claims with medical requests.
5. Percentage of paid indemnity claims with rehabilitation requests.
6. Percentage of filed indemnity claims with disputes that lead to a hearing at OAH (unless the parties settle beforehand). These disputes include claim petitions, requests for formal hearing, objections to discontinuance, petitions to discontinue benefits, petitions for permanent total disability benefits and petitions for dependency benefits.
7. Percentage of filed indemnity claims with any disputes.

Figure 5.2 Indemnity claim denial rates, injury years 1997-2007 [1]



Injury year	Filed indemnity claims [2]		Paid indemnity claims		Pctg. of denied filed indemnity claims ever paid
	Total	Pctg. ever denied [3]	Total	Pctg. ever denied [3]	
1997	39,000	15.8%	33,700	8.4%	45.8%
2000	39,900	14.4	34,900	7.7	46.9
2003	31,900	16.5	27,700	9.1	47.5
2004	31,100	16.7	26,800	9.1	47.1
2005	31,000	15.8	26,900	8.5	46.5
2006	29,400	13.1	25,900	6.6	44.6
2007	28,000	12.0	24,900	5.8	42.9

1. Developed statistics from DLI data.
2. Filed indemnity claims are claims for indemnity benefits, including claims paid and claims never paid.
3. Denied claims include claims denied and never paid, claims denied but eventually paid and claims initially paid but later denied.

Denials

Denials of primary liability are of interest because they frequently generate disputes. After several years of moderate variation with no significant upward or downward trend, the denial rate turned sharply downward in 2006 and 2007.

- The rate of denial of filed indemnity claims was 12.0 percent in 2006, down 3.8 percentage points (24 percent) from 2005 and 4.7 points (28 percent) from its high point in 2004.

- The proportion of paid indemnity claims that had also been denied was roughly 8 to 9 percent from 1997 through 2005, but fell to 6.6 percent in 2006 and 5.8 percent in 2007. (These include cases denied and then paid plus cases paid and then denied.)

- Among filed indemnity claims with denials, the proportion ever paid ranged from 44 to 47 percent from 1997 through 2005, but fell from 47 percent to 43 percent between 2005 and 2007.

- These sharp decreases coincide with the initiation of the DLI denials project, which began in November 2005.[22] In this project, DLI is requiring insurers to indicate reasons for claim denials in a manner compliant with statute and rules where they have not done so. The pronounced decreases in the denial rates suggest insurers may be refraining from making some denials they otherwise would have made, believing those denials might not withstand DLI scrutiny.

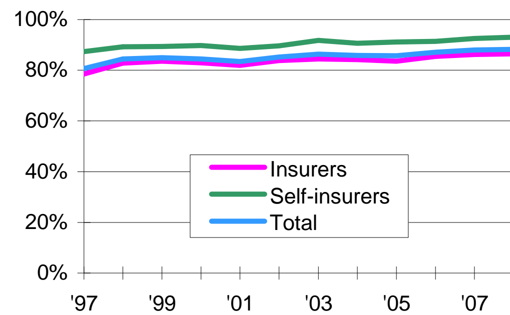
[22] See "DLI primary liability determination review process," in *COMPACT,* August 2006, www.dli.mn.gov/WC/PDF/0806c.pdf.

Prompt first action

Insurers must either begin payment on a wage-loss claim or deny the claim within 14 days of when the employer has knowledge of the injury.[23] This "prompt first action" is important not only for the sake of the injured worker, but also because disputes are less likely if the insurer responds promptly to the claim. The prompt-first-action rate has increased since 1997.[24]

- The fiscal year 2008 prompt-first-action rate was 88 percent, a 7-percentage-point increase from 1997.
- The prompt-first-action rate is higher for self-insurers than for insurers.

Figure 5.3 Percentage of lost-time claims with prompt first action, fiscal claim-receipt years 1997-2008 [1]



Fiscal year of claim receipt	Insurers	Self-insurers	Total
1997	78.5%	87.3%	80.7%
2004	84.2	90.7	85.9
2005	83.6	91.2	85.7
2006	85.5	91.4	87.1
2007	86.2	92.5	88.0
2008	86.5	93.0	88.3

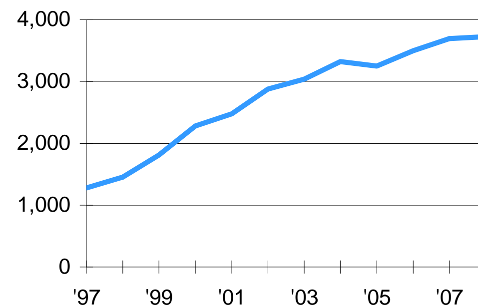
1. Computed from DLI data by DLI Benefit Management and Resolution. See DLI Benefit Management and Resolution, *2008 Prompt First Action Report.* Fiscal claim-receipt year means the fiscal year in which DLI received the claim. Fiscal years are from July 1 through June 30; for example, July 1, 2007 through June 30, 2008 is fiscal year 2008.

Dispute certification requests

The absolute numbers of disputes and of dispute certification requests are important for understanding data to be presented in Figures 5.6 through 5.12 about the volume of dispute-resolution activity at DLI, the Office of Administrative Hearings and the Workers' Compensation Court of Appeals.

- **The number of dispute certification requests grew from about 1,300 in 1997 to 3,700 in 2008.**
- These requests constitute only part of the demand for dispute certification at DLI because many medical and rehabilitation requests are not preceded by certification requests, but the dispute certification process still occurs in those cases.

Figure 5.4 Dispute certification requests filed, calendar years 1997-2008 [1]



Calender year	Requests filed
1997	1,280
2004	3,320
2005	3,250
2006	3,500
2007	3,690
2008	3,720

1. Data from DLI. Numbers rounded to nearest 10.

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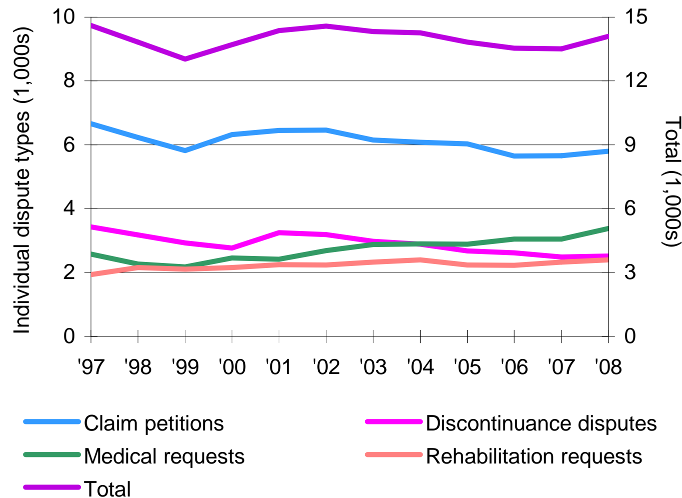
23 Minnesota Statutes §176.221.

24 In compliance with Minnesota Statutes §176.223, and to improve system performance, DLI publishes the annual *Prompt First Action Report* about the prompt-first-action performance of individual insurers and self-insurers and of the overall system.

Figure 5.5 Disputes filed, calendar years 1997-2008 [1]



Calendar year filed	Claim petitions		Discontinuance disputes		Medical requests		Rehabilitation requests		Total [2]
	Number	Pctg. of total	Number	Pctg. of total	Number	Pctg. of total	Number	Pctg. of total	
1997	6,660	46%	3,430	23%	2,580	18%	1,940	13%	14,610
2004	6,080	43	2,890	20	2,900	20	2,400	17	14,260
2005	6,030	44	2,680	19	2,890	21	2,230	16	13,830
2006	5,650	42	2,620	19	3,050	23	2,220	16	13,540
2007	5,650	42	2,490	18	3,050	23	2,320	17	13,520
2008	5,800	41	2,520	18	3,380	24	2,400	17	14,100

1. Data from DLI. Numbers rounded to nearest 10.
2. Total of those dispute types shown here.

Disputes filed

The numbers of claim petitions and of discontinuance disputes fell between 1997 and 2008; the numbers of medical and rehabilitation requests increased; the total number of these disputes fell slightly.

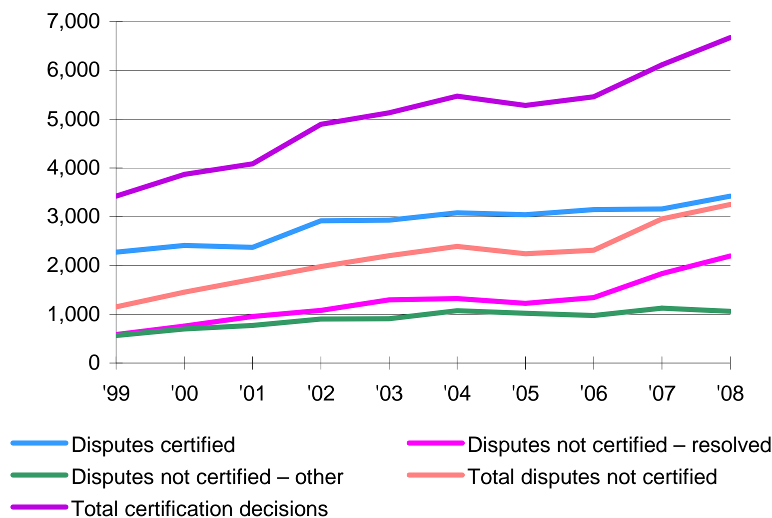
- From 1997 to 2008:
  - claim petitions fell 13 percent;
  - discontinuance disputes fell 27 percent;
  - medical requests rose 31 percent;
  - rehabilitation requests rose 24 percent; and
  - the total number of these disputes fell 3 percent.

- Because of these trends, the mix of dispute types changed dramatically from 1997 to 2008:
  - claim petitions fell from 46 percent to 41 percent of total disputes filed;
  - discontinuance disputes fell from 23 percent to 18 percent;
  - medical requests rose from 18 percent to 24 percent; and
  - rehabilitation requests rose from 13 percent to 17 percent.

- While claim petitions remained the most frequent dispute type in 2008, medical requests surpassed discontinuance disputes during the period examined as the second most frequent.

- These trends are the net result of higher dispute rates (Figure 5.1) and falling numbers of claims (Figure 5.2).

Figure 5.6 Dispute certification activity at the Department of Labor and Industry, calendar years 1999-2008 [1]



Calendar year	Disputes certified		Disputes not certified: Resolved		Disputes not certified: Other reasons		Disputes not certified: Total not certified		Total certification decisions
	Number	Pctg. of total	Number	Pctg. of total	Number	Pctg. of total	Number	Pctg. of total	
1999	2,270	66%	590	17%	570	17%	1,150	34%	3,420
2004	3,080	56	1,320	24	1,070	20	2,390	44	5,470
2005	3,040	58	1,220	23	1,020	19	2,240	42	5,280
2006	3,140	58	1,340	25	980	18	2,310	42	5,460
2007	3,160	52	1,830	30	1,120	18	2,960	48	6,110
2008	3,420	51	2,190	33	1,060	16	3,250	49	6,670

1. Data from DLI. Data not available before 1999. Numbers rounded to nearest 10.

Dispute certification

Dispute certification activity at DLI increased from 1999 to 2008.

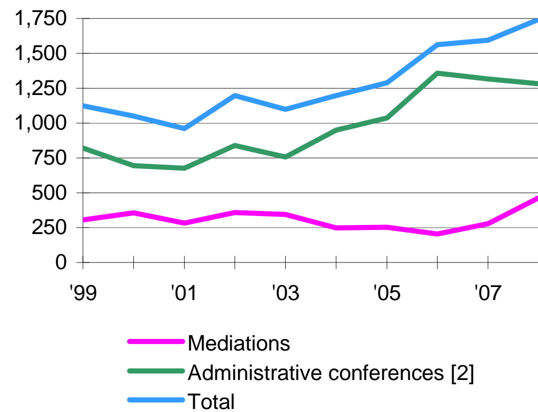
- DLI produced 6,670 certification decisions in 2008, an increase of 95 percent from 1999.
  - ➢ This parallels the increase in certification requests in Figure 5.4.
  - ➢ The number of certification decisions is greater than the number of certification requests in Figure 5.4 because many medical and rehabilitation requests are not preceded by certification requests, but dispute certification still occurs in those cases.
- Between 1999 and 2008, the percentage of disputes certified fell from 66 percent to 51 percent. This was primarily attributable to an increase in the percentage of disputes not certified because they were resolved.
- **Among the disputes not certified, the percentage resolved rose from 51 percent in 1999 to 67 percent in 2008. In the remaining cases not certified, no dispute was found to exist.**
- The large increases in 2007 and 2008 in disputes not certified because they were resolved coincides with recent changes in DLI: earlier identification of dispute resolution opportunities, greater emphasis on early dispute resolution, and more active management of the dispute resolution process.

Mediations and administrative conferences at DLI

The number of administrative conferences at DLI has increased since 1999, while the number of mediations has recently reversed a downward trend.

- From 1999 to 2008:
  - administrative conferences rose by 460;
  - mediations rose by 160; and
  - total conferences and mediations increased by 620.
- The increase in total conferences and mediations is to be expected in view of the increase in medical and rehabilitation requests during the same period (Figure 5.5). Another contributing factor is that, as mentioned above, the 2005 Legislature increased the monetary threshold for referring medical requests from DLI to OAH from $1,500 to $7,500.
- A shift from administrative conferences to mediations occurred between 2006 and 2008. This coincides with a recently increased emphasis at DLI on mediation and other early dispute-resolution activities.

Figure 5.7 Mediations and administrative conferences at the Department of Labor and Industry, calendar years 1999-2008 [1]



Calendar year	Mediations	Administrative conferences [2]	Total
1999	300	820	1,120
2004	250	950	1,200
2005	250	1,040	1,290
2006	200	1,360	1,560
2007	280	1,320	1,590
2008	460	1,280	1,740

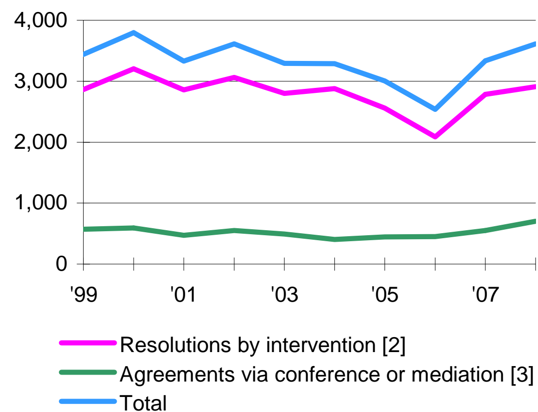
1. Data from DLI. Data not available before 1999. Numbers rounded to nearest 10.
2. Includes conferences where agreement was reached.

Resolutions by agreement at DLI

After declining from 1999 to 2006, the number of resolutions by agreement at DLI turned upward sharply in 2007.

- From 1999 to 2006, the total number of resolutions by intervention fell from 2,860 to 2,090. From 2006 to 2008, however, the number of these resolutions rose by nearly 1,070 to 3,610.
- The number of agreements via mediation or conference decreased from 1999 to 2004 and increased between 2004 and 2008.
- The total number of resolutions by agreement followed the same pattern as the number of resolutions by intervention.
- Recent enhancements in the DLI dispute-resolution process, described on page 32, probably explain at least some of the increase in resolutions by intervention and in agreements via mediation or conference in 2007 and 2008.

Figure 5.8 Resolutions by agreement at the Department of Labor and Industry, calendar years 1999-2008 [1]



Calendar year	Resolutions by intervention [2]	Agreements via mediation or con-ference [3]	Total
1999	2,860	570	3,440
2004	2,880	410	3,290
2005	2,560	440	3,000
2006	2,090	450	2,540
2007	2,780	550	3,330
2008	2,910	700	3,610

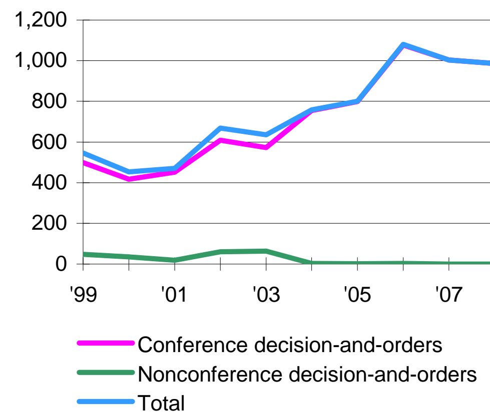
1. Data from DLI. Data not available before 1999. Numbers rounded to nearest 10.
2. These are instances in which a DLI specialist, through phone or walk-in contact or correspondence, resolved a dispute prior to a mediation or conference. Many of these resolutions occur through the dispute certification process.
3. These include mediation awards and other agreements.

Resolutions by decision-and-order at DLI

The number of resolutions by decision-and-order at DLI increased from 1999 to 2006 but reversed direction in 2007.

- The total number of decision-and-orders increased from 550 to 1,080 between 1999 and 2006, but fell back to 990 by 2008.
- The vast majority of decision-and-orders are via conference (there were no nonconference decision-and-orders in 2007 or 2008).
- The trend in conference decision-and-orders parallels the trend in administrative conferences (Figure 5.7).
- The decrease in decision-and-orders after 2006 coincides with the recently increased emphasis at DLI on mediation and other early dispute-resolution activities.

Figure 5.9 Resolutions by decision-and-order at the Department of Labor and Industry, calendar years 1999-2008 [1]



Calendar year	Conference decision-and-orders	Non-conference decision-and-orders	Total
1999	500	50	550
2004	760	60	760
2005	800	[2]	800
2006	1,080	[2]	1,080
2007	1,000	0	1,000
2008	990	0	990

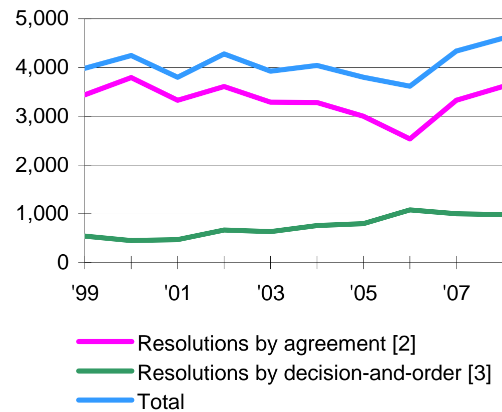
1. Data from DLI. Data not available before 1999. Numbers rounded to nearest 10.
2. Fewer than five cases.

Total resolutions at DLI

The total number of resolutions at DLI was higher in 2008 than in 1999. Resolutions by agreement rose between the two years, but resolutions by decision-and-order increased by a larger amount.

- Resolutions by agreement fell by 900 (26 percent) from 1999 to 2006, but by 2008 were 5 percent above their 1999 level.
- Resolutions by decision-and-order in 2008 were 81 percent higher than in 1999 after falling slightly from their peak in 2006.
- **Resolutions by agreement accounted for 79 percent of all resolutions in 2008. This was a decrease from 86 percent in 1999, but an increase from the 70 percent that occurred in 2006. As indicated in Figure 5.8, most resolutions by agreement are by intervention in disputes before they reach mediation or conference.**

Figure 5.10 Total resolutions at the Department of Labor and Industry, calendar years 1999-2008 [1]



Calendar year	Resolutions by agreement [2]		Resolutions by decision-and-order [3]		Total
	Number	Pctg.	Number	Pctg.	
1999	3,440	86%	550	14%	3,980
2004	3,290	81	760	19	4,040
2005	3,000	79	800	21	3,800
2006	2,540	70	1,080	30	3,620
2007	3,330	77	1,000	23	4,340
2008	3,610	79	990	21	4,600

1. Data from DLI. Data not available before 1999. Number rounded to nearest 10.
2. From Figure 5.8.
3. From Figure 5.9.

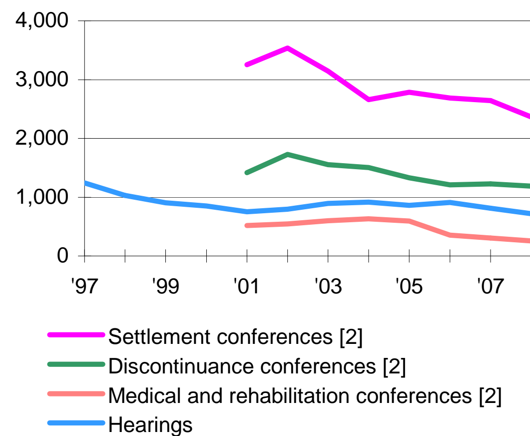
Dispute resolution at OAH

At OAH, the numbers of settlement conferences, discontinuance conferences, medical and rehabilitation conferences and hearings have fallen since 2001.

- From fiscal year 2001 to 2008:
  - settlement conferences fell by about 890 (27 percent);
  - discontinuance conferences fell by 230 (16 percent);
  - medical and rehabilitation conferences fell by 260 (50 percent); and
  - hearings decreased by 35 (5 percent).
- Hearings decreased substantially during the late 1990s. Hearings in 2008 were down by about 520 from 1997 (42 percent).
- The trends for discontinuance conferences and hearings roughly follow the associated dispute trends in Figure 5.5.[25]
- The decrease in medical and rehabilitation conferences between 2005 and 2006 is to be expected because, as mentioned earlier, the 2005 Legislature increased the monetary threshold for referring medical requests from DLI to OAH from $1,500 to $7,500.

[25]Claim petitions and hearings both fell between 1997 and 2007; discontinuance disputes (most of which involve requests for conference) and discontinuance conferences both fell between 2001 and 2008; total medical and rehabilitation requests and medical and rehabilitation conferences rose between 2001 and 2005. The relationship between medical and rehabilitation requests and OAH conferences is ambiguous because many medical conferences and most rehabilitation conferences occur at DLI. The relationship between settlement conferences and disputes is also ambiguous because these conferences involve all dispute types.

Figure 5.11 Dispute resolution activity at the Office of Administrative Hearings, fiscal years 1997-2008 [1]



Fiscal year	Settlement conferences [2]	Discontinuance conferences [2]	Medical and rehab conferences [2]	Hearings
1997				1,240
2001	3,254	1,415	516	753
2004	2,661	1,506	633	914
2005	2,784	1,328	595	860
2006	2,687	1,211	356	910
2007	2,643	1,224	306	814
2008	2,366	1,188	258	718

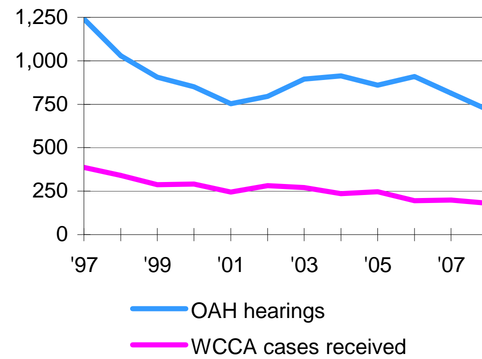
1. Data from OAH.
2. Not available before 2001.

OAH hearings and WCCA cases

Both OAH hearings and cases received at WCCA have declined since 1997.

- The number of cases received at WCCA fell by more than half from 1997 to 2008, from 386 to 180.
- This is a somewhat larger proportionate decline than for the number of hearings at OAH, which fell by 42 percent over the same period.

Figure 5.12 Hearings at the Office of Administrative Hearings and cases received at the Workers' Compensation Court of Appeals, fiscal years 1997-2008 [1]



Fiscal year	OAH hearings [2]	WCCA cases received [3]
1997	1,240	386
2001	753	245
2004	914	236
2005	860	247
2006	910	196
2007	814	199
2008	718	180

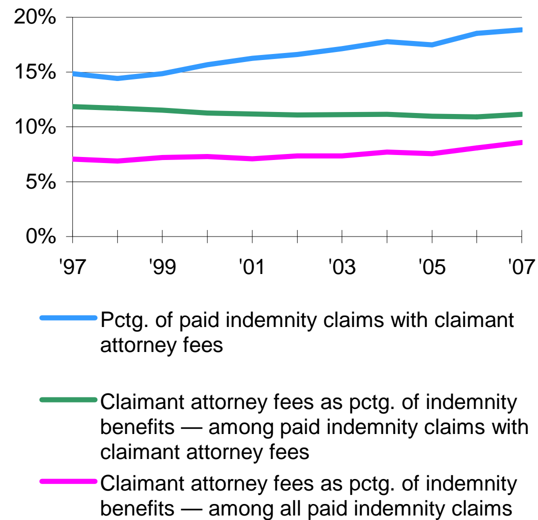
1. Data from OAH and WCCA.
2. From Figure 5.11.
3. Includes cases with and without oral arguments at WCCA. Both types of cases are usually disposed of by decisions but sometimes by settlement. Statistics are unavailable about the number of WCCA cases with oral arguments. Currently, about 35 percent of cases received have oral arguments. This percentage has risen over time.

Claimant attorney involvement

Claimant attorney involvement has increased since 1997.

- From 1997 to 2007, the percentage of paid indemnity claims with claimant attorney fees[26] rose from 14.8 percent to 18.8 percent, a 27-percent increase.[27] This parallels a similar increase in the dispute rate (Figure 5.1).
- Among paid indemnity claims with claimant attorney fees, the ratio of attorney fees to indemnity benefits fell from 11.8 percent to 11.1 percent during the same period.
- From 1997 to 2007, claimant attorney fees rose from 7.1 percent of total indemnity benefits to 8.6 percent.
- **Total claimant attorney fees are estimated at $34 million for injury year 2007. This represents 2.1 percent of total workers' compensation system cost for that year.**

Figure 5.13 Claimant attorney fees paid with respect to indemnity benefits, injury years 1997-2007 [1]



Injury year	Percentage of paid indemnity claims with claimant attorney fees	Claimant attorney fees as percentage of indemnity benefits: Among paid indemnity claims with claimant attorney fees	Claimant attorney fees as percentage of indemnity benefits: Among all paid indemnity claims
1997	14.8%	11.8%	7.1%
2003	17.1	11.1	7.3
2004	17.7	11.1	7.7
2005	17.5	11.0	7.5
2006	18.5	10.9	8.1
2007	18.8	11.1	8.6

1. Developed statistics from DLI data. Includes claimant attorney fees determined as a percentage of indemnity benefits plus additional amounts awarded to the claimant attorney upon application to a judge. See Appendix C.

[26] See note 1 in figure.
[27] See note 8 on p. 9.

6

Medical cost detail

An important finding from Chapter 2 is that between policy years 1997 and 2006, average medical benefits per insured claim grew 68 percent after adjusting for wage growth. This chapter presents additional statistics about medical costs. DLI Policy Development, Research and Statistics (PDRS) computed these statistics from detailed Minnesota workers' compensation medical cost data from a large insurer. The experience of this insurer is not necessarily a close representation of Minnesota's overall workers' compensation system. For example, partly because of active cost-control measures taken by this insurer (see p. 48), its medical cost increases have been less than those of the overall system. However, this insurer has still experienced large cost increases for some types of services and providers, and its experience should provide insight into many of the factors driving the state's workers' compensation medical costs.

The chapter presents analyses by service group and provider group.

Major findings

The following findings emerge from this insurer's data for injury years 1997 to 2007 (all cost figures are adjusted for average wage growth):

From the analysis by service group

- **Per-claim expenditures increased 71 percent for pathology and laboratory services, 55 percent for drugs, and 53 percent for outpatient facility services (Figure 6.3).**
- Of the $402 increase in total medical cost per claim, outpatient facility services accounted for $113 (27 percent), inpatient hospital facility services $70 (16 percent), radiology $64 (15 percent) and drugs $63 (15 percent) (Figure 6.3).
- The average cost of service per claim with service increased for all service groups (except "other" services). By contrast, the percentage of claims with service increased for some service groups and fell for others (Figure 6.4).
- The average nightly cost of inpatient hospital rooms rose 39 percent (Figure 6.5).
- Almost all service categories and subgroups showed an increase in the expensiveness of service mix. This was most pronounced for radiology (Figure 6.5).
- **Service and provider groups not subject to the fee schedule[28] showed the largest increases in cost per unit of service. A majority of the service and provider groups subject to the fee schedule showed decreases in unit cost (Figure 6.5).**

From the analysis by provider group

- Per-claim expenditures increased 22 percent for nonfacility providers and 17 percent for facility providers (Figure 6.7).
- In-state nonfacility providers contributed $191 (47 percent) of the overall increase of $402, while facility providers contributed $197 (49 percent) (Figure 6.7).[29]
- **The average cost of outpatient services (per claim with this type of service) fell 22 percent for large hospitals but increased**

[28] The term "fee schedule" in this report excludes the pharmacy reimbursement formula.

[29] The remaining 4 percent of the overall increase was from out-of-state providers.

19 percent for small hospitals. The average cost of inpatient services rose 28 percent for large hospitals and 25 percent for small hospitals. Averaged over all claims, costs for all small-hospital services rose 42 percent but for all large-hospital services rose only 2 percent (Figures 6.7 and 6.8).

General consideration

- These findings are strongly influenced by cost-control measures initiated or enhanced in recent years by the insurer concerned; these measures have primarily affected facility providers.

Background

Current cost-control mechanisms

The current mechanisms for controlling medical costs in Minnesota's workers' compensation system came about largely in the 1992 law changes and in rules following those changes. The three most important cost-control mechanisms (apart from procedures established by individual insurers) are the medical fee schedule, treatment parameters and the authorization to use certified managed care organizations.

Fee schedule — The fee schedule sets reimbursement limits for a range of medical services in nonhospital and outpatient large-hospital settings.[30] The schedule covers evaluation and management, surgery, radiology, pathology and laboratory services, physical medicine and rehabilitation, chiropractic manipulations and "other medicine."[31] It is a "relative value" schedule. It uses "relative value units" (RVUs) from Medicare adapted for Minnesota. The reimbursement limit for each service is the product of the RVU for that service and a "conversion factor" (CF) indicating the amount of allowable reimbursement per RVU. By law, the CF is adjusted each year by no more than the percent increase in the statewide average weekly wage (SAWW). From 1993 through 2001, the CF was adjusted by the percent increase in the SAWW; beginning in 2002, it has been adjusted by the percent change in the producer price index for physicians.[32]

A separate formula applies to reimbursement of pharmacy charges for nonhospital providers and for large hospitals in outpatient settings.[33] *The term "fee schedule" in this report excludes the pharmacy reimbursement formula.*

Generally, nonhospital services not covered by the fee schedule or pharmacy formula are reimbursed at 85 percent of the provider's "usual and customary charge" (U&C) for the service. All large-hospital inpatient services and those large-hospital outpatient services not covered by the schedule or pharmacy formula are also reimbursed at 85 percent of U&C. All small-hospital services are reimbursed at 100 percent of U&C. For services not covered by the fee schedule or pharmacy formula where the provider is not a small hospital, insurers may instead pay 85 percent of "prevailing charge." Prevailing charge must be computed from charges of similar in-state providers for the same service according to standards in rule.

Treatment parameters — The treatment parameters are guidelines for the treatment of low back pain, neck pain, thoracic back pain and upper extremity disorders. They cover diagnosis (including diagnostic imaging procedures),

[30] Large hospitals are those with more than 100 licensed beds.

[31] "Other medicine" includes certain services not in the above categories but with Current Procedural Terminology (CPT) codes (trademark of the American Medical Association). These include, among others, immunization, psychiatry, ophthalmology, cardiovascular and pulmonary tests and procedures, and neurology and neuromuscular tests and procedures.

[32] The fee schedule distinguishes among four service and provider groups: medical/surgical, physical medicine, pathology and laboratory, and chiropractic. Through Sept. 30, 2005, the RVUs for these groups were scaled relative to one another to bring about reimbursement levels mandated by the 1992 Legislature. By a law change effective Oct. 1, 2005, this is achieved instead through different conversion factors for the four groups.

[33] With two exceptions, the maximum reimbursement for drugs in nonhospital and outpatient large-hospital settings is the average wholesale price (AWP) plus a $5.14 dispensing fee (not to exceed the provider's retail price or usual and customary charge). Under a 2005 law change, insurers and self-insurers may negotiate rates with a pharmacy network through which the injured worker must fill prescriptions if the network includes a pharmacy within 15 miles of his or her home. Under a rule change effective April 2006, if electronic billing and payment occur according to standards, the maximum reimbursement in nonhospital and outpatient large-hospital settings is the lowest of 88 percent of AWP plus a $3.65 dispensing fee, the allowable reimbursement under the medical assistance program plus a $3.65 dispensing fee, or the provider's usual and customary charge.

conservative (nonsurgical) treatment, surgical treatment, inpatient hospitalization and chronic management.[34] The rules allow for treatments outside of the parameters if circumstances warrant. Insurers may deny payment for medical services outside of the parameters.[35]

Certified managed care organizations (CMCOs) — Employers and insurers may require workers (with certain exceptions) to obtain medical care for work injuries from providers in a CMCO network. CMCOs are certified by DLI on the basis of statutory criteria. Currently, there are three CMCOs in Minnesota.

Research data

The research data, from a large insurer, includes details about claimant characteristics, injury diagnosis, and medical treatment and cost.

A comparison of the research data with DLI claims data (representing the overall population of claims) shows a general similarity between the two with regard to broad industry group, claimant gender and age, and type of injury. However, compared to the overall population of claims, the research data has somewhat higher proportions of men, younger workers and claims in the construction and retail sectors. Some of these differences disappear when self-insured claims (in the overall claim population) are removed from the comparison.[36]

Analytical approach

To analyze the major contributing factors to medical cost and to medical cost increases, this study first employs a service categorization and then a provider categorization.

The following categories are used in the analysis by service group:

- evaluation and management (e.g., office visits, consultations, emergency room visits, visits with hospital patient);
- surgery;
- anesthesia;
- radiology;
- pathology and laboratory services;
- chiropractic manipulations;
- physical medicine;[37]
- drugs (prescription and nonprescription drugs for use at home or in patient-care settings);
- equipment and supplies;
- inpatient hospital facility services (those not included in the above categories);
- outpatient facility services (those not included in the above categories); and
- other services.[38]

Inpatient hospital facility services and outpatient facility services are limited to services not listed separately, such as the use of the facility itself. Although other services listed may sometimes be provided by the facility (as opposed to an outside provider performing the service in the facility), they are not "facility services" *per se*. Outpatient facilities include hospital outpatient facilities and ambulatory surgical centers (ASCs).[39]

Each service group encompasses all services of the indicated type regardless of provider. For most service groups, the analysis considers relevant subcategories usually relating to provider type. For service groups included in the fee schedule, providers are split into those subject to the schedule and those not. Providers subject to the schedule include all nonhospital providers (including ASCs) other than nursing homes, plus large hospitals where the service is provided in an outpatient setting. Providers not subject to the schedule include small hospitals, large hospitals where the service is provided in an inpatient setting and nursing homes. For drugs, providers are divided into those subject to the drug reimbursement formula and those not.[40]

For service groups not covered by the fee schedule, the analysis distinguishes between facility and nonfacility providers, where facilities include hospitals and ASCs. For outpatient facility services, hospitals and ASCs

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[34] The parameters concerning chronic management, some hospitalizations and some imaging procedures apply to all injuries.

[35] Medical providers may appeal a denial of payment.

[36] Details available upon request from DLI PDRS.

[37] Includes physical therapy and occupational therapy regardless of provider. Osteopathic manipulations are included in "other services."

[38] Includes "other medicine" (see note 31) and several miscellaneous services such as transportation and dentistry. "Other medicine" and "other services" were treated as separate categories in last year's report, but are now combined.

[39] For Minnesota workers' compensation purposes, ASCs are defined in Minn. Rules part 5221.0100.

[40] See note 33.

are considered separately. For inpatient hospital facility services, the analysis distinguishes between overnight room and other services.

The following categories are used in the analysis by provider group:

- in-state nonfacility providers;
- in-state facility providers; and
- out-of-state providers.

In-state and out-of-state providers are distinguished because the latter are not subject to the same workers' compensation cost-control provisions as in-state providers. Facility providers are divided into large and small hospitals (and further into inpatient vs. outpatient settings), ASCs and nursing homes. Services provided by nonfacility providers and in large-hospital outpatient settings are further divided into those covered by the fee schedule and those not.

The analysis presents data by year of injury for injury years 1997 to 2007 (the most recent year in the research data).[41] It uses 1997 as the base year because 1997 is the earliest year in a period of relatively low medical costs in both the overall insurance data and the research data.

As elsewhere in the report, the statistics are presented at a uniform maturity to be comparable over time. In this chapter, the uniform maturity is somewhat less than five and a half years after the date of injury. For injury years too recent for this level of maturity to have been actually attained, the statistics are "developed," meaning they contain projection factors based on observed data for older claims to transform them to the specified maturity level (see Appendix C).

Because the composition of claims changes over time with respect to gender, age and injury type, all statistics are adjusted for changes in these factors. In addition, as throughout the report, trends in cost per claim are adjusted for average wage growth.[42] Because of these adjustments, the statistics in this chapter show how medical cost and service utilization would have changed during the period examined if gender, age and injury type had remained constant, and they show the degree to which costs have increased faster than general wage growth. Thus, the statistics do not exactly represent trends in actual cost and utilization. Instead, they represent trends due to factors other than changing gender, age and injury type and, where costs are concerned, trends relative to general wage growth.

Terminology

The cost numbers in this chapter do not represent full medical cost for the claims in question, because the numbers are based on payments only, as opposed to payments plus reserves, and the numbers are developed only to a moderate maturity (five and a half years). However, this chapter uses the term "medical cost" for consistency with the remainder of the report.

Throughout the analysis, a distinction is made between the average cost of a type of service *for claims with that service* and the average cost of the service *for all claims*. The latter is important for understanding the contribution of the service group to total medical cost. It is the product of the percentage of claims with the service and the average cost of the service for claims with the service. For convenience, the discussion refers to the average cost of a service for all claims as the cost of the service "per total claim." The same distinction and terminology are used in the analysis by provider group.

[41] See definition of injury year data in Appendix A.

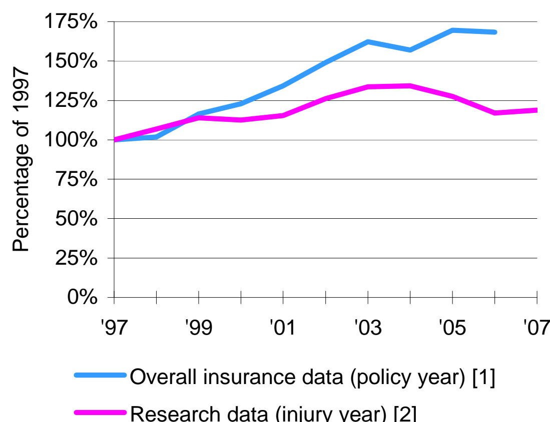
[42] See "Adjustment of cost data for wage growth" in Chapter 1 for rationale. See Appendix C for computational details.

Overall medical cost trend in research data

Average workers' compensation medical cost per claim was lower and grew more slowly in the research data than in the overall insurance data (Figure 6.1).

- Adjusted for average wage growth, average medical cost per claim in the overall insurance data grew by 68 percent from 1997 to 2006; in the research data it grew by 17 percent during the same period. Allowing for the slight increase in 2007, average medical cost per claim in the research data was 19 percent higher in that year than in 1997.
- For two reasons, the comparison between the research data and the overall insurance data should be viewed with caution:
  - The research data reflects payments only, while the overall insurance data reflects payments plus reserves set aside by insurers to cover expected future costs of the claims concerned. This adds to the average cost per claim in the overall insurance data, and could affect the rate of change in cost per claim in the overall insurance data as well.
  - As previously indicated, the trends in the research data are statistically adjusted to remove the effects of changes in age, gender and injury mix over time; this is not true of the overall insurance data. If, for example, an aging claimant population tends to increase average medical cost, this would be reflected in the overall insurance data but not in the research data.[43]

Figure 6.1 Average medical cost per claim: overall insurance data and research data, 1997-2007



Policy or injury year	Overall insurance data (policy year) [1]		Research data (injury year) [2]	
	Amount per claim	Pctg. of 1997	Amount per claim	Pctg. of 1997
1997	$2,600	100.0%	$2,130	100.0%
1998	2,650	101.8	2,280	106.8
1999	3,030	116.4	2,430	113.9
2000	3,200	122.8	2,400	112.6
2001	3,500	134.2	2,460	115.3
2002	3,880	149.1	2,690	126.2
2003	4,230	162.3	2,850	133.7
2004	4,090	157.0	2,860	134.3
2005	4,420	169.5	2,720	127.6
2006	4,390	168.4	2,490	116.9
2007	[3]	[3]	2,530	118.8

1. From Figure 2.4.
2. Developed statistics computed from data from a large insurer with fixed weights for gender, age and type of injury. Costs are adjusted for average wage growth between the respective year and 2007. (See text.)
3. Not yet available.

43 When alternative computations are done on the research data allowing age and gender to vary in the same manner as for all insured claims (as indicated by DLI data), average adjusted medical cost per claim in the research data increases 24 percent from 1997 through 2006 and 27 percent from 1997 through 2007, as opposed to 17 and 19 percent without this modification. (Injury mix is still held constant in the alternative calculation.) This is expected because average claimant age increases during the period. Even with this modification, however, the cost increases in the research data are substantially less than in the overall insurance data.

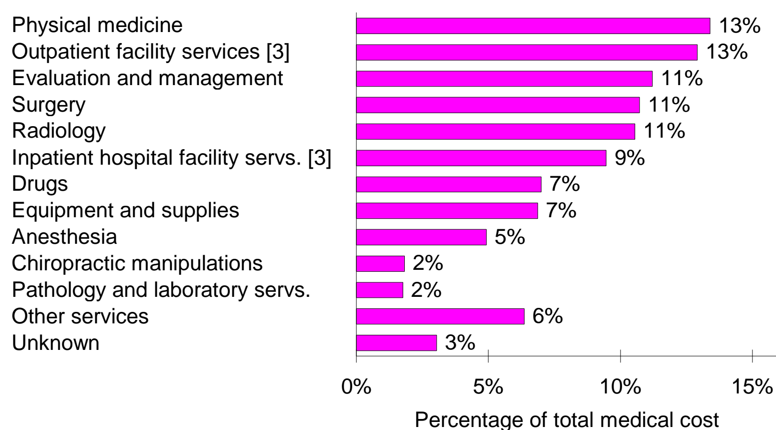
Service group analysis: current cost distribution

The cost of each service group per total claim is the product of (1) the percentage of claims with that type of service and (2) the average cost of that service per claim with the service.

The largest components of total medical cost for injury year 2007 were physical medicine and outpatient facility services (Figure 6.2).

- Physical medicine and outpatient facility services each accounted for 13 percent of total medical cost for 2007.
- The most prevalent types of service (according to the percentage of claims with the service) were evaluation and management (84 percent of claims), drugs (46 percent) and radiology (43 percent).
- **The types of service with the greatest average cost (per claim with the service) were inpatient hospital facility services ($12,120), anesthesia ($1,900) and physical medicine ($1,370).**
- For some service groups, the cost per claim with service varies widely by provider type. This may occur because of differences in quantity of service per claim, complexity of service or cost per unit of service.
    - Notably, outpatient facility services cost $3,400 per claim with service for ASCs, compared to $730 for outpatient hospital facilities. Determining the meaning of this

Figure 6.2 Medical cost per claim by service group, injury year 2007 [1]



Service group [2]	Pctg. of claims w/ service	Cost per claim w/ service	Cost per total claim	Pctg. of total cost
Physical medicine	25%	$1,370	$340	13%
Providers subject to fee sched. —				
Nonchiropractic providers	*15*	*1,360*	*200*	*8*
Chiropractic providers	*8*	*410*	*30*	*1*
Providers not subj. to fee sched.	*6*	*1,840*	*100*	*4*
Outpatient facility services [3]	34	960	330	13
Outpatient hospital facilities	*32*	*730*	*230*	*9*
Ambulatory surgical centers	*3*	*3,400*	*90*	*4*
Evaluation and management	84	340	280	11
Providers subject to fee schedule	*81*	*330*	*270*	*11*
Providers not subj. to fee schedule	*5*	*260*	*10*	*0.5*
Surgery	33	830	270	11
Providers subject to fee schedule	*31*	*840*	*260*	*10*
Providers not subj. to fee schedule	*2*	*660*	*20*	*0.6*
Radiology	43	620	270	11
Providers subject to fee schedule	*40*	*440*	*180*	*7*
Providers not subj. to fee schedule	*10*	*910*	*90*	*4*
Inpatient hospital facility services [3]	2	12,120	240	9
Overnight room [4]	*2*	*3,710*	*70*	*3*
Other	*2*	*8,660*	*170*	*7*
Drugs	46	390	180	7
Providers subj. to reimb. formula [5]	*39*	*280*	*110*	*4*
Providers not subj. to formula [5]	*11*	*580*	*70*	*3*
Equipment and supplies	31	560	170	7
Nonfacility providers	*19*	*340*	*60*	*2*
Facility providers	*16*	*680*	*110*	*4*
Anesthesia	7	1,900	120	5
Nonfacility providers	*6*	*1,280*	*80*	*3*
Facility providers	*4*	*1,120*	*50*	*2*
Chiropractic manipulations	9	500	50	2
Pathology and laboratory services	9	520	40	2
Other services	26	630	160	6
Unknown	18	420	80	3
Total	100%	$2,530	$2,530	100%

1. Computed from data from a large insurer (see Appendix C).
2. See text (p. 42) for additional detail about service groups and subcategories.
3. The costs of "facility services" shown here are only for use of the facility and do not include costs of other services (e.g., evaluation and management, radiology, anesthesia) provided by the facilities concerned, and are therefore less than the costs attributed to facility providers in Figure 6.6.
4. Excludes intensive care unit.
5. See note 33 in text.

difference will require further analysis.[44]

Service group analysis: major contributors to cost increase

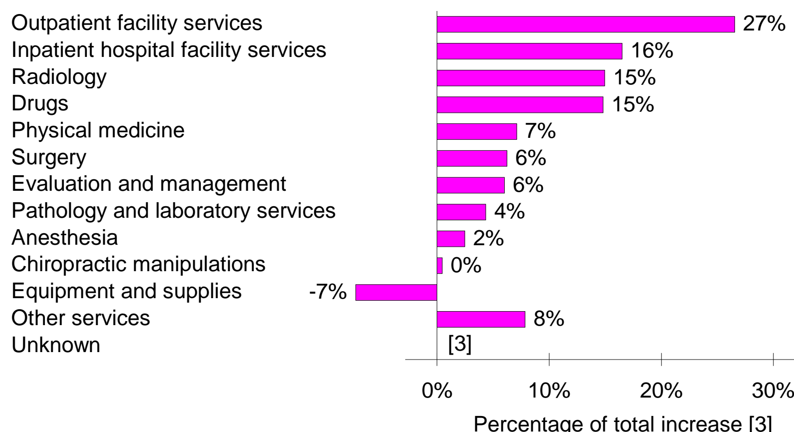
Pathology and laboratory services, drugs and outpatient facility services showed the largest *percent increases* in cost per total claim from 1997 to 2007. However, outpatient facility services and inpatient hospital facility services contributed the largest *amounts* to the overall increase in cost per total claim (Figure 6.3).

- After adjusting for average wage growth, cost per total claim increased 71 percent for pathology and laboratory services, 55 percent for drugs, and 53 percent for outpatient facility services.

- Of the $402 increase in total medical cost per claim, outpatient facility services accounted for $113 (27 percent), inpatient hospital facility services $70 (16 percent), radiology $64 (15 percent) and drugs $63 (15 percent). These contributions to the increase in cost per total claim depend on both the *percent increase* in the cost of the service per total claim (column one of Figure 6.3) and the *percentage of total cost* accounted for by the service in 1997, the base year of the analysis period (the 2007 percentage of total cost is in column four of Figure 6.2).

[44] Part of the difference may relate to the complexity of the surgical procedures. For example, in 2007, 41 percent of the procedures at outpatient hospital facilities were simple wound repairs, as opposed to none at ASCs.

Figure 6.3 Contributions of service groups to overall change in total medical cost per total claim between injury years 1997 and 2007 [1]



Service group [2]	Percent change in cost per total claim	Amount of change in cost per total claim	Percentage of total cost increase [3]
Outpatient facility services	53%	$113	27%
Outpatient hospital facilities	*19*	*38*	*9*
Ambulatory surgical centers	*445*	*76*	*18*
Inpatient hospital facility services	42	70	16
Overnight room [4]	*3*	*2*	*0*
Other	*69*	*69*	*16*
Radiology	31	64	15
Providers subject to fee schedule	*18*	*27*	*6*
Providers not subj. to fee schedule	*67*	*37*	*9*
Drugs	55	63	15
Providers subj. to reimb. formula [5]	*59*	*41*	*10*
Providers not subj. to formula [5]	*50*	*22*	*5*
Physical medicine	10	30	7
Providers subject to fee sched. —			
Nonchiropractic providers	*0*	*0*	*0*
Chiropractic providers	*1*	*0*	*0*
Providers not subj. to fee sched.	*41*	*30*	*7*
Surgery	11	27	6
Providers subject to fee schedule	*11*	*26*	*6*
Providers not subj. to fee schedule	*1*	*0*	*0*
Evaluation and management	10	26	6
Providers subject to fee schedule	*13*	*30*	*7*
Providers not subj. to fee schedule	*-24*	*-4*	*-1*
Pathology and laboratory services	71	18	4
Anesthesia	9	11	2
Nonfacility providers	*27*	*16*	*4*
Facility providers	*-11*	*-6*	*-1*
Chiropractic manipulations	4	2	0
Equipment and supplies	-15	-31	-7
Nonfacility providers	*21*	*11*	*3*
Facility providers	*-27*	*-42*	*-10*
Other services	26	33	8
Unknown	-24	-25	[3]
Total	19%	$402	100%

1. Developed statistics computed from data from a large insurer with fixed weights for gender, age and type of injury. Costs are adjusted for average wage growth between 1997 and 2007 (see Appendix C).
2. See text (p. 42) for more detail about service groups and provider subcategories.
3. The percent contribution to the total cost change is computed over services with reported (known) type.
4. Excludes intensive care unit.
5. See note 33 in text.

- Under outpatient facility services, cost per total claim increased 445 percent for ASCs as opposed to 19 percent for outpatient hospital facilities.[45] ASCs contributed 18 percent of the total cost increase, compared to 9 percent for outpatient hospital facilities.

- For radiology, cost per total claim increased 37 percent for providers not subject to the fee schedule as opposed to 27 percent for providers subject to the fee schedule.

- For drugs, cost per total claim increased 41 percent for providers subject to the reimbursement formula as opposed to 22 percent for providers not subject to the formula. As noted below, this difference at least partly reflects cost-control measures taken by the insurer concerned with respect to facility providers.[46]

Service group analysis: sources of cost change per total claim

The change in the cost of a type of service per total claim (column 1 of Figure 6.3) can be expressed as the product of two components: (1) the change in the percentage of claims with that service and (2) the change in the average cost of the service for claims with the service (the latter is analyzed more fully below). Figure 6.4 presents these statistics in summary form; Figure 6.4-A (p. 56) shows the associated annual trends.

The relative importance of the two components in explaining the change in the cost of a service per total claim varies with the service group and with the provider subcategory within the service group.

- The average cost of service per claim with service increased for all service groups except "other" services, combining provider subgroups. By contrast, the percentage of claims with service increased for some service groups and fell for others.
  - For outpatient hospital facility services, radiology and drugs, the increase in cost per total claim resulted from increases in both the percentage of claims with service and average cost per claim with service.
  - For inpatient hospital facility services, physical medicine and some other services, the increase in cost per total claim was the combined effect of an increase in average cost per claim with the service and a decrease (or small change) in the percentage of claims with the service. For surgery, the increase in cost per total claim resulted primarily from an increase in the percentage of claims with the service.

- Significant variation occurs by provider type.
  - Within outpatient facility services, ASCs showed a far larger increase than did outpatient hospital facilities in the percentage of claims with service (335 percent vs. 24 percent) and in the cost of service per claim with service (25 vs. -4 percent). The large percent increase in the percentage of claims with ASC facility services occurred primarily because only 0.6 percent of claims had ASC facility services in 1997.[47]
  - Within anesthesia, nonfacility providers showed a 22-percent increase in average cost per claim with service, while facility providers showed a 5-percent *decrease.* Largely as a result, cost per total claim rose 27 percent in the one category but fell 11 percent in the other.

- These figures are strongly affected by cost-control measures taken in recent years by the insurer concerned. As shown in Figure 6.4-A (p. 56), the cost of service per claim with service either turned sharply downward or halted a rapid increase in injury year 2004 or 2005 for outpatient facility services (hospital and ASC), inpatient hospital facility services (other than overnight room), radiology (noncovered providers), drugs (providers not subject to the reimbursement formula), physical medicine (noncovered providers),

[45] As shown in Figure 6.4, the increase for ASCs resulted primarily from an increase in the proportion of claims using ASCs.

[46] As previously indicated, the pharmacy reimbursement formula applies to nonhospital providers and large hospitals in outpatient settings. Providers not subject to the formula consist of large hospitals in inpatient settings and small hospitals.

[47] The 3-percent figure for 2006 (Figure 6.2) is a rounded version of the more exact number, 2.7 percent, which is 335 percent greater than the 1997 figure of 0.6 percent.

Figure 6.4 Components of change in cost per total claim by service group between injury years 1997 and 2007 [1]

Service group [2]	Change in percentage of claims with service	Change in cost of service per claim with service	Change in cost of service per total claim [3]
Outpatient facility services (27%)	29%	19%	53%
Outpatient hospital facilities (9%)	*24%*	*-4%*	*19%*
Ambulatory surgical centers (18%)	*335% [8]*	*25%*	*445% [8]*
Inpatient hospital facility services (16%)	-2%	45%	42%
Overnight room (0%) [4]	*-1%*	*4%*	*3%*
Other (16%)	*2%*	*65%*	*69%*
Radiology (15%)	7%	23%	31%
Providers subject to fee schedule (6%)	*4%*	*13%*	*18%*
Providers not subj. to fee sched. (9%)	*19%*	*40%*	*67%*
Drugs (15%)	21%	28%	55%
Provs subj to reimb formula (10%) [5]	*23%*	*29%*	*59%*
Provs not subj to reimb formula (5%) [5]	*27%*	*18%*	*50%*
Physical medicine (7%)	-7%	18%	10%
Providers subject to fee sched. —			
Nonchiropractic providers (0%)	*-9%*	*10%*	*0%*
Chiropractic providers (0%)	*-10%*	*13%*	*1%*
Providers not subj. to fee sched. (7%)	*3%*	*37%*	*41%*
Surgery (6%) [6]	10%	1%	11%
Evaluation and management (6%) [7]	1%	8%	10%
Pathology and laboratory servs. (4%)	-2%	75%	71%
Anesthesia (2%)	1%	9%	9%
Nonfacility providers (4%)	*4%*	*22%*	*27%*
Facility providers (-1%)	*-6%*	*-5%*	*-11%*
Chiropractic manipulations (0%)	-8%	14%	4%
Equipment and supplies (-7%)	-24%	12%	-15%
Nonfacility providers (3%)	*-31%*	*76%*	*21%*
Facility providers (-10%)	*-20%*	*-10%*	*-27%*
Other services (8%)	68%	-25%	26%
Total (100%)	0%	19%	19%

1. Developed statistics computed from data from a large insurer with fixed weights for gender, age and type of injury. Costs are adjusted for average wage growth between 1997 and 2007 (see Appendix C).
2. See text (p. 42) for more detail about service groups and provider subcategories. Percent contribution to overall cost increase per total claim (from Figure 6.3) is in parentheses.
3. Equal to the "product" of the first two columns. Technically, col. 3 = (1 + col. 1) x (1 + col. 2) - 1. An approximation (when the percentages are small) is that column 3 is roughly equal to the sum of the first two columns.
4. Excludes intensive care unit.
5. See note 33 in text.
6. Provider groups are not shown under surgery because providers not subject to the fee schedule in this group accounted for only 0.6 percent of total medical cost in 2007 (Figure 6.2).
7. Provider groups are not shown under evaluation and management because providers not subject to the fee schedule in this group accounted for only 0.5 percent of total medical cost in 2007 (Figure 6.2).
8. A bar is not shown here because its length is out of the range for other services and subcategories.

pathology and laboratory services, anesthesia (especially facility providers), and equipment and supplies. In addition, the percentage of claims with service turned downward for inpatient hospital facility services (overnight room and other) and anesthesia (especially facility providers). Around the time of these changes, the insurer concerned initiated or expanded several cost-control measures for facility providers, including bill review,[48] use of networks and application of prevailing charge.[49]

[48] Bill review seeks to confirm the reasonableness and necessity of services provided and the appropriateness of service coding and reported quantity of service by examining medical records and other information.

[49] As previously indicated, prevailing charge may be used for non-fee-scheduled services with providers other than small hospitals. Data for applying prevailing charge has only recently become commercially available.

Service group analysis: sources of cost change per claim with service

The change in the average cost of a service per claim with that service (second column of bars in Figure 6.4) is the product of the changes in (1) average units of service per claim with the service, (2) average cost per unit (for a given service mix) and (3) the expensiveness of the service mix. Changes in average service costs were divided into these components for those service groups for which it was feasible (see Appendix C). Figure 6.5 shows the results; Figure 6.5-A (p. 63) presents the associated annual trends.

A note on service mix: Each service group encompasses a range of particular services that vary widely in cost because of complexity, skill demands, and use of time and other resources. The expensiveness of the service mix measures the degree to which the services provided tend to be the more costly ones within the group.[50]

- For radiology, an increasingly expensive service mix (up 34 percent), and to a lesser degree an increase in the units of service per claim with service (up 12 percent), counteracted a decrease in the cost per unit of service (down 18 percent) to produce a 23-percent increase in the cost of service per claim with service.

- Similarly for surgery, increases in the expensiveness of the service mix and in the units of service per claim with service counteracted a decrease in cost per unit of service, producing in this case a near-zero change in the cost of service per claim with service.

- For physical medicine, a 10-percent increase in units of service per claim with service accounted for about half of the 18-percent increase in cost per claim with service.

- For inpatient hospital rooms, a 39-percent increase in unit cost (cost per night) was counteracted by a 27-percent decrease in average units per claim, resulting in a net 4-percent increase in cost per claim with service.

[50] See note 4 in Figure 6.5.

- For evaluation and management (E&M) overall, given the 4-percent decrease in cost per unit of service, a majority of the 8-percent increase in cost per claim with service came from a more expensive service mix.

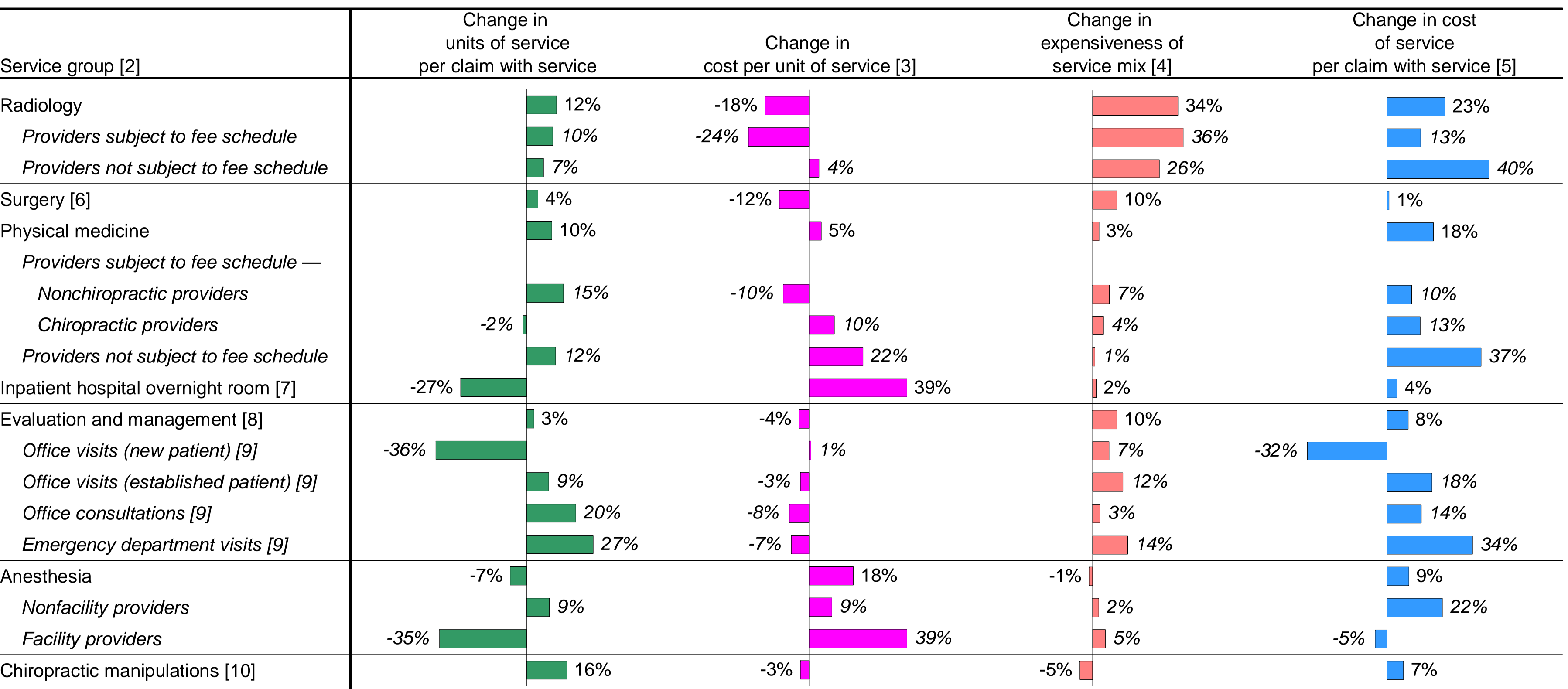
    - Major variation occurred within E&M. New-patient office visits per claim with any E&M service fell by 36 percent, while the other three E&M subgroups showed increases of 9 to 27 percent in their frequency per claim with E&M service.[51] In absolute terms, new-patient office visits decreased by about the same frequency by which established-patient visits increased.[52] Since reimbursement limits are lower for established-patient visits than for new-patient visits, this change may have resulted from increased compliance with rules for coding the two types of visits.
    - The 10-percent increase in service mix expensiveness for E&M overall reflects changes in service mix both within and across the four subgroups. Office consultations are the most expensive of the four subgroups, followed by emergency department visits, new-patient office visits and established-patient office visits.[53] Thus, the increased use of consultations and emergency department visits tends to increase the expensiveness of the overall E&M service mix, while the shift from new-patient to established-patient office visits tends to decrease it.

- For anesthesia, a 18-percent increase in cost per unit of service was partly counteracted by a decrease in units of services per claim with service.

- Almost all service categories and subgroups showed an increase in the expensiveness of service mix. This was most pronounced for radiology. The one exception was chiropractic manipulations, with a 5-percent decrease in the service-mix expensiveness.

[51] See note 8 in Figure 6.5.
[52] The percent change for established-patient visits is smaller than for new-patient visits because of higher initial frequency for established-patient visits.
[53] This is based on computations of the data.

Figure 6.5 Components of change in cost per claim with service for selected service groups between injury years 1997 and 2007 [1]



Service group [2]	Change in units of service per claim with service	Change in cost per unit of service [3]	Change in expensiveness of service mix [4]	Change in cost of service per claim with service [5]
Radiology	12%	-18%	34%	23%
Providers subject to fee schedule	*10%*	*-24%*	*36%*	*13%*
Providers not subject to fee schedule	*7%*	*4%*	*26%*	*40%*
Surgery [6]	4%	-12%	10%	1%
Physical medicine	10%	5%	3%	18%
Providers subject to fee schedule —				
Nonchiropractic providers	*15%*	*-10%*	*7%*	*10%*
Chiropractic providers	*-2%*	*10%*	*4%*	*13%*
Providers not subject to fee schedule	*12%*	*22%*	*1%*	*37%*
Inpatient hospital overnight room [7]	-27%	39%	2%	4%
Evaluation and management [8]	3%	-4%	10%	8%
Office visits (new patient) [9]	*-36%*	*1%*	*7%*	*-32%*
Office visits (established patient) [9]	*9%*	*-3%*	*12%*	*18%*
Office consultations [9]	*20%*	*-8%*	*3%*	*14%*
Emergency department visits [9]	*27%*	*-7%*	*14%*	*34%*
Anesthesia	-7%	18%	-1%	9%
Nonfacility providers	*9%*	*9%*	*2%*	*22%*
Facility providers	*-35%*	*39%*	*5%*	*-5%*
Chiropractic manipulations [10]	16%	-3%	-5%	7%

1. Developed statistics computed from data from a large insurer. Results are adjusted to reflect a fixed distribution of claims by gender, age and type of injury over time. Costs are adjusted for average wage growth between 1997 and 2006 (see Appendix C).
2. See text (p. 42) for additional detail about service groups and subcategories.
3. Computed for a fixed service mix within the service group (see Appendix C).
4. The "expensiveness of the service mix" is the average cost per unit of service for the overall service group as affected by changes in the service mix within the group, holding constant the cost per unit of particular services (see Appendix C).
5. Equal to the "product" of the first three columns. Technically, col. 4 = (1 + col. 1) x (1 + col. 2) x (1 + col. 3) - 1. An approximation (when the percentages are small) is that column 4 is roughly equal to the sum of the first three columns.
6. Provider groups are not shown under surgery because providers not subject to the fee schedule in this group accounted for only 0.6 percent of total medical cost in 2007 (Figure 6.2).
7. Excludes intensive care unit. Service mix for this category pertains to the mix between private and semiprivate rooms.
8. Provider groups are not shown under evaluation and management because providers not subject to the fee schedule in this group accounted for only 0.5 percent of total medical cost in 2007 (Figure 6.2).
9. For the four subgroups under evaluation and management, units of service per claim with service and cost per claim with service (and the associated changes) are expressed relative to the number of claims with any evaluation and management services.
10. The changes for chiropractic manipulations refer to 1998 to 2007 because service coding changes prevent comparisons before 1998.

- Significant variation occurred by provider type.
  - **Service and provider groups not subject to the fee schedule showed the largest increases in unit cost. The largest unit cost increase for a category *subject* to the fee schedule was 10 percent (adjusting for average wage growth), for physical medicine services provided by chiropractors.**
  - **By contrast, unit cost increased from 4 to 48 percent for services and providers *not subject* to the schedule — radiology (providers not subject to the fee schedule), physical medicine (providers not subject to the fee schedule), inpatient hospital overnight rooms and anesthesia (facility and nonfacility providers).**
- A majority of the service and provider groups subject to the fee schedule showed decreases in average cost per unit (the most notable exception being physical medicine provided by chiropractors). At least part of the reason for this lies with the conversion factor, which converts the RVUs in the fee schedule to maximum payment amounts per unit of service. Prior to Oct. 1, 2002, DLI increased the conversion factor annually by the percent change in the SAWW, the maximum allowed by law. Beginning Oct. 1, 2002, DLI began increasing the conversion factor according to the producer price index for physicians' services, which has increased more slowly than the SAWW.[54] This has tended to produce decreases in cost per unit in Figure 6.5 because the changes shown are relative to changes in the SAWW.[55]

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[54] This index is published by the U.S. Bureau of Labor Statistics.

[55] Another possible factor is that DLI introduced new RVUs effective Jan. 1, 2001. Determining the effect of this will require further analysis.

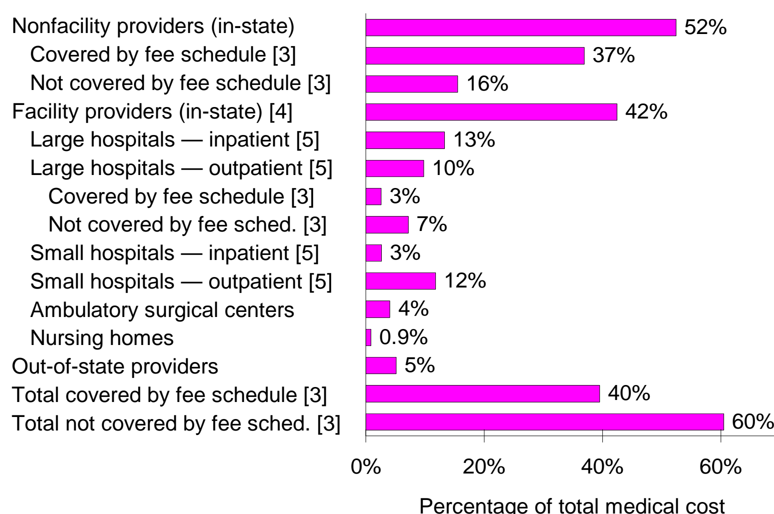
Provider group analysis: current cost distribution

The average cost for each provider type per total claim is the product of (1) the percentage of claims involving that provider type and (2) the average cost for that provider type per claim with that provider type.

Nonfacility providers accounted for a larger share of total medical cost for injury year 2007 than did facility providers. A majority of costs were not covered by the medical fee schedule (Figure 6.6).

- In-state nonfacility providers (e.g., doctors' offices, clinics, nonhospital pharmacies, equipment vendors) accounted for 52 percent of total medical cost for 2007, in-state facility providers 42 percent and out-of-state providers 5 percent.
- Within the facility category, large hospitals accounted for 23 percent of total cost, small hospitals 14 percent and ambulatory surgical centers (ASCs) 4 percent.
    - ➢ Somewhat more than half of large-hospital costs were for inpatient services, while most small-hospital costs were for outpatient services.
- About 40 percent of all costs were covered by the fee schedule.
    - ➢ Most costs involving nonfacility providers were covered by the fee schedule; for large-hospital outpatient services, the opposite was true. While large-

Figure 6.6 Medical cost per claim by provider group, injury year 2007 [1]



Provider group [2]	Pctg. of claims w/ service	Cost per claim w/ service	Cost per total claim	Pctg. of total cost
In-state providers	99%	$2,430	$2,400	95%
Nonfacility providers	96	1,390	1,330	52
Covered by fee schedule [3]	95	980	940	37
Not covered by fee schedule [3]	38	1,020	390	16
Facility providers [4]	40	2,700	1,080	42
Hospitals [5]	39	2,460	950	38
Large hospitals	22	2,600	580	23
Inpatient	2	20,730	340	13
Outpatient	22	1,130	250	10
Covered by fee schedule [3]	17	380	70	3
Not cov'd by fee sched. [3]	19	940	180	7
Small hospitals	18	2,000	370	14
Inpatient	0.4	16,520	70	3
Outpatient	18	1,640	300	12
Ambulatory surgical centers	3	3,790	100	4
Nursing homes	0.3	7,100	20	0.9
Out-of-state providers	5	2,680	130	5
Total covered by fee schedule [3]	96	1,050	1,000	40
Total not covered by fee sched. [3]	65	2,360	1,530	60
Total	100%	$2,530	$2,530	100%

1. Computed from data from a large insurer (see Appendix C).
2. See text (p. 43) for additional detail about provider groups and subcategories.
3. All drugs, including those covered by the pharmacy reimbursment formula, are counted as not covered by the fee schedule. The "covered" category is limited to services with maximum fees determined by relative value units and a conversion factor.
4. The costs attributed to facility providers here include both "facility services" (i.e., use of the facility) and other services (e.g., evaluation and management, radiology, anesthesia) provided by the facilities, and are therefore greater than the costs of facility services shown in Figure 6.2.

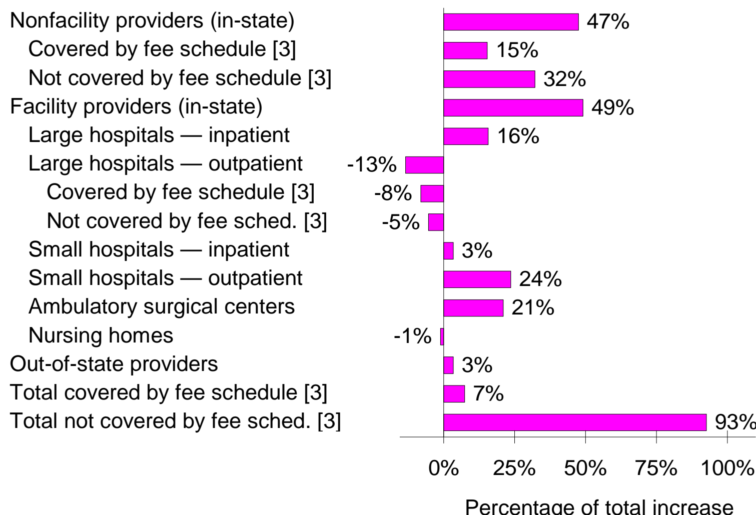
hospital outpatient services are subject to the fee schedule, only a minority of these services (counting by cost) are actually in the schedule. Many of these services, instead, are "facility services."

Provider group analysis: major contributors to cost increase

Facility providers showed a somewhat larger percent increase in cost per total claim from 1997 to 2007 than did nonfacility providers. Facility providers also accounted for a somewhat larger share of the overall cost increase than did nonfacility providers. Services not covered by the fee schedule showed a far larger percent increase in cost per total claim than did covered services, and accounted for the vast majority of the overall cost increase (Figure 6.7).

- After adjusting for average wage growth, cost per total claim increased 22 percent for facility providers from 1997 to 2007 and 17 percent for nonfacility providers. However, because nonfacility providers accounted for a larger share of total cost in 1997 (the base year of the analysis period) than did facility providers (53 percent vs. 41 percent), the two provider groups contributed roughly equal shares of the overall increase of $402 per total claim ($191 or 47 percent for nonfacility providers, $197 or 49 percent for facility providers.

Figure 6.7 Contributions of provider groups to overall change in total medical cost per claim between injury years 1997 and 2007 [1]



Provider group [2]	Percent change in cost per total claim	Amount of change in cost per total claim	Percentage of total cost increase [3]
In-state providers	19%	$388	97%
Nonfacility providers	17	191	47
Covered by fee schedule [3]	7	62	15
Not covered by fee sched. [3]	49	129	32
Facility providers	22	197	49
Hospitals	14	117	29
Large hospitals	2	9	2
Inpatient	23	63	16
Outpatient	-18	-54	-13
Covered by fee schedule [3]	-33	-33	-8
Not covered by fee sched. [3]	-11	-22	-5
Small hospitals	42	109	27
Inpatient	26	14	3
Outpatient	46	95	24
Ambulatory surgical centers	469	84	21
Nursing homes	-17	-4	-1
Out-of-state providers	12	14	3
Total covered by fee schedule [3]	3	30	7
Total not covered by fee sched. [3]	32	372	93
Total	19%	$402	100%

1. Computed from data from a large insurer (see Appendix C).
2. See text (p. 43) for additional detail about provider groups and subcategories.
3. All drugs, including those covered by the pharmacy reimbursment formula, are counted as not covered by the fee schedule. That is, the "covered" category is limited to services with maximum fees determined by relative value units and a conversion factor.

- Among facility providers, the percent increase in cost per total claim was largest for ASCs (469 percent) and small hospitals (primarily outpatient services, 42 percent). Because of the very large increase for ASCs, those providers contributed 21 percent of the overall increase in medical cost even though they accounted for only 0.9 percent of total cost in 1997. (As shown in the next figure, most of this increase came from an increase in the frequency of use of ASCs.)

- Cost per total claim (adjusted for average wage growth) increased 32 percent during the analysis period for services not covered by the fee schedule, but only 3 percent for covered services. As a result (given that noncovered services accounted for 54 percent of total cost in 1997), services not covered by the fee schedule contributed 93 percent of the overall cost increase ($372 of $402 per total claim), as opposed to 7 percent for covered services.

Provider group analysis: sources of cost change per total claim

The change in cost per total claim related to a particular provider type (column 1 of Figure 6.7) can be expressed as the product of two components: (1) the change in the percentage of claims with services from that provider type and (2) the change in the average cost for that provider type per claim with that provider type. Figure 6.8 presents these statistics in summary form; Figure 6.8-A (p. 67) shows the associated annual trends.

The relative importance of the two components of change varies by provider group.

- For nonfacility providers, most of the 17-percent increase in cost per total claim came from an increase in the average cost of service per claim with service from that provider type. For facility providers, most of the 22-percent increase in cost per total claim came from an increase in the percentage of claims with services from facility providers.

  - This overall pattern for facility providers also held true for hospitals (overall) and ASCs. For ASCs, the 469-percent overall increase came primarily from a 259-percent increase in the percentage of claims with ASC services. However, a large component also came from a 59-percent increase in the average cost of ASC services per claim with these services.

- The experiences of large and small hospitals differed.

  - Both hospital types showed increases in the percentage of claims using their services (7 percent for large hospitals, 23 percent for small hospitals). However, large hospitals showed a 5-percent decrease in the average cost per claim with service, while small hospitals showed a 16-percent increase. The net result was that large hospitals showed just a 2-percent increase in cost per total claim while small hospitals showed a 42-percent increase.
  - As measured by the percentage of claims with service, the use of outpatient services increased for both large and small hospitals, particularly for small hospitals, while the use of inpatient services decreased for large hospitals and was almost unchanged for small hospitals.[56]
  - The cost of inpatient services per claim with service rose substantially for both hospital types. By contrast, the cost of outpatient services per claim with service rose for small hospitals (19 percent) but fell for large hospitals (22 percent).

- Experience was different for services covered by the fee schedule and those not. As previously indicated, costs increased 32 percent for services not covered by the fee schedule as opposed to 3 percent for covered services. This difference occurred primarily because the cost of service per claim with service rose 19 percent for noncovered services as opposed to 1 percent for covered services, but partly because the percentage of claims with services rose 11 percent for noncovered services as opposed to 2 percent for covered services.

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[56] As shown in Figure 6.8-A (p. 67), the use of small-hospital inpatient services fluctuates substantially from year to year.

Figure 6.8 Components of change in cost per total claim by provider group between injury years 1997 and 2007 [1]

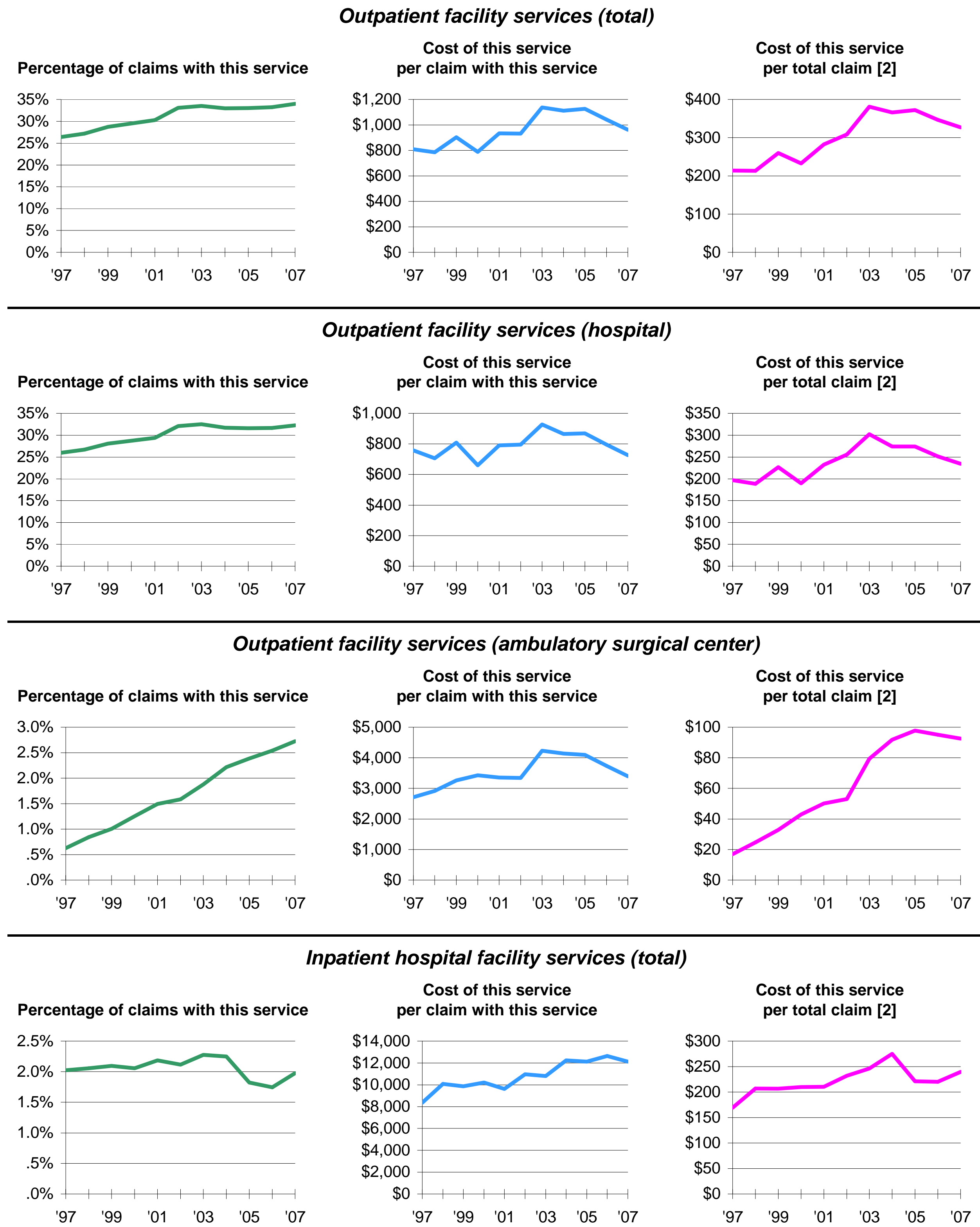
Provider group [2]	Change in percentage of claims with service	Change in cost of service per claim with service	Change in cost of service per total claim [3]
Nonfacility providers (in-state) (47%)	3%	14%	17%
Covered by fee schedule (15%) [4]	3%	4%	7%
Not covered by fee sched. (32%) [4]	3%	45%	49%
Facility providers (in-state) (49%)	16%	6%	22%
Hospitals (29%)	14%	0%	14%
Large hospitals (2%)	7%	-5%	2%
Inpatient (16%)	-4%	28%	23%
Outpatient (-13%)	5%	-22%	-18%
Covered by fee sched. (-8%) [4]	-8%	-28%	-33%
Not cov'd by fee sched. (-5%) [4]	7%	-16%	-11%
Small hospitals (27%)	23%	16%	42%
Inpatient (3%)	1%	25%	26%
Outpatient (24%)	23%	19%	46%
Ambulatory surgical centers (21%)	259% [5]	59%	469% [5]
Out-of-state providers (3%)	-18%	37%	12%
Total covered by fee schedule (7%) [4]	2%	1%	3%
Total not cov'd by fee sched. (93%) [4]	11%	19%	32%
Total (100%)	0%	19%	19%

1. Developed statistics computed from data from a large insurer with fixed weights for gender, age and type of injury. Costs are adjusted for average wage growth between 1997 and 2007 (see Appendix C).
2. See text (p. 43) for additional detail about provider groups and subcategories. Percent contribution to overall cost increase per total claim (from Figure 6.6) is in parentheses. Nursing homes are excluded because they accounted for only 0.9 percent of total medical cost for 2007 and -1 percent of the total medical cost increase (Figures 6.6 and 6.7).
3. Equal to the "product" of the first two columns. Technically, col. 3 = (1 + col. 1) x (1 + col. 2) - 1. An approximation (when the percentages are small) is that column 3 is roughly equal to the sum of the first two columns.
4. All drugs, including those covered by the pharmacy reimbursment formula, are counted as not covered by the fee schedule. The "covered" category is limited to services with maximum fees determined by relative value units and a conversion factor.
5. A bar is not shown here because its length is out of the range for other services and subcategories.

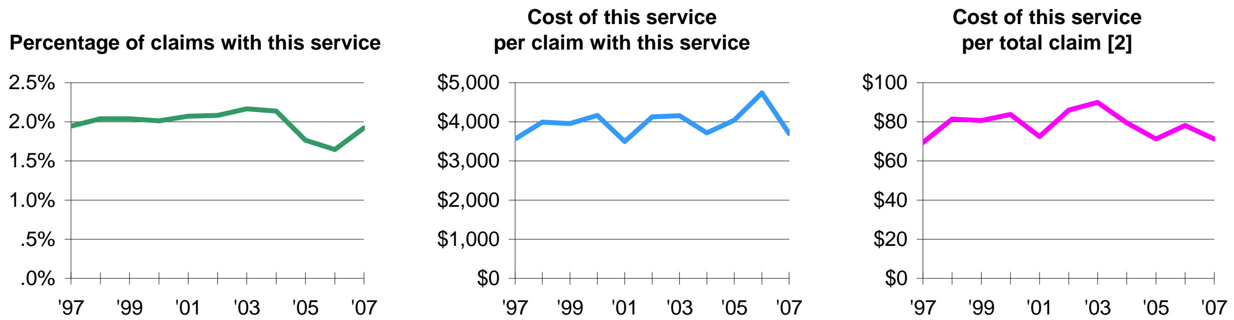
- **The largest increases in cost per claim with service were for providers and settings not covered by the fee schedule — ASCs (59 percent), nonfacility providers not covered by the fee schedule (45 percent), large-hospital inpatient services (28 percent), small-hospital services (16 percent), and services from out-of-state providers (37 percent).**

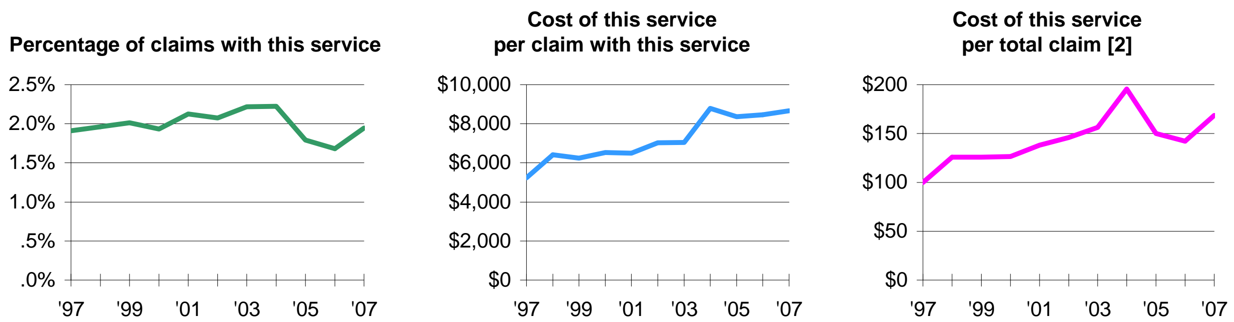
- As previously indicated, these medical cost changes are substantially influenced by cost-control measures taken in recent years by the insurer concerned. In the provider-group classification, as shown in Figure 6.8-A (p. 67), the cost of service per claim with service turned sharply downward in 2005 for large hospitals and in 2004 for small hospitals. Around the time of these changes, the insurer concerned initiated or expanded several cost-control measures for facility providers, including bill review, use of networks and application of prevailing charge.

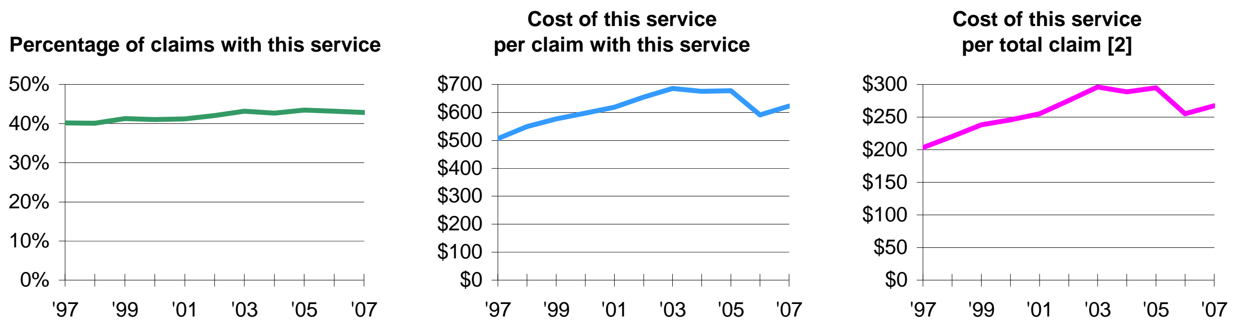
Figure 6.4-A Components of medical cost per total claim by service group, injury years 1997-2007 [1]

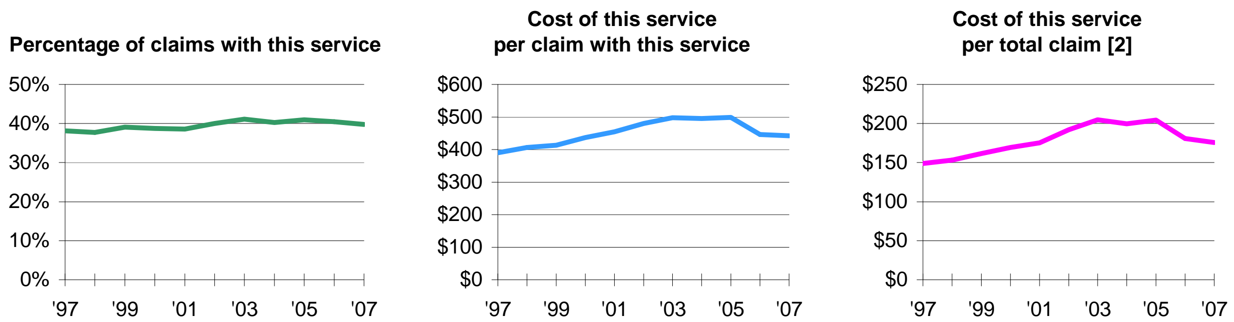


(Notes at end of figure, p. 62.)



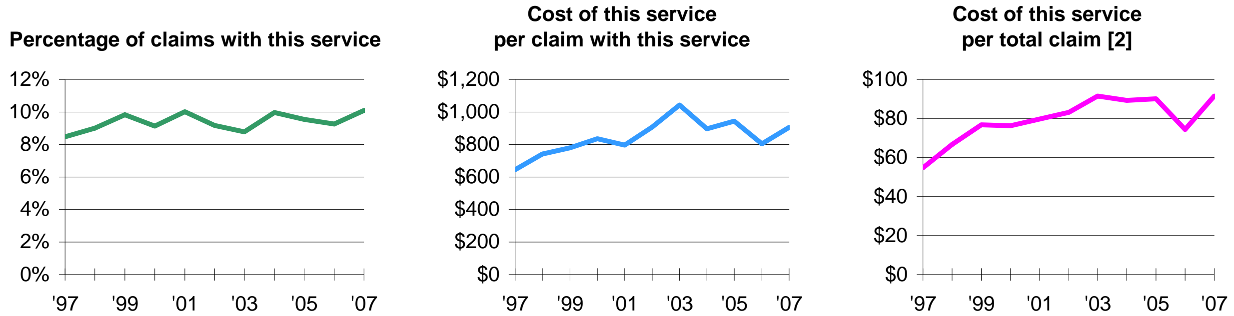




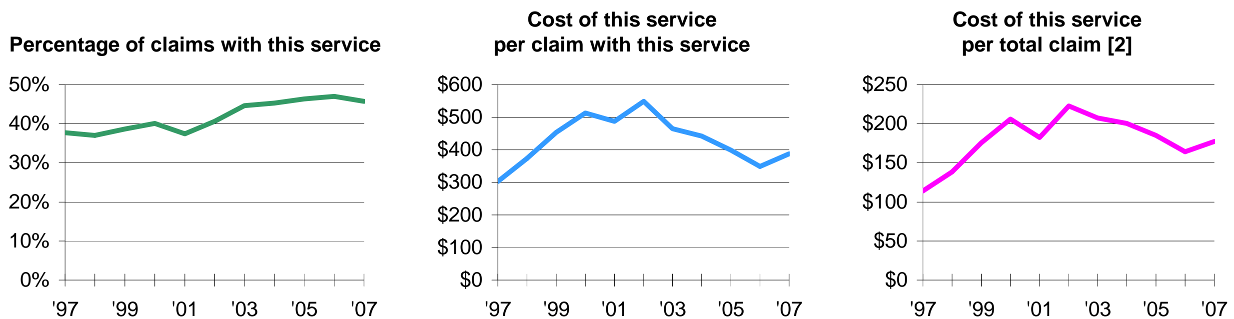


(Notes at end of figure, p. 62.)

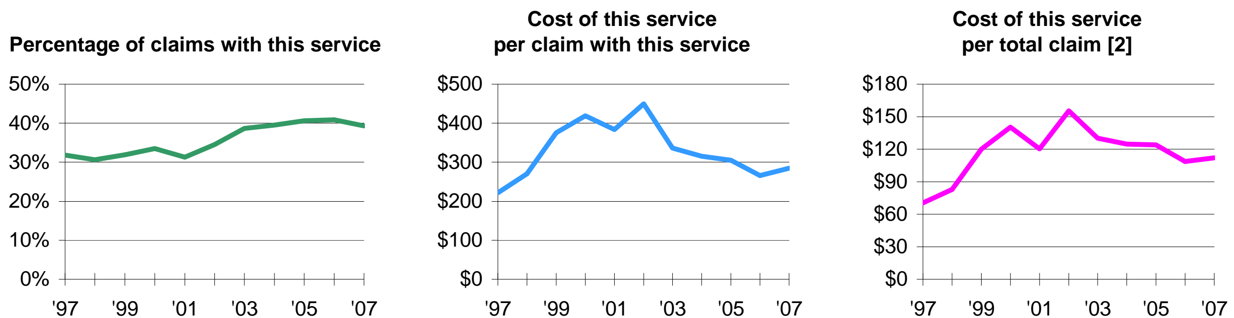
Radiology (providers not subject to fee schedule)



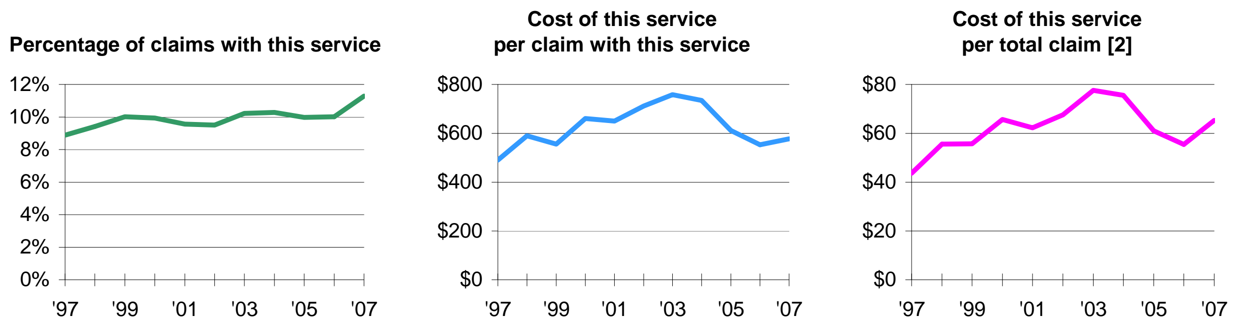
Drugs (total)



Drugs (providers subject to reimbursement formula) [4]



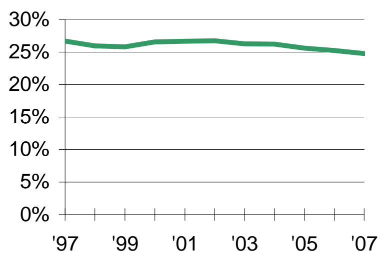
Drugs (providers not subject to reimbursement formula) [4]



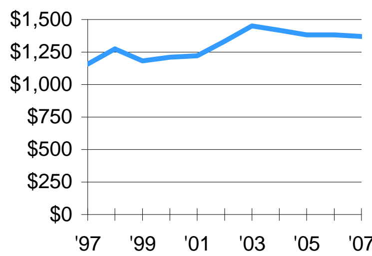
(Notes at end of figure, p. 62.)

Physical medicine (total)

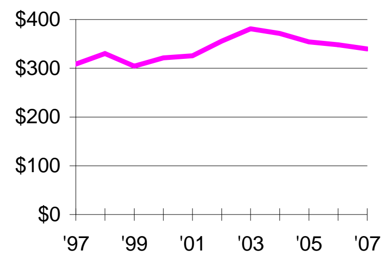
Percentage of claims with this service



Cost of this service per claim with this service

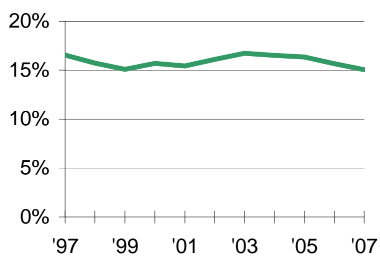


Cost of this service per total claim [2]

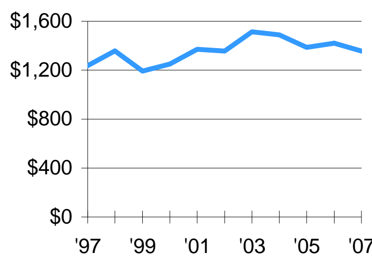


Physical medicine (providers subject to fee schedule — except chiropractors)

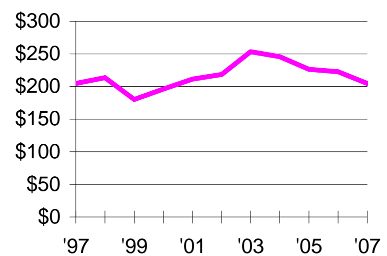
Percentage of claims with this service



Cost of this service per claim with this service

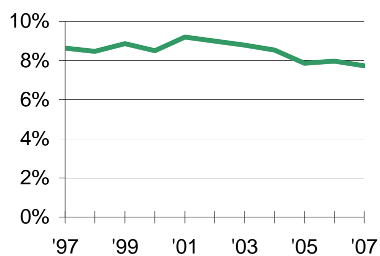


Cost of this service per total claim [2]

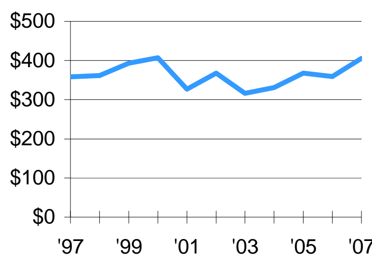


Physical medicine (providers subject to fee schedule — chiropractors)

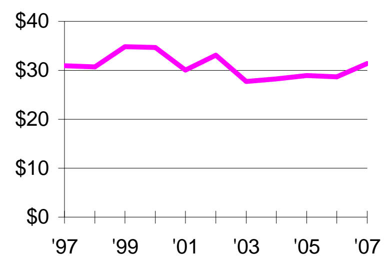
Percentage of claims with this service



Cost of this service per claim with this service

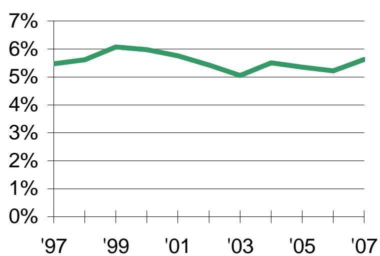


Cost of this service per total claim [2]

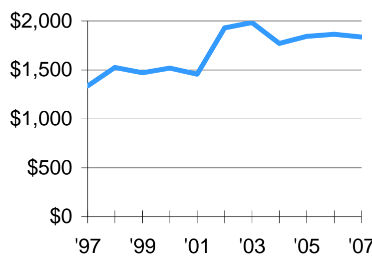


Physical medicine (providers not subject to fee schedule)

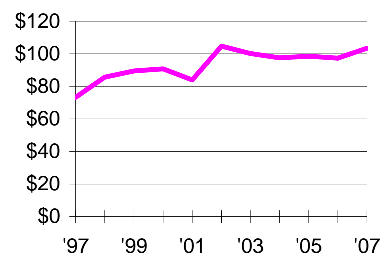
Percentage of claims with this service



Cost of this service per claim with this service



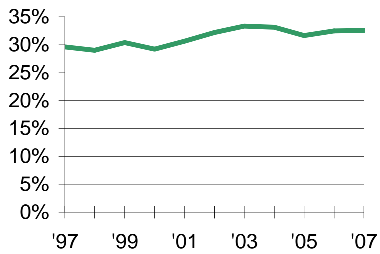
Cost of this service per total claim [2]



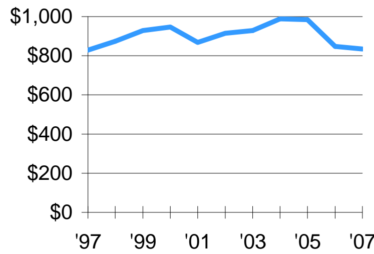
(Notes at end of figure, p. 62.)

Surgery (total) [5]

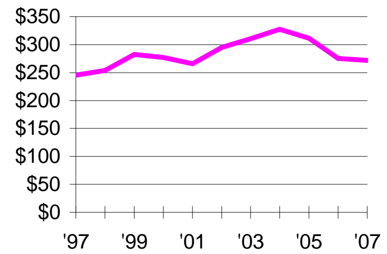
Percentage of claims with this service



Cost of this service per claim with this service

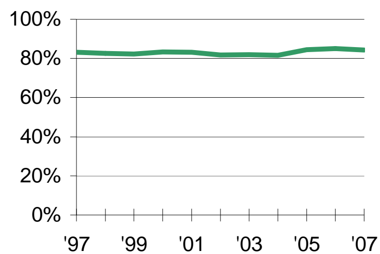


Cost of this service per total claim [2]

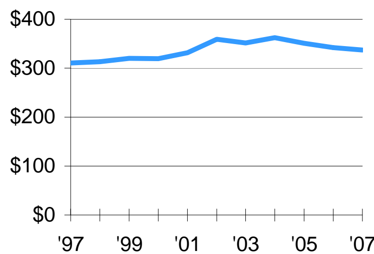


Evaluation and management (total) [6]

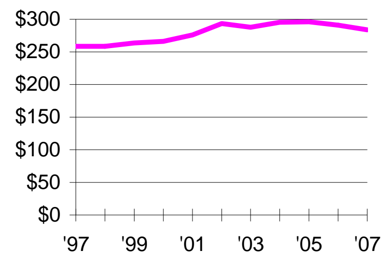
Percentage of claims with this service



Cost of this service per claim with this service

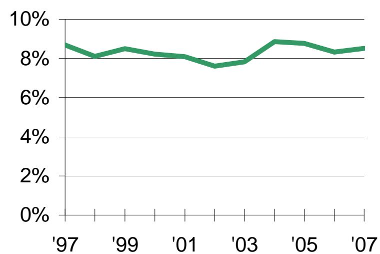


Cost of this service per total claim [2]

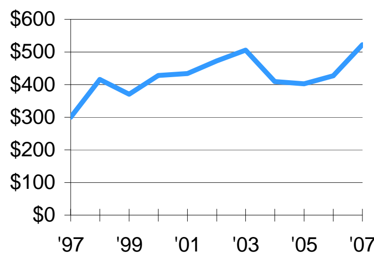


Pathology and laboratory services

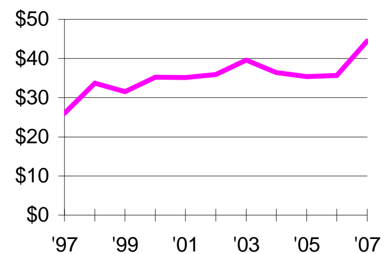
Percentage of claims with this service



Cost of this service per claim with this service

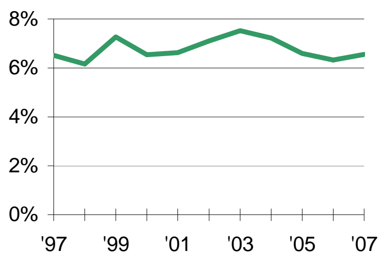


Cost of this service per total claim [2]

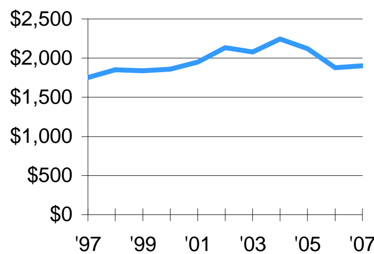


Anesthesia (total)

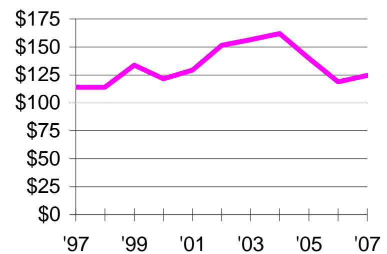
Percentage of claims with this service



Cost of this service per claim with this service



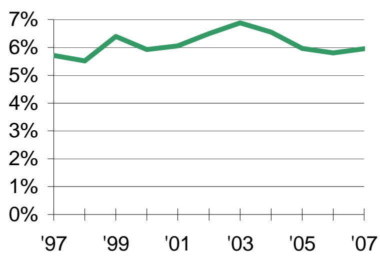
Cost of this service per total claim [2]



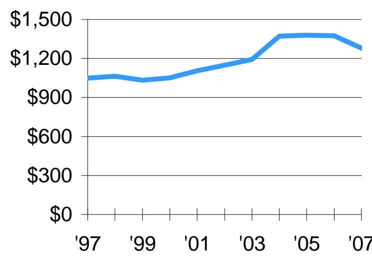
(Notes at end of figure, p. 62.)

Anesthesia (nonfacility providers)

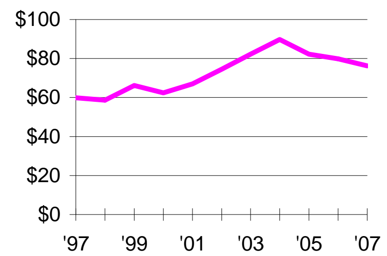
Percentage of claims with this service



Cost of this service per claim with this service

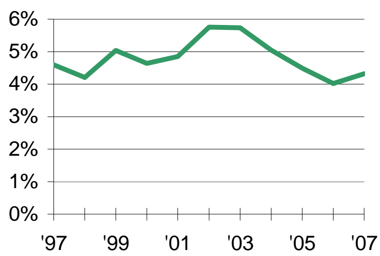


Cost of this service per total claim [2]

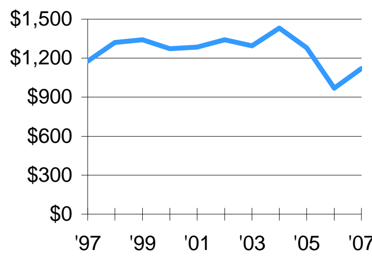


Anesthesia (facility providers)

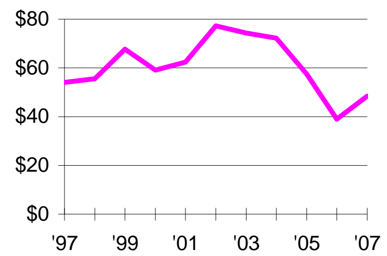
Percentage of claims with this service



Cost of this service per claim with this service

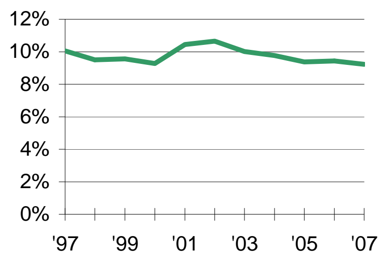


Cost of this service per total claim [2]

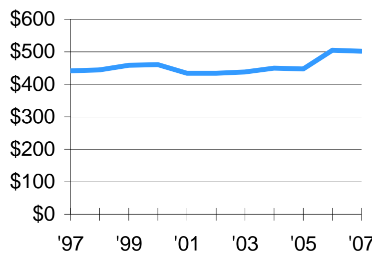


Chiropractic manipulations

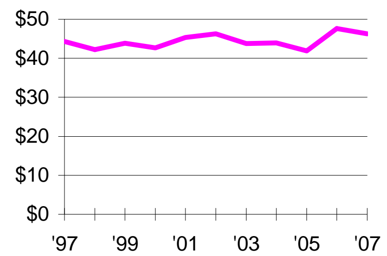
Percentage of claims with this service



Cost of this service per claim with this service

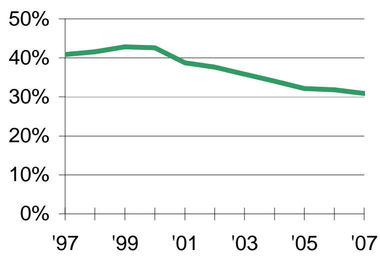


Cost of this service per total claim [2]

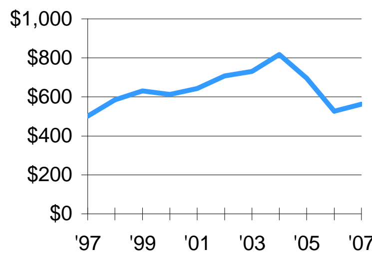


Equipment and supplies (total)

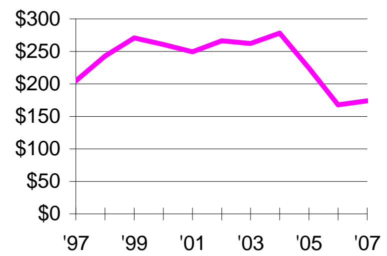
Percentage of claims with this service



Cost of this service per claim with this service



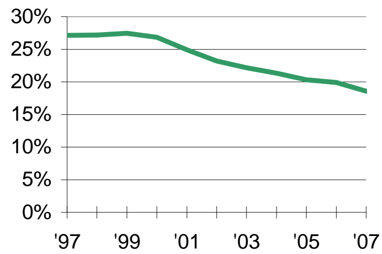
Cost of this service per total claim [2]



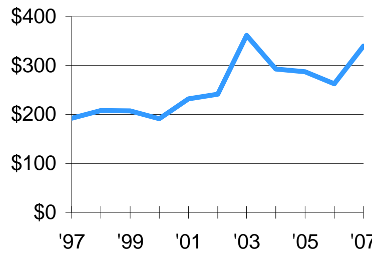
(Notes at end of figure, p. 62.)

Equipment and supplies (nonfacility providers)

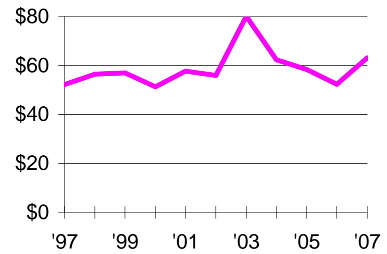
Percentage of claims with this service



Cost of this service per claim with this service

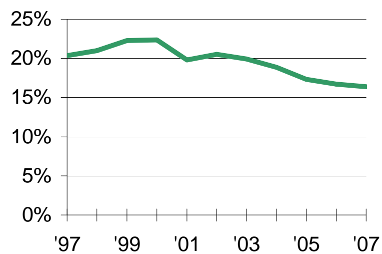


Cost of this service per total claim [2]

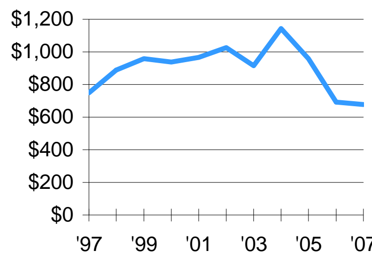


Equipment and supplies (facility providers)

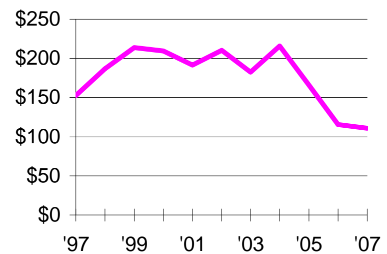
Percentage of claims with this service



Cost of this service per claim with this service

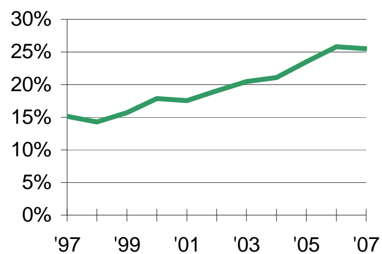


Cost of this service per total claim [2]

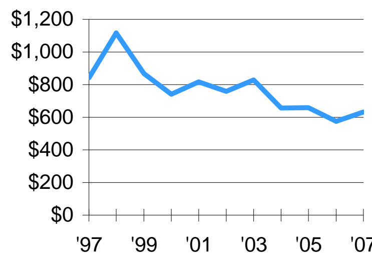


Other services

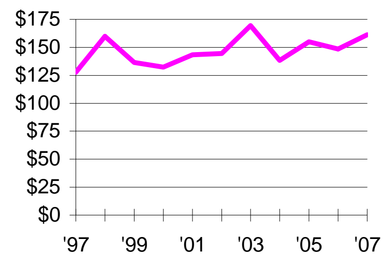
Percentage of claims with this service



Cost of this service per claim with this service

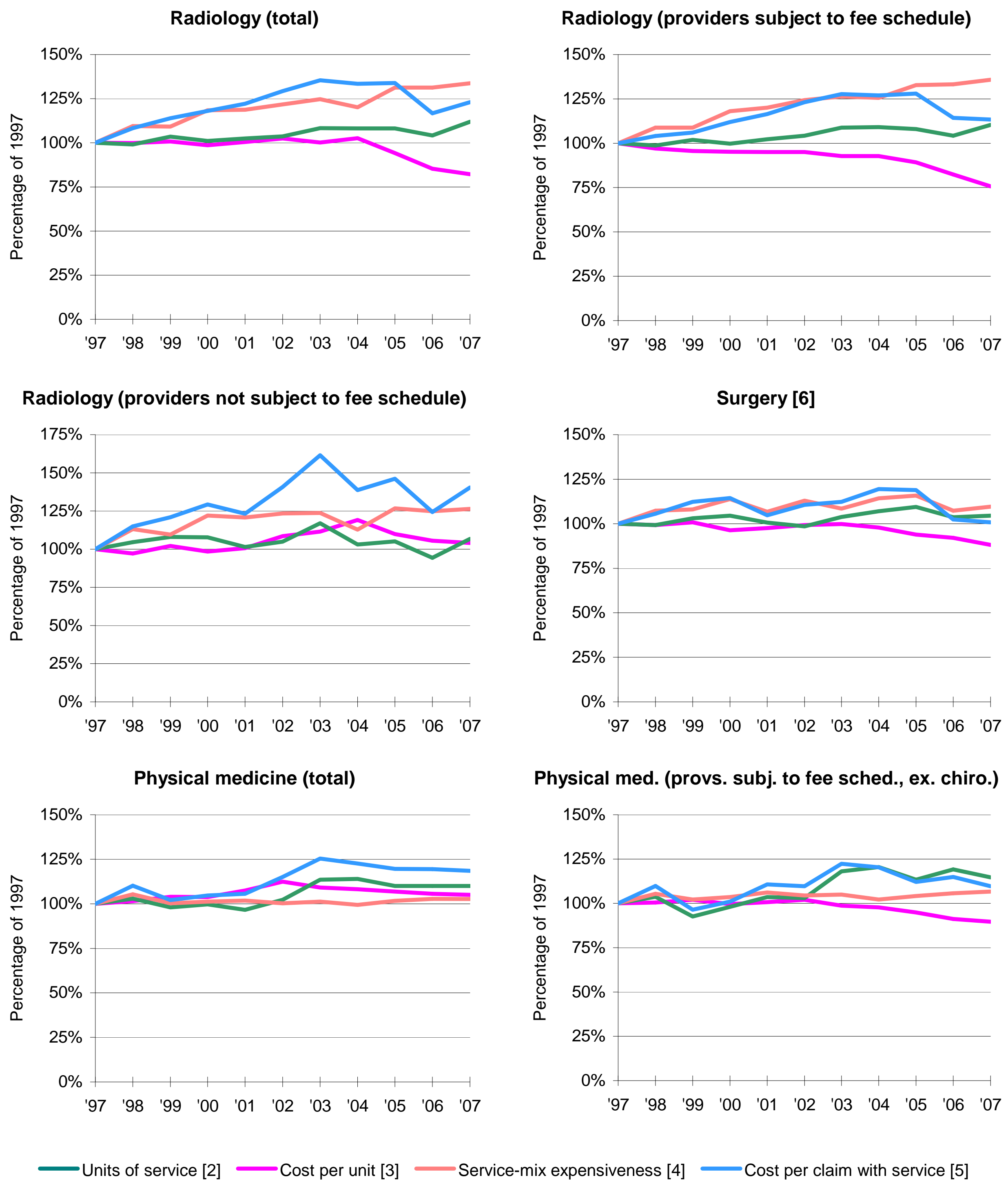


Cost of this service per total claim [2]

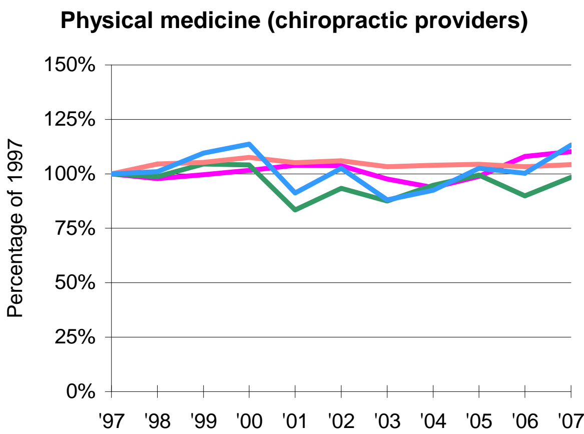


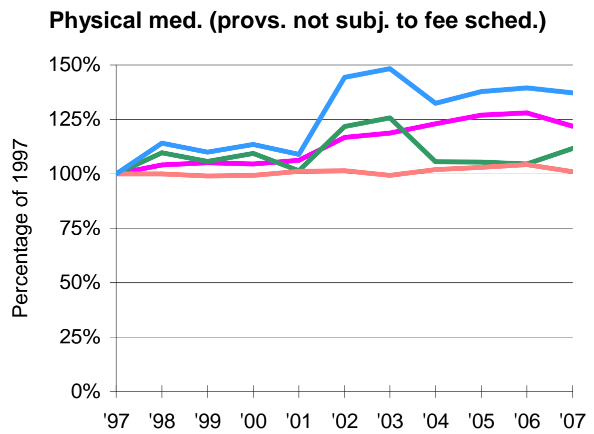
1. Developed statistics computed from data from a large insurer with fixed weights for gender, age and type of injury. Costs are adjusted for average wage growth between the respective year and 2005. (See Appendix C.) Service categories are shown in the same order as in Figures 6.3 and 6.4. See Chapter 6 for explanation of service categories and provider groups.
2. Equal to the product of the first two trends for each service group.
3. Excludes intensive care unit.
4. See note 33 in text.
5. Provider groups are not shown for surgery because providers in this service group that were not subject to the fee schedule accounted for only 0.6 percent of total medical cost in 2006 (Figure 6.2).
6. Provider groups are not shown for evaluation and managment because providers in this service group that were not subject to the fee schedule accounted for only 0.5 percent of total medical cost in 2006 (Figure 6.2).

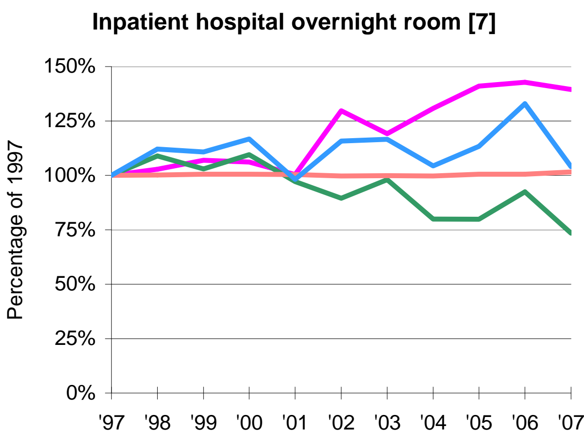
Figure 6.5-A Quantity, unit-cost and service-mix indices, injury years 1997-2007 [1]

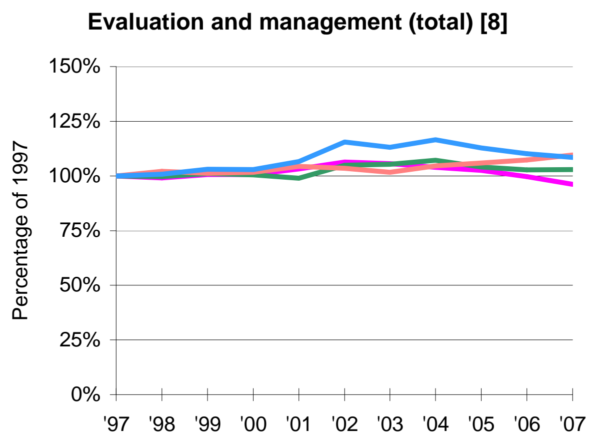


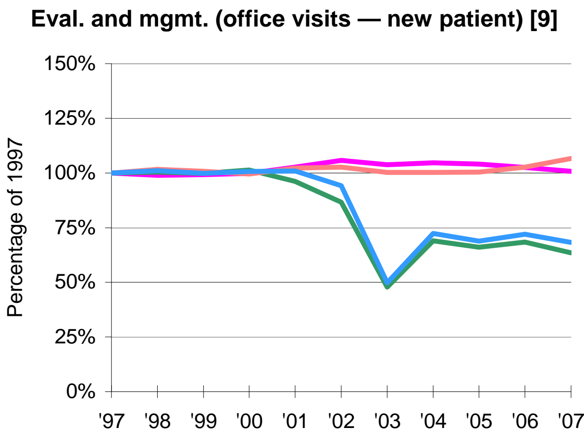
(Notes at end of figure, p. 66.)

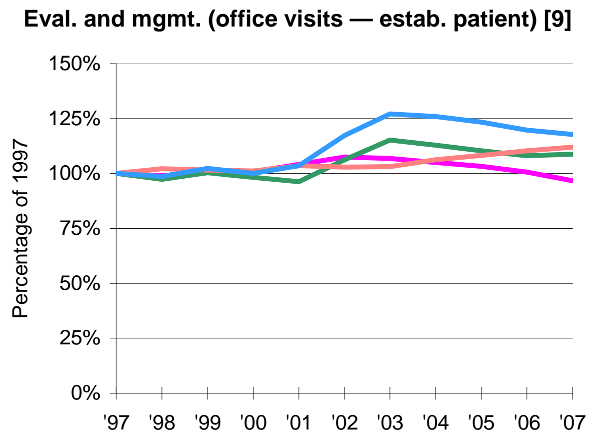






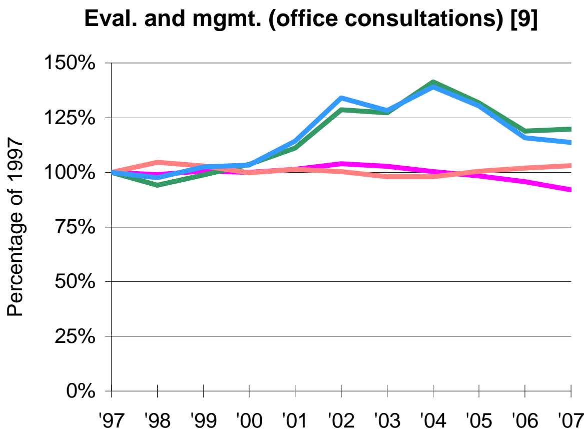


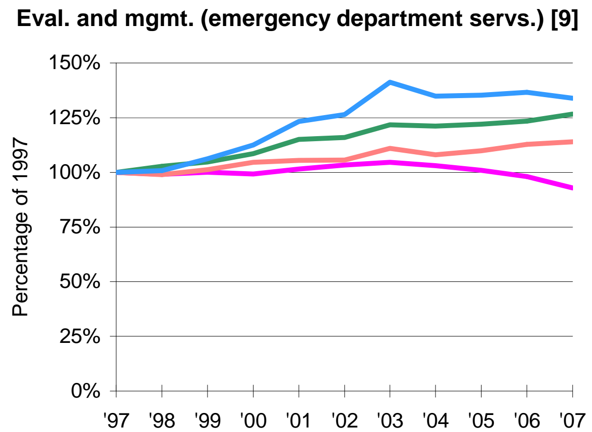


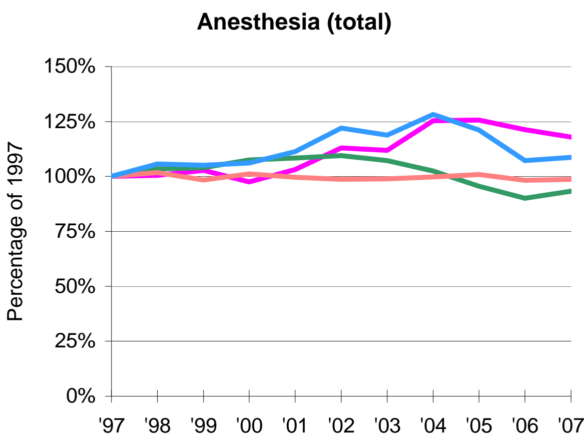


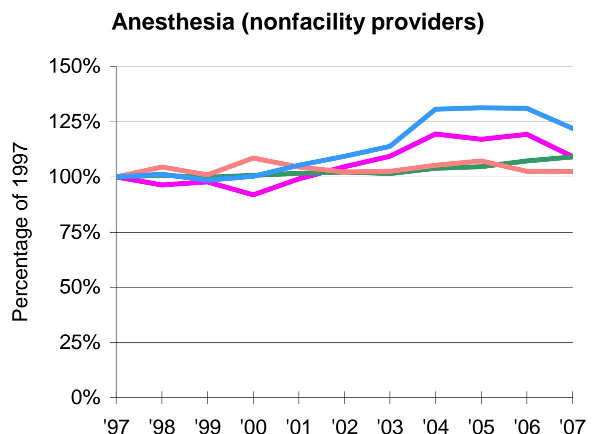
Units of service [2] Cost per unit [3] Service-mix expensiveness [4] Cost per claim with service [5]

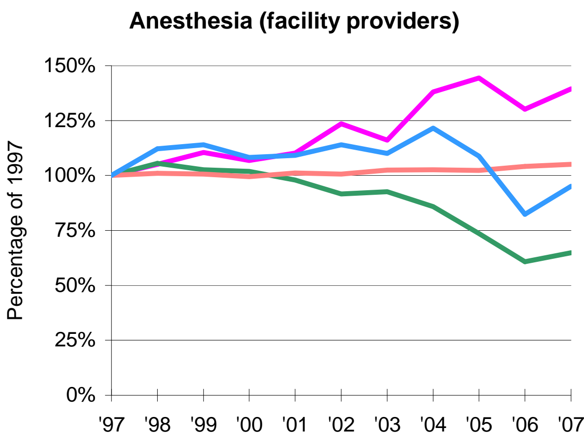
(Notes at end of figure, p. 66.)

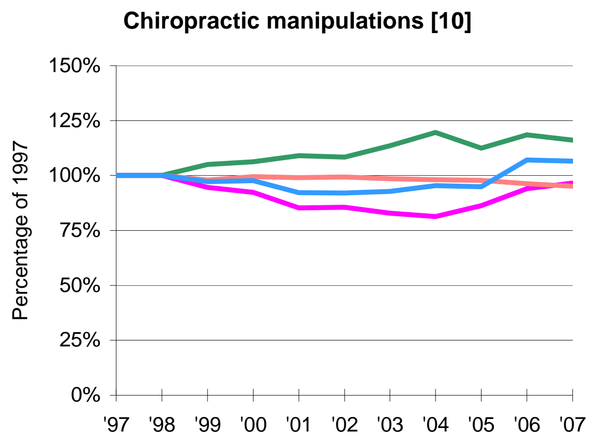










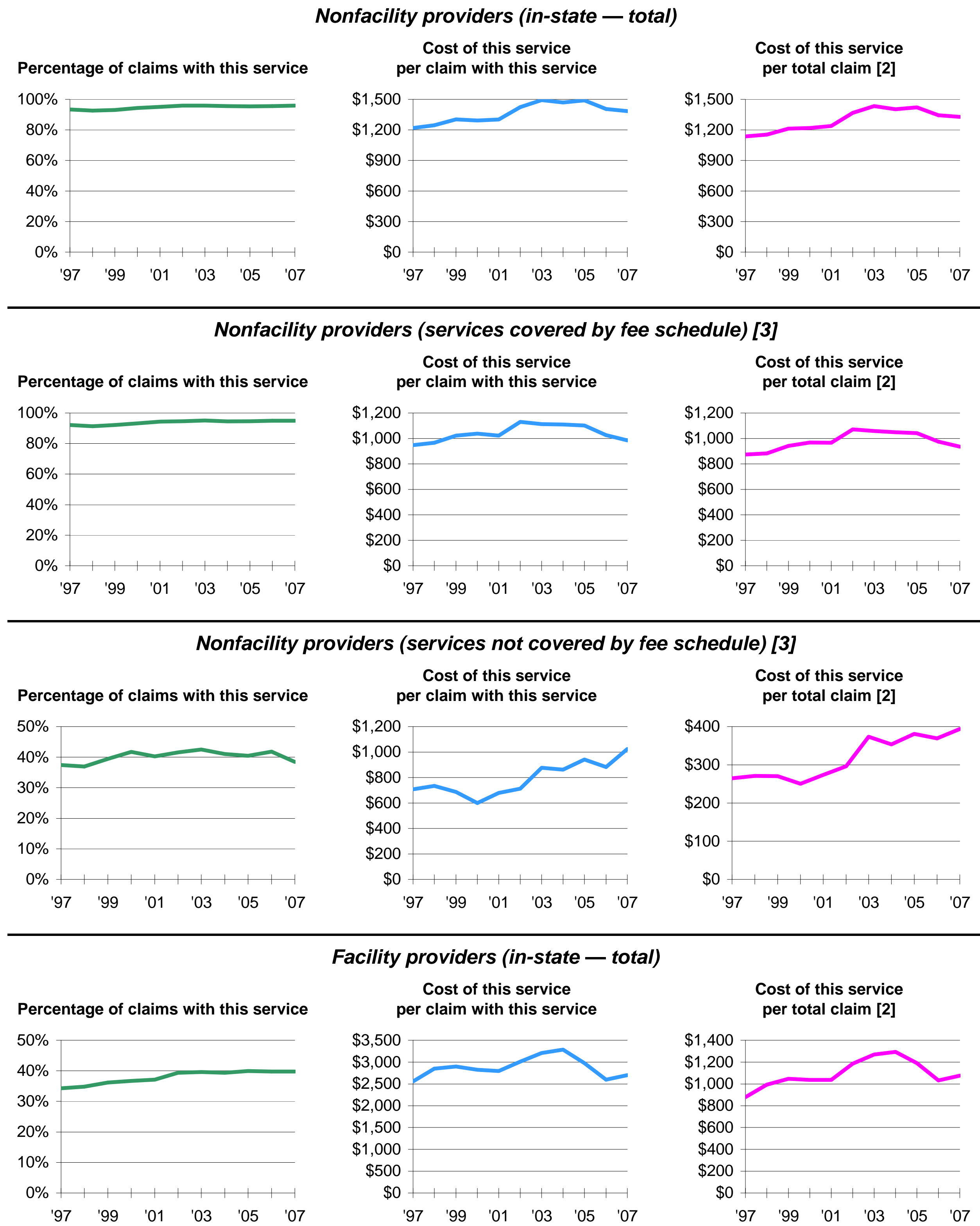


Units of service [2] Cost per unit [3] Service-mix expensiveness [4] Cost per claim with service [5]

(Notes at end of figure, p. 66.)

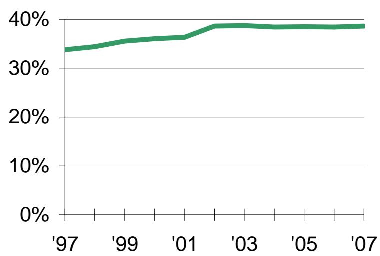
1. Developed statistics computed from data from a large insurer with fixed weights for gender, age and type of injury. Service groups are shown in the same order as in Figure 6.5. Only some service groups are represented because the service codes (for individual types of service within the group) do not allow the computation of these indices for all service groups (see Appendix C).
2. Units of service per claim with service.
3. Average cost per unit of service, holding constant the service mix within the service group. Adjusted for average wage growth (see Appendix C).
4. Average cost per unit of service as affected by changes in the service mix within the service group, holding constant the average costs of particular types of service (see Appendix C).
5. Cost of the service per claim with service, adjusted for average wage growth (see Appendix C). Equal to the product of the indices of units of service, cost per unit and service mix expensiveness. An approximation (when the percent changes are small) is that the percent change in the cost of the service per claim with the service is roughly equal to the sum of the percent changes in the three component indices.
6. Provider groups (nonfacility and facility providers) are not shown for surgery because facility providers of this service group accounted for only 0.6 percent of total medical cost in 2007 (Figure 6.2).
7. Excludes intensive care unit. Service mix for this category pertains to the mix between private and semiprivate rooms.
8. Provider groups (providers subject and not subject to fee schedule) are not shown for evaluation and management because providers of this service group that were not subject to the fee schedule accounted for only 0.5 percent of total medical cost in 2007 (Figure 6.2).
9. For the four subgroups under evaluation and management, units of service and cost per claim with service are expressed relative to the number of claims with any evaluation and management services.
10. The indices for chiropractic manipulations begin with 1998 because service-coding changes prevent comparisons with earlier years.

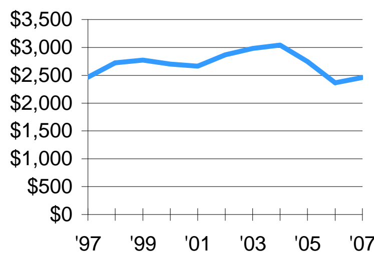
Figure 6.8-A Components of medical cost per total claim by provider group, injury years 1997-2007 [1]

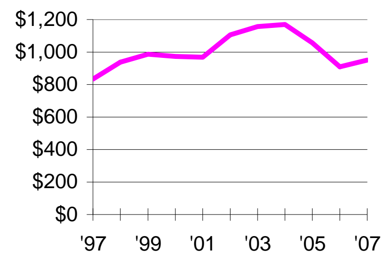


(Notes at end of figure, p. 71.)

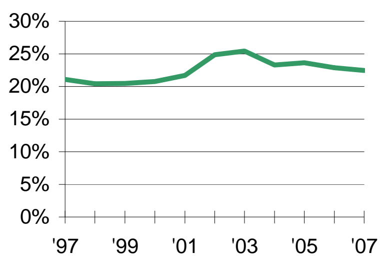
Hospitals (total)

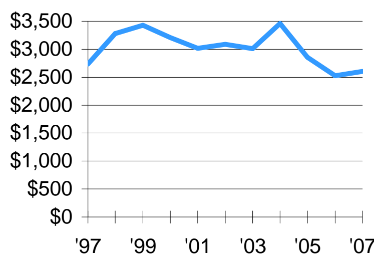


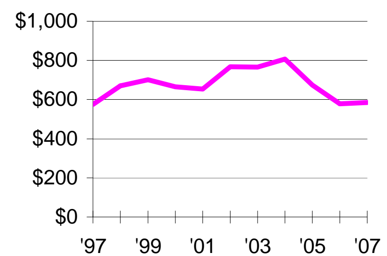




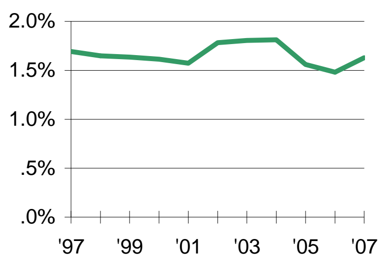
Large hospitals

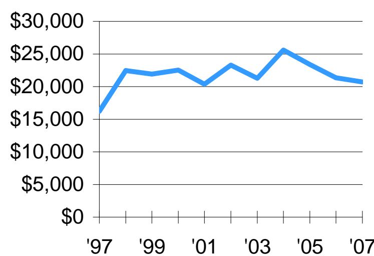


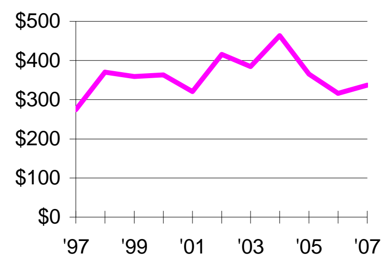




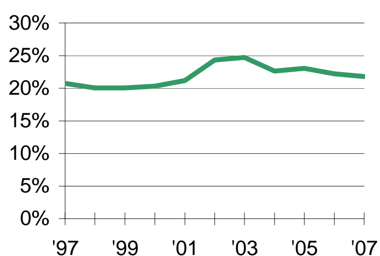
Large hospitals (inpatient services)

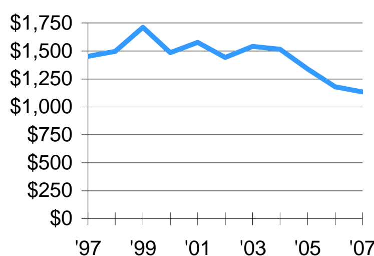


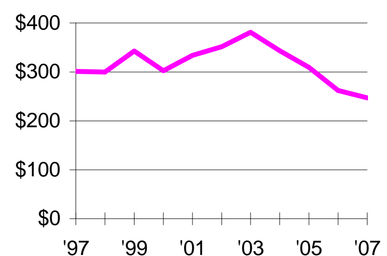




Large hospitals (outpatient services — total)

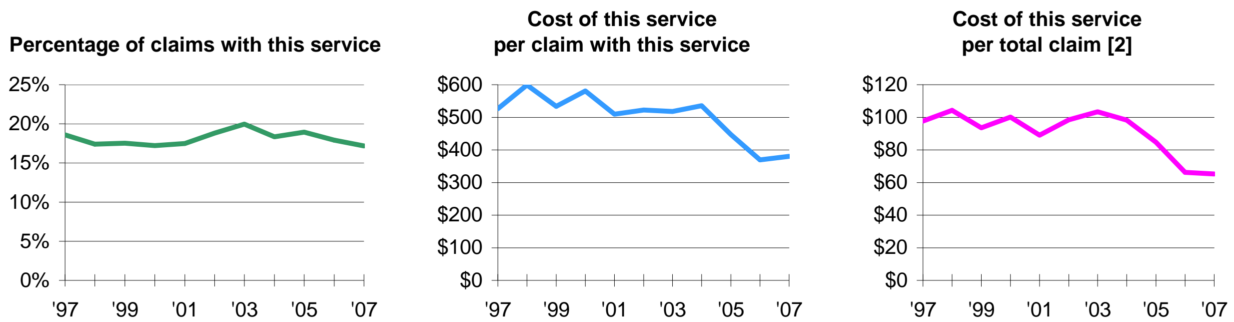




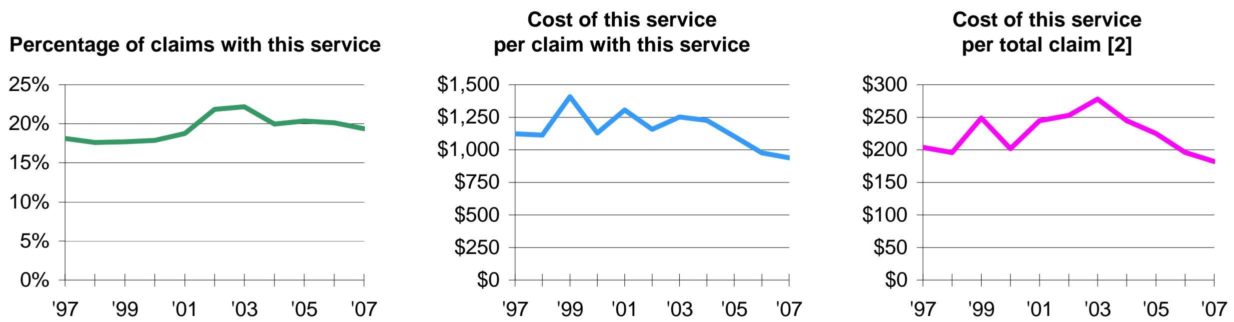


(Notes at end of figure, p. 71.)

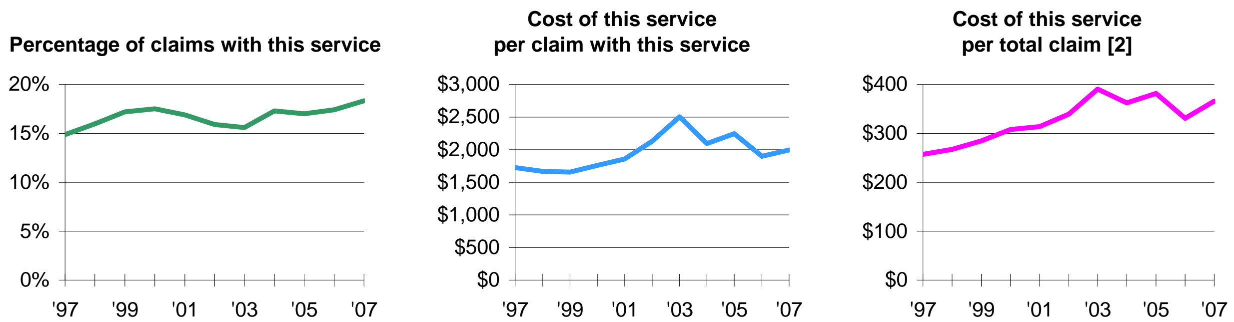
Large hospitals (outpatient services covered by fee schedule [3])



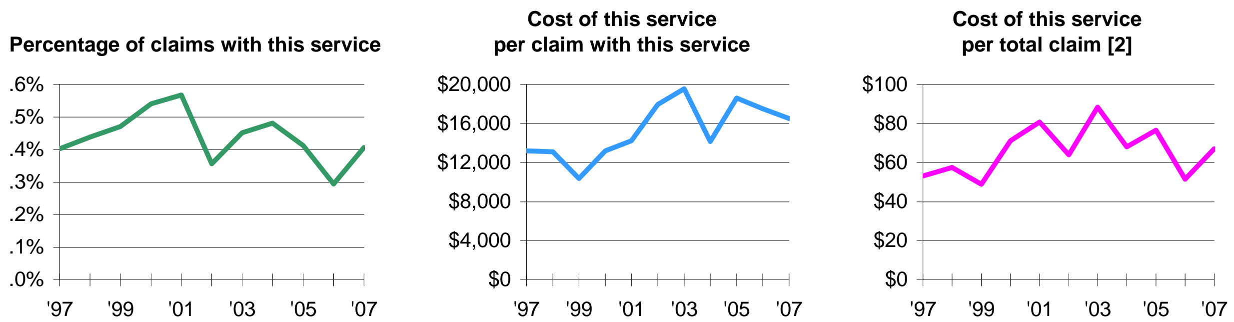
Large hospitals (outpatient services not covered by fee schedule [3])



Small hospitals



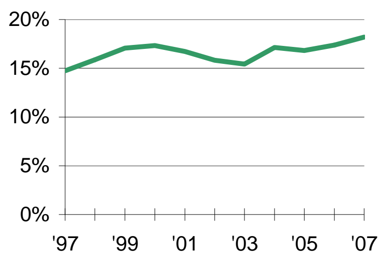
Small hospitals (inpatient services)



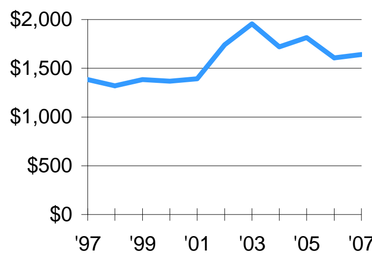
(Notes at end of figure, p. 71.)

Small hospitals (outpatient services)

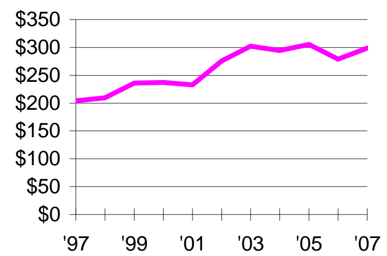
Percentage of claims with this service



Cost of this service per claim with this service

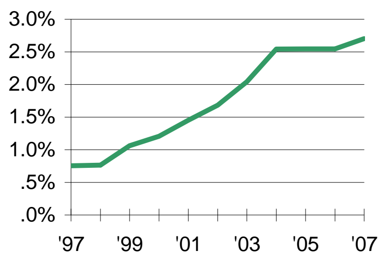


Cost of this service per total claim [2]

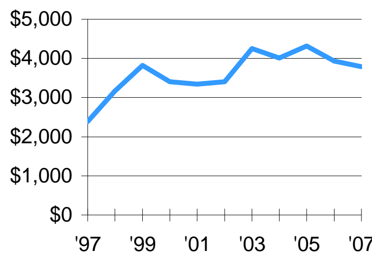


Ambulatory surgical centers

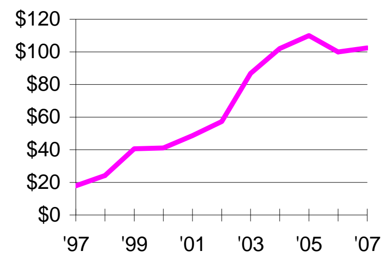
Percentage of claims with this service



Cost of this service per claim with this service

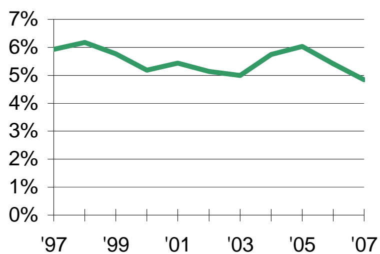


Cost of this service per total claim [2]

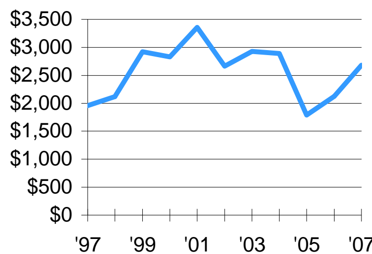


Out-of-state providers

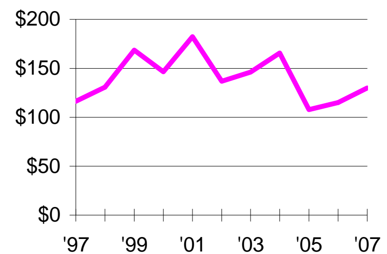
Percentage of claims with this service



Cost of this service per claim with this service

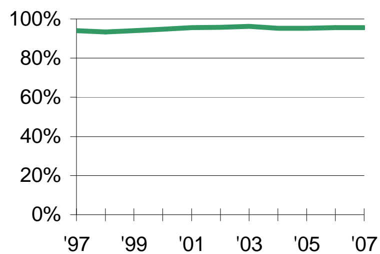


Cost of this service per total claim [2]

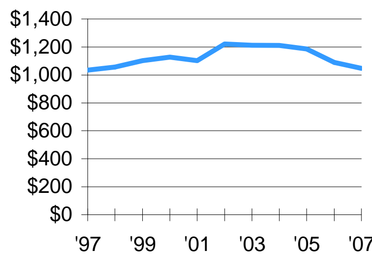


Total covered by fee schedule [3]

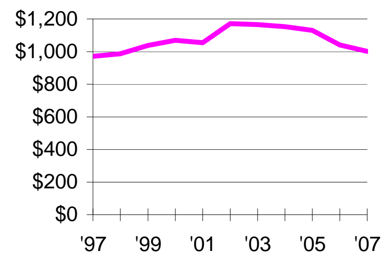
Percentage of claims with this service



Cost of this service per claim with this service

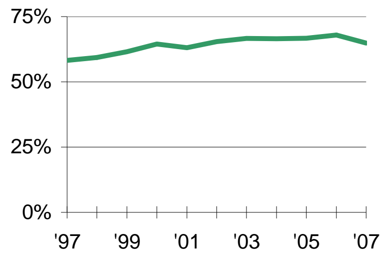


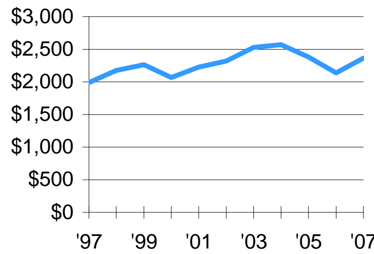
Cost of this service per total claim [2]

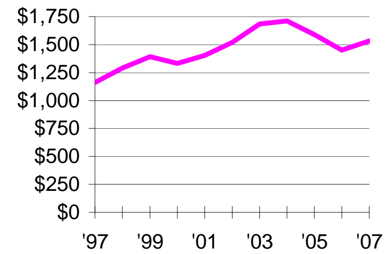


(Notes at end of figure, p. 71.)

Total not covered by fee schedule [3]







1. Developed statistics computed from data from a large insurer with fixed weights for gender, age and type of injury. Costs are adjusted for average wage growth between the respective year and 2007 (see Appendix C). Service categories are shown in the same order as in Figures 6.7 and 6.8. See Chapter 6 for explanation of service categories and provider groups.
2. Equal to the product of the first two trends for each provider group.
3. All drugs, including those covered by the pharmacy reimbursement formula, are counted as not covered by the fee schedule. The "covered" category is limited to services with maximum fees determined by relative value units and a conversion factor.

Appendix A

Glossary

The following terms are used in this report.[57]

Accident year — The year in which the accident or condition occurred giving rise to the injury or illness. In accident year data, all claims and costs are tied to the year in which the accident occurred. Accident year, used with insurance data, is equivalent to injury year, used with Department of Labor and Industry data.

Administrative conference — An expedited, informal proceeding where parties present and discuss viewpoints in a dispute. With some exceptions, administrative conferences are conducted on medical and vocational rehabilitation (VR) disputes presented on a medical or rehabilitation request;[58] they are also conducted on disputes over discontinuance of wage-loss benefits presented by a claimant's request for administrative conference. Medical and rehabilitation conferences are conducted at either the Department of Labor and Industry (DLI) or the Office of Administrative Hearings (OAH) depending on whether DLI has referred the issues concerned to OAH.[59] Discontinuance conferences are conducted at OAH. If agreement is not achieved in the conference, the DLI specialist or OAH judge issues a "decision-and-order." If agreement is achieved, an "order on agreement" is issued. A party may appeal a DLI or OAH decision-and-order by requesting a *de novo* hearing at OAH.

Assigned Risk Plan (ARP) — Minnesota's workers' compensation insurer of last resort, which insures employers unable to insure themselves in the voluntary market. The ARP is necessary because all non-exempt employers are required to have workers' compensation insurance or self-insure. The Department of Commerce operates the ARP through contracts with private companies for administrative services. The Department of Commerce sets the ARP premium rates, which are different from the voluntary market rates.

Claim petition — A form by which the injured worker contests a denial of primary liability or requests an award of indemnity, medical or rehabilitation benefits. In response to a claim petition, the Office of Administrative Hearings generally schedules a settlement conference or formal hearing.

Cost-of-living adjustment — An annual adjustment of temporary total disability, temporary partial disability, permanent total disability or dependents' benefits computed from the annual change in the statewide average weekly wage (SAWW).[60] The percent adjustment is equal to the proportion by which the SAWW in effect at the time of the adjustment differs from the SAWW in effect one year earlier, not to exceed a statutory limit. For injuries on or after Oct. 1, 1995, the cost-of-living adjustment is limited to 2 percent a year and delayed until the fourth anniversary of the injury.

Dependents' benefits — Benefits paid to dependents of a worker who has died from a work-related injury or illness. These benefits are equal to a percentage of the worker's gross pre-injury wage and are paid for a specified period of time, depending on the dependents concerned.

[57] These definitions are only intended to help the reader understand the material presented in this report. They are not intended to be legally definitive or exhaustive.

[58] As indicated on pp. 26 to 27, some issues presented on a medical or rehabilitation request are heard in a formal hearing at the Office of Administrative Hearings rather than an administrative conference.

[59] See discussion of DLI administrative conferences on p. 26 (including note 19) for types of medical and VR disputes referred to OAH.

[60] The SAWW is calculated according to Minnesota Statutes §176.011. The annual benefit adjustment is as provided in Minnesota Statutes §176.645.

Developed statistics — Estimates of what claim statistics (e.g., number of claims, average claim cost, dispute rate, vocational rehabilitation participation rate) will be at a given claim maturity. Developed statistics are relevant for accident year, policy year and injury year data. They are obtained by applying development factors, based on historical rates of development of the statistic in question, to tabulated numbers.

Development — The change over time in a claim statistic (e.g., number or cost of claims) for a particular accident year, policy year or injury year. The reported numbers develop both because of the time necessary for claims to mature and, in the case of Department of Labor and Industry data, because of reporting lags.

Discontinuance dispute — A dispute about the discontinuance of wage-loss benefits, most often initiated when the claimant requests an administrative conference (usually by phone) in response to the insurer's declared intention to discontinue temporary total or temporary partial benefits. The conference is conducted at the Office of Administrative Hearings (OAH). A discontinuance dispute may also be presented on the claimant's *Objection to Discontinuance* or the insurer's petition to discontinue benefits, either of which triggers a hearing at OAH.

Discontinuance of wage-loss benefits — The insurer may propose to discontinue wage-loss benefits (temporary total, temporary partial or permanent total disability) if it believes one of the legal conditions for discontinuance have been met. See "Notice of Intention to Discontinue," "Request for Administrative Conference," "Objection to Discontinuance" and "petition to discontinue benefits."

Dispute certification — A process required by statute in which, in a medical or rehabilitation dispute, the Department of Labor and Industry (DLI) must certify that a dispute exists and that informal intervention did not resolve the dispute before an attorney may charge for services.[61] The certification process is triggered by either a certification request or a medical or rehabilitation request. DLI specialists attempt to resolve the dispute informally during the certification process.

Experience modification factor — A factor computed by an insurer to modify an employer's premium on the basis of the employer's recent loss experience relative to the overall experience for all employers in the same payroll class. For statistical reliability reasons, the "mod" more closely reflects the employer's own experience for larger employers than for smaller employers.

Full-time-equivalent (FTE) covered employment — An estimate of the number of full-time employees who would work the same number of hours during a year as the actual workers' compensation covered employees, some of whom work part-time or overtime. It is used in computing workers' compensation claims incidence rates.

Hearing — A formal proceeding on a disputed issue or issues in a workers' compensation claim, conducted at the Office of Administrative Hearings (OAH), after which the judge issues a "findings-and-order" which is binding unless appealed to the Workers' Compensation Court of Appeals. OAH conducts formal hearings on disputes presented on claim petitions and other petitions where resolution through a settlement conference is not possible. OAH also conducts hearings on some discontinuance disputes (those where there is an *Objection to Discontinuance* or a petition to discontinue benefits), disputes referred by the Department of Labor and Industry (DLI) because they do not seem amenable to less formal resolution and disputes over miscellaneous issues such as attorney fees. Finally, OAH conducts *de novo* hearings when a party disagrees with an administrative-conference or nonconference decision-and-order from either DLI or OAH.

Indemnity benefit — A benefit to the injured or ill worker or survivors to compensate for wage loss, functional impairment or death. Indemnity benefits include temporary total disability, temporary partial disability, permanent partial disability and permanent total disability benefits; supplementary benefits; dependents' benefits; and, in insurance industry accounting, vocational rehabilitation benefits.

Indemnity claim — A claim with paid indemnity benefits. Most indemnity claims involve more than three days of total or partial disability, since this is the threshold for

[61] Minnesota Statutes §176.081, subd. 1(c).

qualifying for temporary total or temporary partial disability benefits, which are paid on most of these claims. Indemnity claims typically include medical costs in addition to indemnity costs.

Injury year — The year in which the injury occurred or the illness began. In injury year data, all claims, costs and other statistics are tied to the year in which the injury occurred. Injury year, used with Department of Labor and Industry data, is essentially equivalent to accident year, used with insurance data.

Intervention — An instance in which the Department of Labor and Industry provides information or assistance to prevent a potential dispute, or communicates with the parties (outside of a conference or mediation) to resolve a dispute and/or determine whether a dispute should be certified. A dispute resolution through intervention may occur either during or after the dispute certification process. (This is different from the intervention process in which an interested person or entity not originally involved in the dispute becomes a party to the dispute.)

Mediation — A voluntary, informal proceeding conducted by the Department of Labor and Industry (DLI) or the Office of Administrative Hearings (OAH) to facilitate agreement among the parties in a dispute. If agreement is reached, the DLI specialist or OAH judge formally records its terms in a "mediation award." A mediation occurs when one party requests it and the others agree to participate. This often takes place after attempts at resolution by phone and correspondence have failed.

Medical cost — The cost of medical services and supplies provided to the injured or ill worker, including payments to providers and certain reimbursements to the worker. Workers' compensation covers the costs of all reasonable and necessary medical services related to the injury or illness, subject to maximums established in law.

Medical dispute — A dispute about a medical issue, such as choice of providers, nature and timing of treatments or appropriate payments to providers.

Medical-only claim — A claim with paid medical costs and no indemnity benefits.
Medical Request — A form by which a party to a medical dispute requests assistance from the Department of Labor and Industry (DLI) in resolving the dispute. The request may lead to mediation or other efforts toward informal resolution by DLI or to an administrative conference at DLI or the Office of Administrative Hearings (see administrative conference).

Minnesota Workers' Compensation Insurers Association (MWCIA) — Minnesota's workers' compensation data service organization (DSO). State law specifies the duties of the DSO and the Department of Commerce designates the entity to be the DSO. Among other activities, the MWCIA collects data about claims, premium and losses from insurers, and annually produces pure premium rates.

Nonconference decision and order — A decision issued by the Department of Labor and Industry, without an administrative conference, in a dispute for which it has administrative conference authority (see "administrative conference"). The decision is binding unless a dispute party requests a formal hearing at the Office of Administrative Hearings.

Notice of Intention to Discontinue (NOID) — A form by which the insurer informs the worker of its intention to discontinue temporary total disability or temporary partial disability benefits. In contrast with a petition to discontinue benefits, the NOID brings about benefit termination if the worker does not contest it.

Objection to Discontinuance — A form by which the injured worker requests a formal hearing to contest a discontinuance of wage-loss benefits (temporary total, temporary partial or permanent total disability) proposed by the insurer by means of a *Notice of Intention to Discontinue* or a petition to discontinue benefits. The hearing is conducted at the Office of Administrative Hearings.

Office of Administrative Hearings (OAH) — An executive branch body that conducts hearings in administrative law cases. One section is responsible for workers' compensation cases; it conducts administrative conferences, mediations, settlement conferences and hearings.

Permanent partial disability (PPD) — A benefit that compensates for permanent functional impairment resulting from a work-related injury or illness. The benefit is based on the worker's impairment rating, which is a percentage of whole-body impairment determined on the basis of health care providers' assessments according to a rating schedule in rules. The PPD benefit is calculated under a schedule specified in law, which assigns a benefit amount per rating point with higher ratings receiving proportionately higher benefits. The scheduled amounts per rating point were fixed for injuries from 1984 through September 2000, but were raised in the 2000 law change for injuries on or after Oct. 1, 2000. The PPD benefit is paid after temporary total disability (TTD) benefits have ended. For injuries from October 1995 through September 2000, it is paid at the same rate and intervals as TTD until the overall amount is exhausted. For injuries on or after Oct. 1, 2000, the PPD benefit may be paid as a lump sum, computed with a discount rate not to exceed 5 percent.

Permanent total disability (PTD) — A wage-replacement benefit paid if the worker sustains a severe work-related injury specified in law. Also paid if the worker, because of a work-related injury or illness in combination with other factors, is permanently unable to secure gainful employment, provided that, for injuries on or after Oct. 1, 1995, the worker has a PPD rating of at least 13 to 17 percent, depending on age and education. The benefit is equal to two-thirds of the worker's gross pre-injury wage, subject to minimum and maximum weekly amounts, and is paid at the same intervals as wages were paid before the injury. For injuries on or after Oct. 1, 1995, benefits end at age 67 under a rebuttable presumption of retirement. Also for injuries on or after Oct. 1, 1995, weekly benefits are subject to a minimum of 65 percent of the SAWW. The maximum weekly benefit amount is indicated in Appendix B. Cost-of-living adjustments are described in this appendix.

Petition to discontinue benefits — A document by which the insurer requests a formal hearing to allow a discontinuance of wage-loss benefits (temporary total disability (TTD), temporary partial disability (TPD) or permanent total disability (PTD)). The hearing is conducted at the Office of Administrative Hearings for TTD or TPD benefits or at the Workers' Compensation Court of Appeals for PTD benefits.

Policy year — The year of initiation of the insurance policy covering the accident or condition that caused the injury or illness. In policy year data, all claims and costs are tied to the year in which the applicable policy took effect. Since policy periods often include portions of two calendar years, the data for a policy year includes claims and costs for injuries occurring in two different calendar years.

Primary liability — The overall liability of the insurer for any costs associated with an injury claim once the injury is determined to be compensable. An insurer may deny primary liability (deny the injury is compensable) if it has reason to believe the injury did not arise out of and in the course of employment or is not covered under Minnesota's workers' compensation law.

Pure premium — A measure of expected losses, equal to the sum, over all insurance classes, of payroll times the class-specific pure premium rates, adjusted for individual employers' prior loss experience. It is different from (and somewhat lower than) the actual premium charged to employers, because actual premium includes other insurance company costs plus taxes and assessments.

Pure premium rates — Rates of expected indemnity and medical losses a year per $100 of covered payroll, also referred to as "loss costs." Pure premium rates are determined annually by the Minnesota Workers' Compensation Insurers Association for approximately 560 insurance classes in the voluntary market. They are based on insurer "experience" and statutory benefit changes. "Experience" refers to actual losses relative to pure premium for the most recent report periods. The pure premium rates are published with documentation in the annual *Minnesota Ratemaking Report* subject to approval by the Department of Commerce.

Rehabilitation Request — A form by which a party to a vocational rehabilitation dispute requests assistance from the Department of Labor and Industry (DLI) in resolving the dispute. The request may lead to mediation or other efforts toward informal resolution by DLI or to an administrative conference, usually at

DLI but occasionally at the Office of Administrative Hearings (see administrative conference).

Request for Administrative Conference **—** A form by which the injured worker requests an administrative conference to contest a discontinuance of wage-loss benefits (temporary total, temporary partial or permanent total disability) proposed by the insurer on the *Notice of Intention to Discontinue.* Requests for a discontinuance conference are usually done by phone.

Reserves **—** Funds that an insurer or self-insurer sets aside to pay expected future claim costs.

Second-injury claim **—** A claim for which the insurer (or self-insured employer) is entitled to reimbursement from the Special Compensation Fund because the injury was a subsequent (or "second") injury for the worker concerned. The 1992 law eliminated reimbursement (to insurers) of second-injury claims for subsequent injuries occurring on or after July 1, 1992.

Self-insurance **—** A mode of workers' compensation insurance in which an employer or employer group insures itself or its members. To do so, the employer or employer group must meet financial requirements and be approved by the Department of Commerce.

Settlement conference **—** A proceeding conducted at the Office of Administrative Hearings to achieve a negotiated settlement, where possible, without a formal hearing. If achieved, the settlement typically takes the form of a "stipulation for settlement" (see "stipulated benefits").

Special Compensation Fund (SCF) **—** A fund within the Department of Labor and Industry (DLI) that, among other things, pays uninsured claims and reimburses insurers (including self-insured employers) for supplementary and second-injury benefit payments. (The supplementary benefit and second-injury provisions only apply to older claims, because they were eliminated by the law changes of 1995 and 1992, respectively.) Revenues come primarily from an assessment on insurers (passed on to employers through a premium surcharge) and self-insured employers. The SCF also funds the operations of DLI, the workers' compensation portion of the Office of Administrative Hearings, the Workers' Compensation Court of Appeals and workers' compensation functions in the Department of Commerce.

Statewide average weekly wage (SAWW) **—** The average wage used by insurers and the Department of Labor and Industry to adjust certain workers' compensation benefits. This report uses the SAWW to adjust average benefit amounts for different years so they are all expressed in constant (2007) wage dollars. The SAWW, from the Department of Employment and Economic Development, is the average weekly wage of nonfederal workers covered under unemployment insurance.

Stipulated benefits **—** Indemnity and medical benefits specified in a "stipulation for settlement," which states the terms of settlement of a claim among the affected parties. A stipulation usually occurs in the context of a dispute, but not always. The stipulation may be reached independently by the parties or in a settlement conference or associated preparatory activities. A stipulation is approved by a judge at the Office of Administrative Hearings. It may be incorporated into a mediation award or an award on stipulation, usually the latter. The stipulation usually includes an agreement by the claimant to release the employer and insurer from future liability for the claim other than for medical treatment. Stipulated benefits are usually paid in a lump sum.

Supplementary benefits **—** Additional benefits paid to certain workers receiving temporary total disability (TTD) or permanent total disability (PTD) benefits for injuries prior to October 1995. These benefits are equal to the difference between 65 percent of the statewide average weekly wage and the TTD or PTD benefit. The Special Compensation Fund reimburses insurers (and self-insured employers) for supplementary benefit payments. Supplementary benefits were repealed for injuries on or after Oct. 1, 1995.

Temporary partial disability (TPD) **—** A wage-replacement benefit paid if the worker is employed with earnings that are reduced because of a work-related injury or illness. (The benefit is not payable for the first three calendar days of total or partial disability unless the disability lasts, continuously or intermittently,

for at least 10 days.) The benefit is equal to two-thirds of the difference between the worker's gross pre-injury wage and his or her gross current wage, subject to a maximum weekly amount, and is paid at the same intervals as wages were paid before the injury. For injuries on or after Oct. 1, 1992, TPD benefits are limited to a total of 225 weeks and to the first 450 weeks after the injury (with an exception for approved retraining). The maximum weekly benefit amount is indicated in Appendix B. An additional limit is that the weekly TPD benefit plus the employee's weekly wage earned while receiving TPD benefits may not exceed 500 percent of the SAWW. Cost-of-living adjustments are described in this appendix.

Temporary total disability (TTD) — A wage-replacement benefit paid if the worker is unable to work because of a work-related injury or illness. (The benefit is not payable for the first three calendar days of total or partial disability unless the disability lasts, continuously or intermittently, for at least 10 days.) The benefit is equal to two thirds of the worker's gross pre-injury wage, subject to minimum and maximum weekly amounts, and is paid at the same intervals as wages were paid before the injury. Currently, TTD stops if the employee returns to work; the employee withdraws from the labor market; the employee fails to diligently search for work within his or her physical restrictions; the employee is released to work without physical restrictions from the injury; the employee refuses an appropriate offer of employment; 90 days have passed after the employee has reached maximum medical improvement or completed an approved retraining plan; the employee fails to cooperate with an approved vocational rehabilitation plan or with certain procedures in the development of such a plan; or 104 weeks of TTD have been paid (with an exception for approved retraining).[62] Minimum and maximum weekly benefit provisions are described in Appendix B. Cost-of-living adjustments are described in this appendix.

Vocational rehabilitation (VR) dispute — A dispute about a VR issue, such as whether the employee should be evaluated for VR eligibility, whether he or she is eligible, whether certain VR plan provisions are appropriate or whether the employee is cooperating with the plan.

Vocational rehabilitation plan — A plan for vocational rehabilitation services developed by a qualified rehabilitation consultant (QRC) in consultation with the employee and the employer and/or insurer. The plan is developed after the QRC determines the injured worker to be eligible for rehabilitation services, and is filed with the Department of Labor and Industry and provided to the affected parties. The plan indicates the vocational goal, the services necessary to achieve the goal and their expected duration and cost.

Voluntary market — The workers' compensation insurance market associated with policies issued voluntarily by insurers. Insurers may choose whether to insure a particular employer. See "Assigned Risk Plan."

Workers' Compensation Court of Appeals (WCCA) — An executive branch body that hears appeals of workers' compensation findings-and-orders from the Office of Administrative Hearings. WCCA decisions may be appealed to the Minnesota Supreme Court.

Workers' Compensation Reinsurance Association (WCRA) — A nonprofit entity created by law to provide reinsurance to workers' compensation insurers (including self-insurers) in Minnesota. Every workers' compensation insurer must purchase "excess of loss" reinsurance (reinsurance for losses above a specified limit per event) from the WCRA. Insurers may obtain other forms of reinsurance (such as aggregate coverage for total losses above a specified amount) through other means.

Written premium — The entire "bottom-line" premium for insurance policies initiated in a given year, regardless of when the premium comes due and is paid. Written premium is "bottom-line" in that it reflects all premium modifications in the pricing of the policies.

[62] The 2008 legislature increased the maximum TTD duration to 130 weeks effective for injuries on or after October 1, 2008.

Appendix B

2000 workers' compensation law change

This appendix summarizes those components of the 2000 workers' compensation law change relevant to trends presented in this report.[63]

The following provisions took effect for injuries on or after Oct. 1, 2000:

***Temporary total disability (TTD) minimum benefit* —** The minimum weekly TTD benefit was raised from $104 to $130, not to exceed the employee's pre-injury wage.

***Temporary total disability (TTD), temporary partial disability (TPD) and permanent total disability (PTD) maximum benefit* —** The maximum weekly TTD, TPD and PTD benefit was raised from $615 to $750.

***Permanent partial disability (PPD) benefits* —** Benefit amounts were raised for all impairment ratings. In addition, the PPD award may be paid as a lump sum, computed with a discount rate not to exceed five percent. Previously, PPD benefits were only payable in installments at the same interval and amount as the employee's temporary total disability (TTD) benefits.

***Death cases* —** A $60,000 minimum total benefit was established for dependency benefits. In death cases with no dependents, a $60,000 payment to the estate of the deceased was established and the $25,000 payment to the Special Compensation Fund was eliminated. The burial allowance was increased from $7,500 to $15,000.

[63] This appendix does not deal with changes enacted by the 2008 legislature because they do not affect the trends in this report.

Appendix C

Data sources and estimation procedures

This appendix describes data sources and estimation procedures for those figures where additional detail is needed. Two general procedures are used throughout the report — "development" of statistics to incorporate the effects of claim maturation beyond the most current data and adjustment of benefit and cost data for wage growth to achieve comparability over time. After a general description of these procedures, additional detail for individual figures is provided as necessary. See Appendix A for definitions of terms.

Developed statistics — Many statistics in this report are by accident year or policy year (insurance data) or by injury year (Department of Labor and Industry (DLI) data) (see Appendix A for definitions). For any given accident, policy or injury year, these statistics grow, or "develop," over time because of claim maturation and reporting lags. This affects a range of statistics, including claims, costs, dispute rates, attorney fees and others. Statistics from the DLI database develop constantly as the data is updated from insurer reports received daily. With the insurance data, insurers submit annual reports to the Minnesota Workers' Compensation Insurers Association (MWCIA) giving updates about prior accident and policy years along with initial data about the most recent year. If the DLI and insurance statistics were reported without adjustment, time series data would give invalid comparisons, because the statistics would be progressively less mature from one year to the next.

The MWCIA uses a standard insurance industry technique to produce "developed statistics." In this technique, the reported numbers are adjusted to reflect expected development between the current report and future reports. The adjustment uses "development factors" derived from historical rates of growth (from one report to the next) in the statistic in question. The result is a series of statistics developed to a constant maturity, e.g., to a "fifth-report" or "eighth-report" basis. The developed insurance statistics in this report are computed by the DLI Policy Development, Research and Statistics (PDRS) unit using tabulated numbers and associated development factors from the MWCIA.

PDRS has adapted this technique to DLI data. It tabulates statistics at regular intervals from the DLI database, computes development factors representing historical development for given injury years and then derives developed statistics by applying the development factors to the most recent tabulated statistics. In this manner, the annual numbers in any given time series are developed to a constant maturity, e.g., a 24-year maturity for the claim and cost statistics in Chapters 2 and 3 because the DLI database extends back to injury year 1983 for claim and cost data. An example: In Figure 2.1, the developed number of indemnity claims for injury year 2007 (in the numerator of the indemnity claim rate) is 24,900 (rounded to the nearest hundred). This is equal to the tabulated number as of Oct. 1, 2008, 22,307, times the appropriate development factor, 1.1181.

All developed statistics are estimates, and are therefore revised each year in light of the most current data.

Adjustment of cost data for wage growth — For reasons explained in Chapter 1, all costs in this report (except those expressed relative to payroll) are adjusted for average wage growth. The cost number for each year is multiplied by the ratio of the 2007 statewide average weekly wage (SAWW) to the SAWW for that year, using the SAWW reflecting wages paid during the respective year. Thus, the numbers for all years represent costs expressed in 2007 wage-dollars.

Figure 2.1 — The developed number of paid indemnity claims for each year is calculated from the DLI database. The annual number of medical-only claims is estimated by applying the ratio of medical-only to indemnity claims for insured employers to the total number of indemnity claims. (The ratio is unavailable for self-insured employers.) The MWCIA, through special tabulations, provides this ratio by injury year for compatibility with the injury-year indemnity claims numbers.

The number of full-time-equivalent (FTE) workers covered by workers' compensation is estimated as total nonfederal unemployment insurance (UI) covered employment from the Department of Employment and Economic Development (DEED) times average annual hours per employee (from the annual *Survey of Occupational Injuries and Illnesses,* conducted jointly by the U.S. Bureau of Labor Statistics and state labor departments) divided by 2,000 (annual hours per full-time worker). Nonfederal UI-covered employment is used because there is no data about workers'-compensation-covered employment.

Figure 2.2 — For insured employers, total cost is computed as written premium adjusted for deductible credits, minus paid policy dividends. Written premium and paid dividends for the voluntary market are obtained from the Department of Commerce. Written premium for the Assigned Risk Plan (ARP) is obtained from the Park Glen National Insurance Company, the plan administrator. (There are no policy dividends in the ARP.)

Written premium is adjusted upward by the amount of premium credits granted with respect to policy deductibles to reflect that portion of cost for insured employers that falls below deductible limits. Deductible credit data through policy year 2006 is available from the MWCIA. The 2007 figure was estimated by applying the ratio of deductible credits to written premium for 2006 to the 2007 premium figure. When the actual amount becomes available for 2007, that year's total cost figure will be revised.

For self-insured employers, the primary component of estimated total cost is pure premium from the Minnesota Workers' Compensation Reinsurance Association (WCRA). A second component is administrative cost, estimated as 10 percent of pure premium. The final component is the total assessment paid to the Special Compensation Fund (SCF), net of the portion used to pay claims from defaulted self-insurers, since this is already reflected in pure premium.

Total workers' compensation covered payroll is computed as the sum of insured payroll, from the MWCIA, and self-insured payroll, from the WCRA. Insured payroll was not yet available for 2007. This figure was extrapolated from actual figures using the trend in nonfederal UI-covered payroll (from DEED) and the trend in the relative insured and self-insured shares of total pure premium (from the WCRA).

Figure 2.3 — The overall ratio of benefits to system cost was derived by comparing paid indemnity and medical benefits to total system cost as computed for Figure 2.2. Because paid benefits for any year are related to both current and prior claims, the ratios of paid benefits to system cost for one to four years prior to the paid-benefit year were analyzed. Like system cost itself, these ratios follow a cycle over time. Therefore, a long-term average was used. When paid benefits are taken as a ratio to system cost for two to three years prior, the long-term ratio is very close to 70 percent. Consequently, 70 percent was selected as the long-term-average ratio of indemnity and medical benefits to total system cost.[64]

The relative shares of indemnity and medical benefits (within the 70-percent total-benefit share) were computed for accident year 2007 using voluntary-market data from the MWCIA as the starting point (the same data used for Figures 2.7 and 2.8). This data excludes benefits paid through DLI programs (including supplementary and second-injury benefits) and insurance guaranty entities (the Minnesota Insurance Guaranty Association and the Self-Insurers Security Fund). The MWCIA data was therefore adjusted to include these benefit types. More detail is available upon request.

[64] A clear disadvantage of this method is that comparing paid benefits to total system cost for two or three years prior is an imprecise way of adjusting for the fact that the benefit figure relates to current and prior claims (some of them decades old) while the system-cost figure relates to all costs that will arise (in some cases over decades) for claims that occur in the year in question. However, other alternatives were considered and rejected as inferior. More detail is available upon request.

Given the estimated 70-percent total-benefit share of total system cost, the remaining 30 percent was taken to be the combined share of insurer expenses and state administrative cost. In connection with Figure 3.8 (see p. 17), state administrative cost was estimated at 1.9 percent of total system cost for 2007. Subtracting this from the 30-percent combined share for insurer expenses and state administration leaves an estimated 28.1 percent for insurer expenses.

Figure 2.4 — Market-share percentages are taken from undeveloped counts of paid indemnity claims from the DLI database. Using undeveloped rather than developed claim counts has little effect on the percentages, because the number of indemnity claims develops at nearly the same rate for the different insurance arrangements.

Figure 2.5 — Claim and loss data is from the MWCIA's *2009 Minnesota Ratemaking Report.* This data comes from insurance company reports about claim and loss experience for individual policies for the voluntary market and the ARP. The reported losses include paid losses plus case-specific reserves. Data is developed to a fifth-report basis using the development factors in the *Ratemaking Report,* which produces statistics at an average maturity of 5.5 years from the injury date; the statistics are then adjusted for average wage growth.

Figures 2.7 and 2.8 — Following the procedure in the MWCIA's ratemaking report, Figures 2.7 and 2.8 are based on "paid plus case reserve" losses. The data is from financial reports to the MWCIA by voluntary market insurers only. "Paid plus case reserve" losses are developed to a uniform maturity of eight years (an "eighth-report basis") using the selected development factors in the 2009 ratemaking report. Payroll data for Figure 2.7 is from insurer reports about policy experience.

Figure 3.1 — Statistics are derived in the same manner as for Figure 2.5, with one modification. Figure 3.1 presents data by claim type. For permanent total disability (PTD) and death cases, the number of claims and their average cost fluctuate widely from one policy year to the next because of small numbers of cases. Therefore, to produce more meaningful comparisons among claim types, PTD and death claims and losses were estimated by applying respective percentages of claims and losses (relative to the total) during the most recent three years to total claims and losses for 2005.

Figures 3.2, 3.6 and 5.14 — These figures include statistics about claims with stipulated benefits and with attorney fees. A modified procedure was used to compute these statistics, for the following reason:

In computing developed statistics, historical rates of development are used to project relatively immature data for recent injury years to a greater level of maturity than it has yet attained. The accuracy of the projection depends on the extent to which the immature data for these years will actually develop to the same degree as projected. In general, there is more room for error where relatively little actual development has occurred and the developed statistics contain relatively large projected components.

This is the case with developed statistics relating to stipulated benefits and claimant attorney fees for recent injury years. Data about these items is usually not established until fairly late in a claim, most commonly after a settlement conference or hearing has occurred at the Office of Administrative Hearings. Consequently, insurers report this data at a later point in the claim than they do most other data. This may impair the reliability of the associated developed statistics for recent injury years.

Therefore, a modified procedure was used to compute these statistics. In particular, the percentages of claims with stipulated benefits and with claimant attorney fees for the two most recent injury years (2006 and 2007) was projected from their 2005 values using the growth rate in the percentage of claims with disputes. The latter percentage was used for this projection because the percentages of claims with stipulated benefits and attorney fees closely follow the percentage of claims with disputes.

Figures 6.1 to 6.7, 6.4-A, 6.5-A and 6.8-A — The statistics in these figures were calculated from detailed claim data supplied by a large insurer. To remove the effects of changing claim composition with respect to gender, age and injury type, the statistics in these figures were computed as fixed-weight averages over gender,

age and injury groups.[65] In this technique, the first step is to compute each statistic (e.g., the percentage of claims with evaluation and management services) for each year for each of several groups defined by gender, age and injury type.[66] Then the statistic for each year is computed as the average of that statistic over the gender, age and injury groups, using fixed weights for these different groups. This means the weight given to each group is the same for each year, so that changes in the relative sizes of the groups have no effect on the statistics. In these computations, the fixed weights were equal to the percentages of claims in the respective groups for the whole analysis period.

The statistics in these figures and appendices were computed by injury year at an average maturity of 5.4 years after the date of injury. Specifically, for the claims that arise in each year, medical services and costs were counted through Nov. 26 of the fifth year following the year of injury. For injury years 2004 to 2007, data of this maturity was not yet available.[67] Therefore, the figures for those years were projected to the same level of maturity as for previous years, using development factors computed from earlier injury years.

One challenge in analyzing this data is the presence of a few very high-cost claims which, if simply left in the data, would introduce random fluctuations in the trends that would obscure the underlying tendencies that are of interest. This issue was dealt with in three steps. First, a small number of very high-cost claims were removed from the data using a service-group-specific cost threshold adjusted for cost growth over time.[68] Second, all calculations were performed on the data remaining after removing these claims. Third, the removed claims were recombined with the aggregate results from the second step, by distributing their numbers and costs by year, service group, and provider group, according to the numbers of claims and average claim cost by service and provider group by year in the pared-down data. This way, the high-cost claims are reflected in the results, but effectively as a layer of risk on top of the numbers that would result from the pared-down database alone.

For selected service groups, the change in the average cost of the service group per claim with services in the group was decomposed into (1) the change in average number of units of service per claim, (2) the change in average cost per unit of service (with a fixed service mix) and (3) the change in expensiveness of the service mix (Figures 6.5 and 6.5-A). This was only done for selected service groups because it requires well-defined codes for all types of service within the group, which was not the situation for all service groups. The first of the three components is self-explanatory. The last two were calculated as follows:

Change in average cost per unit of service (fixed service mix) — For each pair of adjacent years, the average cost per unit of service was computed for each year using *the average payment per unit for each type of service for the year in question* along with *the average service mix for the two years combined.*[69] The index of change for the two-year interval was then computed as the percent change between the two years in average cost per unit so computed. Thus, this index reflects only changes in the costs of particular services, not changes in service mix.

Change in expensiveness of service mix — For each pair of adjacent years, the average cost per unit of service was computed for each year using the service mix for the year in question along with the average payment per unit for each type service for the two years combined.[70] The index of change for the two-year interval was then

[65] Changing claim composition is an issue not only because it occurs in the general population of claims. It is particularly an issue in this instance because of possible changes in the employer clientele of the insurer supplying the data.

[66] The age groups were 14 to 29, 30 to 39, 40 to 49 and 50+. The injury groups were musculoskeletal injuries of the back, musculoskeletal injuries of limbs, other musculoskeletal injuries, rheumatic and orthopedic injuries, internal and late-effect injuries, burns, contusion and crushing injuries, disease, fractures, lacerations and amputations, multiple injuries and complex injuries (the last two categories involve different combinations of the other categories). There were 96 weighting groups (2 gender x 4 age x 12 injury type).

[67] DLI received the data in February 2009.

[68] The threshold was 1.5 times the cost of the 10th-most-expensive claim by service category, combining claims from all years and adjusting cost by average cost growth within the service category.

[69] This is a simplified version of the computation. More detail is available upon request.

[70] This is a simplified version of the computation. More detail is available upon request.

computed as the percent change between the two years in average cost per unit so computed. Thus, this index reflects only changes in service mix, not changes in the costs of particular services.