

# Minnesota Workers' Compensation System Report, 2004

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## Executive summary

In parallel with nationwide trends, Minnesota's workers' compensation system experienced major cost reductions in the early 1990s and a period of stability in the middle of the decade. Since the end of the 1990s, costs have moved upward.

This report, part of an annual series, presents data from 1997 through 2004 about several aspects of Minnesota's workers' compensation system — claims, benefits and costs; medical cost trends; 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.

These are the report's major findings:

- The claim rate fell continually from 1997 to 2004.
- Indemnity and medical benefits per claim are up sharply (adjusting for wage growth).
- Relative to payroll, medical benefits have risen since 1997 while indemnity benefits have fallen slightly, reflecting the net effect of the falling claim rate and increasing benefits per claim.
- The increase in indemnity benefits is due partly to increasing benefit duration and partly to increases in the frequency and amounts of stipulated benefits.
- According to data from a large insurer:
  - The largest contributing factors to the recent increases in medical costs were outpatient hospital facility services, drugs and radiology.
  - For radiology, the primary factor was a shift toward more expensive services.
  - Among the categories analyzed, all of the significant increases in cost per unit of service were in areas not covered by the medical fee schedule, particularly anesthesia (all provider types), radiology and physical medicine provided by hospitals, and overnight hospital rooms.
- The vocational rehabilitation participation rate rose steadily from 1997 to 2004.
- The dispute rate has increased continually since 1999.
- Total workers' compensation system cost continued increasing relative to payroll from its low point in 2000, but the rate of increase slowed between 2003 and 2004.



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# 1

## 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. 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. However, in the past few years, costs have begun to increase relative to payroll.

This report, part of an annual series, presents data from 1997 through 2004 about several aspects of Minnesota's workers' compensation system — claims, benefits and costs; medical cost trends; 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.

Chapter 2 presents overall claim, benefit and cost data. Chapter 3 provides more detailed data to explain some of the trends in Chapter 2. Chapter 4 presents medical cost trends using data from a large insurer. Chapters 5 and 6 provide statistics about vocational rehabilitation and about disputes and dispute resolution.

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. Appendices D and E present medical trend data supplementing Chapter 4.

Some important points to keep in mind throughout the report:

***Developed statistics*** — Most statistics in this report are presented by injury year or insurance policy year.<sup>1</sup> 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” as needed to a uniform maturity so that the statistics are comparable over time. The technique uses “development factors” (projection factors) based on observed data for older claims.<sup>2</sup>

***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 effect on 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 average wage growth.<sup>3</sup>

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<sup>1</sup> Definitions in Appendix A. Some insurance data is by accident year, which is equivalent to injury year.

<sup>2</sup> See Appendix C for more detail.

<sup>3</sup> 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 30 percent relative to the number of full-time-equivalent (FTE) workers from 1997 to 2004. (Figure 2.1)
- The total cost of Minnesota's workers' compensation system relative to payroll was 7 percent higher in 2004 than in 1997. (Figure 2.2)
- Adjusted for average wage growth, average indemnity benefits per insured claim rose 41 percent from 1997 to 2003 (the most recent year available); average medical benefits per claim rose 63 percent. (Figure 2.4)
- Relative to payroll, indemnity benefits fell 7 percent from 1997 to 2004, while medical benefits rose 9 percent. (Figure 2.6) The trends in benefits relative to payroll are the net result of a falling claim rate and increasing benefits per claim.
- Pure premium rates have been fairly stable since 1998. (Figure 2.8)

### 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 5.

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 that rates are set by insurance companies rather than by a central authority. In determining their rates, insurance companies start with "pure premium rates." The Minnesota Workers' Compensation Insurers Association (MWCIA) — Minnesota's workers' compensation data service organization and rating bureau — calculates these rates every year.

The pure premium rates represent expected losses (indemnity and medical) per \$100 of payroll for some 600 payroll classifications. Insurance companies add their own expenses to the pure premium rates and make other modifications in determining their own rates. Of necessity, the pure premium rates are calculated with prior data (the most recent available); therefore, 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 2004, with a slowing down of the rate of decrease between 2003 and 2004.

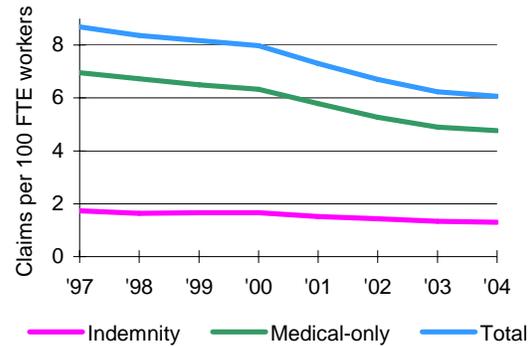
- In 2004, there were:
  - 6.1 paid claims per 100 FTE workers, down 24 percent from 2000;
  - 1.3 paid indemnity claims per 100 FTE workers, down 21 percent from 2000; and
  - 4.8 paid medical-only claims per 100 FTE workers, down 25 percent from 2000.
- The overall paid claim rate for 2004 was down 30 percent from 1997.
- Indemnity claims have made up 20 to 21 percent of all paid claims since 1997.

### System cost

The total cost of Minnesota's workers' compensation system continued increasing relative to payroll from its low-point in 2000, but the rate of increase slowed between 2003 and 2004.

- From 2000 to 2004, the cost rose from \$1.32 per \$100 of payroll to \$1.72, a 31-percent increase.
- The 2004 value was 7 percent higher than 1997.
- The total cost of workers' compensation in 2004 was an estimated \$1.58 billion, up from \$1.47 billion in 2003 (not adjusted for inflation).
- These figures reflect benefits (indemnity, medical, and vocational rehabilitation) plus other costs such as 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 pure premium for self-insured employers (see Appendix C).

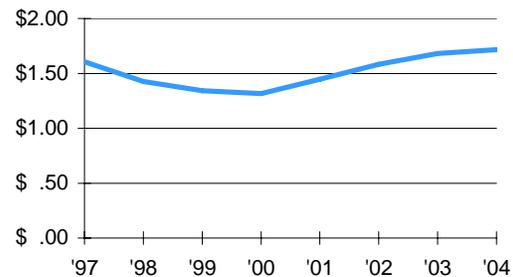
Figure 2.1 Paid claims per 100 full-time-equivalent workers, injury years 1997-2004 [1]



| Injury year | Indemnity claims | Medical-only claims | Total claims |
|-------------|------------------|---------------------|--------------|
| 1997        | 1.73             | 7.0                 | 8.7          |
| 2000        | 1.65             | 6.3                 | 8.0          |
| 2001        | 1.51             | 5.8                 | 7.3          |
| 2002        | 1.43             | 5.3                 | 6.7          |
| 2003        | 1.34             | 4.9                 | 6.2          |
| 2004        | 1.30             | 4.8                 | 6.1          |

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

Figure 2.2 System cost per \$100 of payroll, 1997-2004 [1]



|          | Cost per \$100 of payroll |
|----------|---------------------------|
| 1997     | \$1.61                    |
| 2000     | 1.32                      |
| 2001     | 1.45                      |
| 2002 [2] | 1.58                      |
| 2003 [2] | 1.68                      |
| 2004 [2] | 1.72                      |

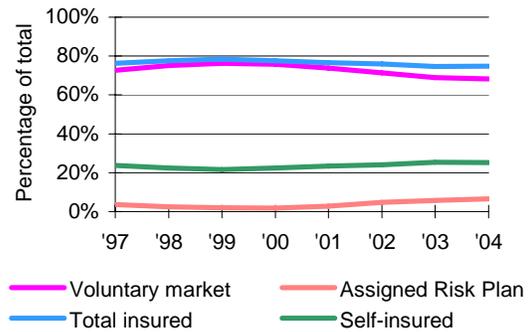
1. Data from several sources (see Appendix C). Includes insured and self-insured employers.  
 2. Preliminary.

### Insurance arrangements

The voluntary market lost market share from 1999 through 2004.<sup>4</sup>

- The voluntary market share of paid indemnity claims was 68 percent in 2003, down from 76 percent in 1999.
- The self-insured share increased from 22 percent in 1999 to 25 percent in 2004.
- The Assigned Risk Plan share increased from 2 percent in 1999 to 7 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 cause shifts in the opposite direction.

Figure 2.3 Market shares of different insurance arrangements as measured by paid indemnity claims, injury years 1997-2004 [1]



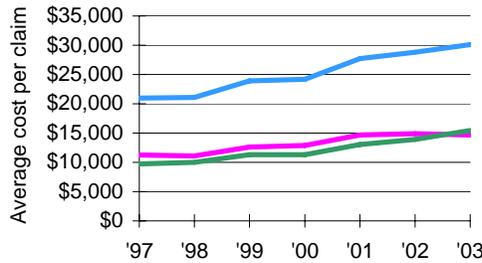
| Injury year | Assigned         |           |               |              |
|-------------|------------------|-----------|---------------|--------------|
|             | Voluntary market | Risk Plan | Total insured | Self-insured |
| 1997        | 72.6%            | 3.6%      | 76.3%         | 23.7%        |
| 1999        | 76.3             | 2.0       | 78.3          | 21.7         |
| 2002        | 71.3             | 4.7       | 76.0          | 24.0         |
| 2003        | 68.9             | 5.7       | 74.6          | 25.4         |
| 2004        | 68.3             | 6.5       | 74.8          | 25.2         |

1. Data from DLI.

<sup>4</sup> When market share is measured by pure premium (not shown here), the trends are nearly identical.

Figure 2.4 Average indemnity and medical benefits per insured claim, adjusted for wage growth, policy years 1997-2003 [1]

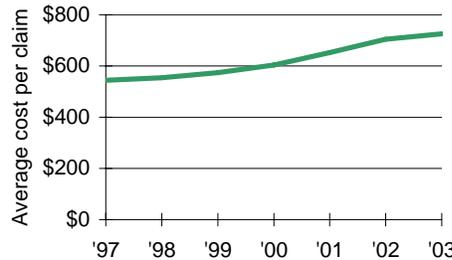
**A: Indemnity claims**



| Policy year | Indemnity benefits | Medical benefits | Total benefits |
|-------------|--------------------|------------------|----------------|
| 1997        | \$11,200           | \$ 9,700         | \$21,000       |
| 2000        | 12,900             | 11,300           | 24,200         |
| 2001        | 14,600             | 13,100           | 27,700         |
| 2002        | 14,900             | 13,900           | 28,800         |
| 2003        | 14,700             | 15,400           | 30,100         |

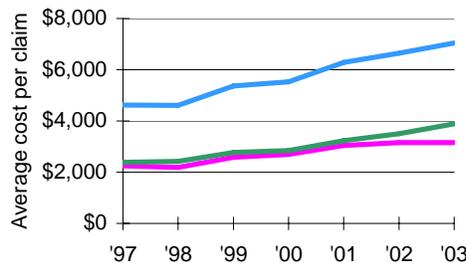
Indemnity Medical Total

**B: Medical-only claims**



| Policy year | Medical benefits | Total benefits |
|-------------|------------------|----------------|
| 1997        | \$545            | \$545          |
| 2000        | 604              | 604            |
| 2001        | 653              | 653            |
| 2002        | 705              | 705            |
| 2003        | 725              | 725            |

**C: All claims**



| Policy year | Indemnity benefits | Medical benefits | Total benefits |
|-------------|--------------------|------------------|----------------|
| 1997        | \$2,240            | \$2,380          | \$4,630        |
| 2000        | 2,690              | 2,840            | 5,530          |
| 2001        | 3,050              | 3,240            | 6,280          |
| 2002        | 3,150              | 3,500            | 6,650          |
| 2003        | 3,160              | 3,890            | 7,050          |

Indemnity 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 2004. 2003 is the most recent year available.

**Benefits per claim**

Adjusted for wage growth, average benefits per insured claim rose rapidly from 1997 through 2003.

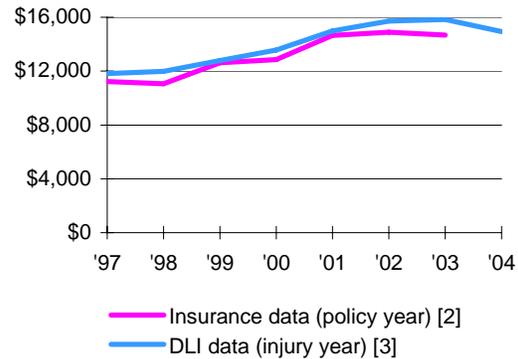
- For all claims combined, in 2003 relative to 1997:
  - average indemnity benefits were up 41 percent;
  - average medical benefits were up 63 percent; and
  - average total benefits were up 52 percent.

### Indemnity benefits per indemnity claim: insurance and DLI data

According to DLI data, the growth of average indemnity benefits per indemnity claim reversed itself between 2003 and 2004. The DLI data broadly corroborates the insurance data for earlier years (the insurance data is not yet available for 2004).

- The 2004 DLI figure is down 6 percent from 2003, compared with an average increase of 6 percent per year for 1997 through 2002 and a leveling off between 2002 and 2003.

Figure 2.5 Average indemnity benefits per indemnity claim, adjusted for wage growth, 1997-2004: insurance and DLI data [1]



| Policy or injury year | Insurance data [2] | DLI data [3] |
|-----------------------|--------------------|--------------|
| 1997                  | \$11,200           | \$11,800     |
| 2000                  | 12,900             | 13,600       |
| 2001                  | 14,600             | 15,000       |
| 2002                  | 14,900             | 15,700       |
| 2003                  | 14,700             | 15,800       |
| 2004                  | [4]                | 14,900       |

1. Benefits are adjusted for average wage growth between the respective year and 2004.
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.

## Benefits relative to payroll

Indemnity fell and medical benefits rose relative to payroll from 1997 to 2004.

- From 1997 to 2004, relative to payroll:
  - indemnity benefits fell 7 percent;<sup>5</sup>
  - medical benefits rose 9 percent; and
  - total benefits rose 1 percent.<sup>6</sup>
- These changes are the net result of a rapidly decreasing claim rate (Figure 2.1) and rapidly increasing costs per claim (except indemnity benefits after 2001 or 2002; Figures 2.4, 2.5).

## Indemnity and medical shares

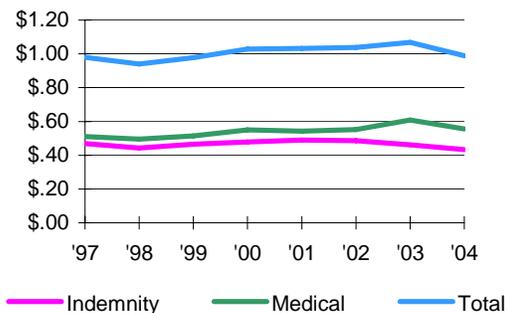
After remaining steady through 2002, the medical share of total benefits shifted to a higher level in 2003 and 2004.

- Reflecting the data in Figure 2.6, medical benefits were 56 percent of total benefits in 2004, up from 53 percent in 2002 and 52 percent in 1997.
- Indemnity benefits now account for 44 percent of total benefits.

<sup>5</sup> The indemnity benefit trend in Figure 2.6, from insurance data, is closely corroborated by DLI data.

<sup>6</sup> The marked decreases in medical and total benefits relative to payroll between 2003 and 2004 must be viewed with caution because the 2004 data is at “first report” and includes a substantial projection factor to bring it to the same “8<sup>th</sup>-report” maturity as the rest of the data series. See Appendix C for details.

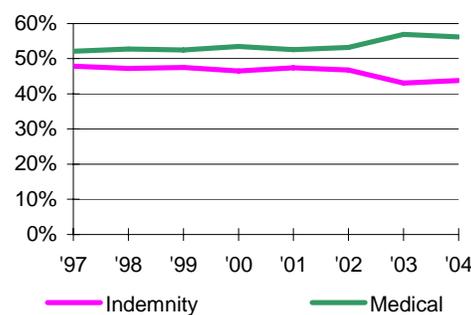
Figure 2.6 Benefits per \$100 of payroll in the voluntary market, accident years 1997-2004 [1]



| Accident year | Indemnity benefits | Medical benefits | Total benefits |
|---------------|--------------------|------------------|----------------|
| 1997          | \$ .47             | \$.51            | \$.98          |
| 2000          | .48                | .55              | 1.03           |
| 2001          | .49                | .54              | 1.03           |
| 2002          | .49                | .55              | 1.04           |
| 2003          | .46                | .61              | 1.07           |
| 2004          | .43                | .56              | .99            |

1. Developed statistics from MWCIA data (see Appendix C). Excludes self-insured employers, the Assigned Risk Plan, and supplementary and second-injury benefits.

Figure 2.7 Indemnity and medical benefit percentages in the voluntary market, accident years 1997-2004 [1]



| Accident year | Indemnity benefits | Medical benefits |
|---------------|--------------------|------------------|
| 1997          | 47.8%              | 52.2%            |
| 2000          | 46.5               | 53.5             |
| 2001          | 47.4               | 52.6             |
| 2002          | 46.8               | 53.2             |
| 2003          | 43.1               | 56.9             |
| 2004          | 43.8               | 56.2             |

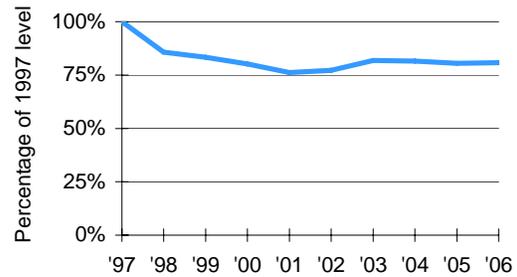
1. Developed statistics from MWCIA data (see Appendix C). Excludes self-insured employers, the Assigned Risk Plan, and supplementary and second-injury benefits.

## Pure premium rates

After some mild fluctuation from 1998 to 2003, pure premium rates showed little change from 2003 to 2006.

- Pure premium rates in 2006 were down one percent, on average, from 2003, and 19 percent from 1997. They were six percent higher than their low point in 2001.<sup>7</sup>
- 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.<sup>8</sup>
- 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 2.8** Average pure premium rate as percentage of 1997 level, 1997-2006 [1]



| Effective year | Percentage of 1997 |
|----------------|--------------------|
| 1997           | 100.0%             |
| 1998           | 85.7               |
| 2001           | 76.1               |
| 2003           | 81.7               |
| 2004           | 81.5               |
| 2005           | 80.5               |
| 2006           | 80.8               |

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

<sup>7</sup> 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.

<sup>8</sup> 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 on the indemnity claim and benefit information in Chapter 2. Some of the data relate to costs of special benefit programs and state agency administrative functions.

### Major findings

- The average duration of total disability benefits rose 29 percent from 1997 to 2004. For temporary partial disability (TPD) benefits, average duration rose 5 percent between 1997 to 1999 and 2000 to 2004.<sup>9</sup> (Figure 3.3)
- Average indemnity benefits per indemnity claim (adjusted for wage growth) rose 26 percent between 1997 and 2004.<sup>10</sup> (Figure 3.6) 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 2004 amounted to about .032 cents per \$100 of covered payroll. This figure has fallen since 1997. (Figure 3.8)

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<sup>9</sup> The increase of TPD duration is figured using averages because of annual fluctuations.

<sup>10</sup> 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.

### Background

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

#### 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 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 agreement” — 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** — In most figures in this chapter — those presenting DLI data — the term “total disability” refers to the combination of TTD and PTD benefits, because the DLI data does not distinguish between these two benefit types.

### 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

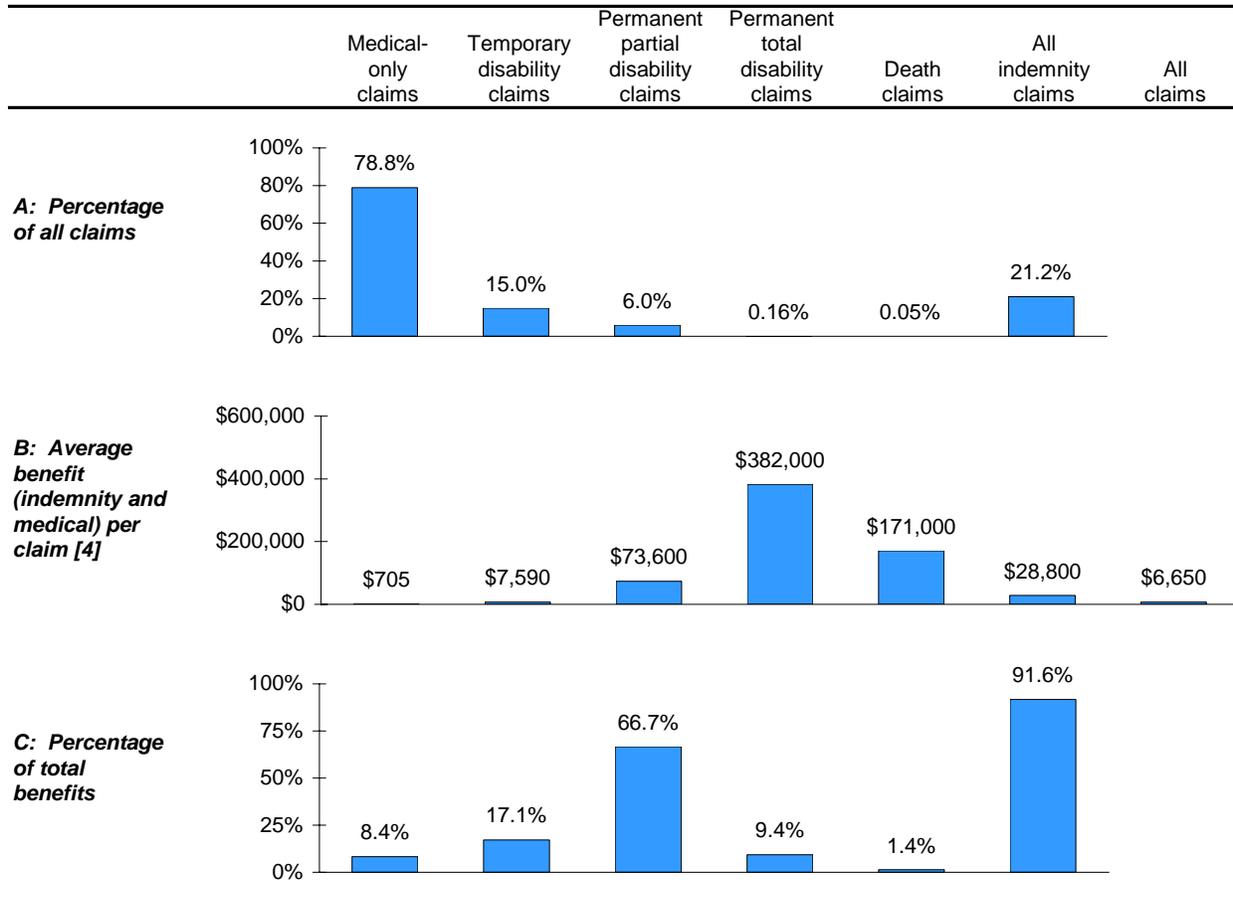
temporary disability benefits lasting more than one year and claims with stipulated settlements. All benefits on a claim are counted in the one claim-type category that the claim falls into.

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 (including self-insurers) to finance (1) costs in DLI 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 add the assessment amount to premium charged to employers, and this is included in total workers' compensation system cost (Figure 2.2).

Figure 3.1 Benefits by claim type for insured claims, policy year 2002 [1]



1. Developed statistics from MWCIA data (see Appendix C). 2002 is the most recent year available.
2. Because of annual fluctuations, data for PTD and death claims are averaged over 2000-2002 (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 2002 and 2004.

### Benefits by claim type

Each claim type 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.)*

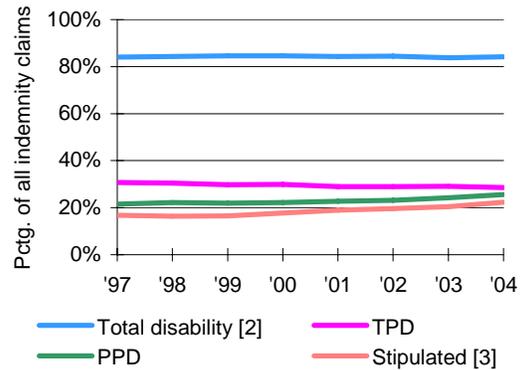
- PPD claims accounted for 67 percent of total benefits in 2002 (panel C in figure) through a combination of low frequency (panel A) and higher-than-average benefits per claim (panel B).
- Other claim types contributed smaller amounts to total benefits because of very low frequency (PTD and death claims) or very low average benefits (medical-only claims).
- Indemnity claims were 21 percent of all paid claims, but accounted for 92 percent of total benefits because they have far higher benefits on average than medical-only claims (\$28,800 vs. \$705).
- 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 and claims with total disability benefits have been stable.

- From 1997 to 2004:
  - the percentage of claims with stipulated benefits rose about 6 percentage points;
  - the percentage of claims with PPD benefits rose about 4 percentage points; and
  - the percentage of claims with TPD benefits fell 2 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 1997-2004 [1]



| Injury year | Total disab.[2] | TPD   | PPD   | Stipulated [3] |
|-------------|-----------------|-------|-------|----------------|
| 1997        | 84.1%           | 30.8% | 21.5% | 16.7%          |
| 2000        | 84.6            | 29.9  | 22.2  | 17.7           |
| 2001        | 84.3            | 28.9  | 22.7  | 19.0           |
| 2002        | 84.4            | 29.0  | 23.1  | 19.6           |
| 2003        | 83.8            | 29.0  | 24.2  | 20.4           |
| 2004        | 84.1            | 28.6  | 25.5  | 22.3           |

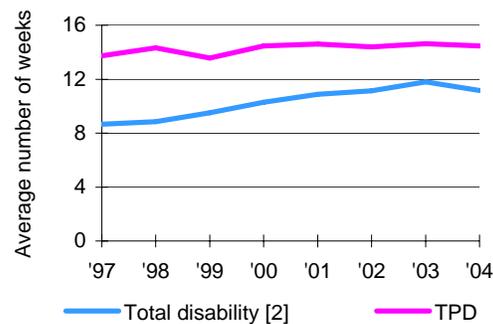
1. Developed statistics from DLI data (see Appendix C). An indemnity claim may have more than one type of benefit paid. Therefore, the sum of the figures for the different benefit types is greater than 100 percent.
2. Total disability includes TTD and PTD. Before 2004, TTD and PTD were not distinguished in the DLI database.
3. Includes indemnity and medical components.

### Benefit duration

The average duration of total disability benefits has increased substantially since 1997, although it decreased between 2003 and 2004. TPD duration increased slightly between 1997 and 2000.

- Total disability duration rose 29 percent from 1997 to 2004.
- The picture is less clear with TPD duration because of annual fluctuations. However, the annual average for 2000 to 2004 (14.5 weeks) is up 5 percent from 1997 to 1999 (13.9 weeks).
- 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, 2.8).

Figure 3.3 Average duration of wage-replacement benefits in weeks, injury years 1997-2004 [1]



| Injury year | Total disab.[2] | TPD  |
|-------------|-----------------|------|
| 1997        | 8.7             | 13.7 |
| 2000        | 10.3            | 14.5 |
| 2001        | 10.9            | 14.6 |
| 2002        | 11.1            | 14.4 |
| 2003        | 11.8            | 14.6 |
| 2004        | 11.2            | 14.5 |

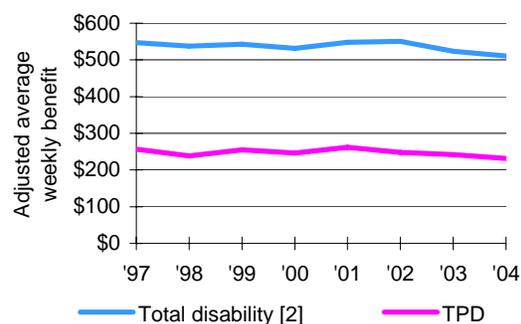
1. Developed statistics from DLI data (see Appendix C).
2. Total disability includes TTD and PTD. Before 2006, TTD and PTD were not distinguished in the DLI database.

### Weekly benefits

Average weekly total disability and TPD benefits have been fairly stable since 1997, after adjusting for average wage growth. However, average weekly total disability benefits have drifted downward since 2002 and average weekly TPD benefits have done the same since 2001.

- Adjusted average weekly total disability benefits fell 7 percent from 2002 to 2004, and average weekly TPD benefits fell 12 percent from 2001 to 2004.
- This occurred in large part because the average pre-injury wage of injured workers (which affects average weekly benefits) rose more slowly than the average wage of all workers between 2001 and 2004.

Figure 3.4 Average weekly wage-replacement benefits, adjusted for wage growth, injury years 1997-2004 [1]



| Injury year | Total disab. [2] | TPD   |
|-------------|------------------|-------|
| 1997        | \$547            | \$256 |
| 2000        | 531              | 246   |
| 2001        | 548              | 262   |
| 2002        | 550              | 248   |
| 2003        | 524              | 242   |
| 2004        | 511              | 231   |

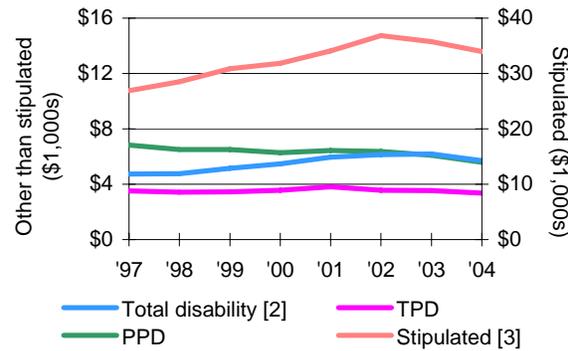
1. Developed statistics from DLI data (see Appendix C). Benefit amounts are adjusted for average wage growth between the respective year and 2004.
2. Total disability includes TTD and PTD. Before 2006, TTD and PTD were not distinguished in the DLI database.

### Average indemnity benefits by type

Adjusting for average wage growth, average benefit amounts (per claim with the given benefit type) have fallen during the past one to three years, depending on the type of benefit.

- From 2002 to 2004, after adjusting for average wage growth:
  - average total disability benefits fell 7 percent;
  - average TPD benefits fell 6 percent.
  - average PPD benefits fell 12 percent; and
  - average stipulated benefits fell 9 percent.
- The trends in average total disability and TPD benefits are driven by the trends in average benefit duration and average weekly benefits. For both benefit types, average duration was about the same in 2004 as in 2002 (Figure 3.3). Average weekly benefits, on the other hand, fell for both total disability and TPD after adjusting for average wage growth (Figure 3.4).
- With one exception, adjusted average PPD benefits have fallen continually since 1997. The exception, in 2001, reflected the PPD benefit increase in the 2000 law change (see Appendix B). Adjusted average PPD benefits fell during the remainder of the period primarily because the PPD benefit schedule is fixed, apart from statutory increases. Under the fixed schedule, PPD benefits fall relative to rising wages, which is reflected in the adjusted average benefits.
- The recent decrease in average stipulated benefits has an uncertain explanation, but may be related to decreasing values of claims involved in settlements, given the decreases in the average amounts of other benefits.

Figure 3.5 Average indemnity benefit by type per claim with that benefit type, adjusted for wage growth, injury years 1997-2004 [1]



| Injury year | Total disab.[2] | TPD     | PPD     | Stipulated [3] |
|-------------|-----------------|---------|---------|----------------|
| 1997        | \$4,740         | \$3,520 | \$6,830 | \$26,870       |
| 2000        | 5,470           | 3,560   | 6,270   | 31,840         |
| 2001        | 5,960           | 3,830   | 6,440   | 34,070         |
| 2002        | 6,140           | 3,570   | 6,360   | 36,820         |
| 2003        | 6,190           | 3,540   | 6,100   | 35,760         |
| 2004        | 5,700           | 3,350   | 5,580   | 33,950         |

1. Developed statistics from DLI data (see Appendix C). Benefit amounts are adjusted for average wage growth between the respective year and 2004.
2. Total disability includes TTD and PTD. Before 2004, TTD and PTD were not distinguished in the DLI database.
3. Includes indemnity and medical components.

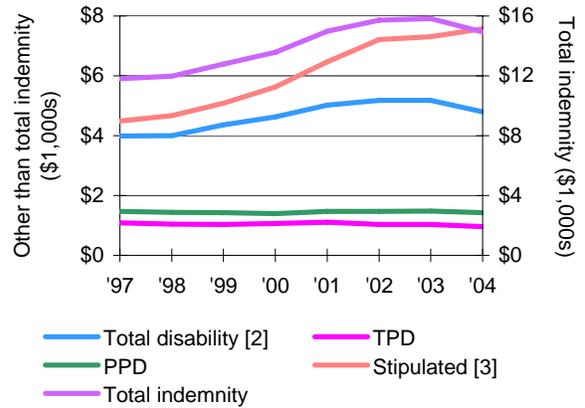
### Indemnity benefits per indemnity claim

Adjusting for average wage growth, average indemnity benefits per indemnity claim rose between 1997 and 2004, though with a decrease in 2004. The 1997 to 2004 increase resulted from an increase in total disability and stipulated benefits per claim. The increase in total disability benefits per claim is attributable to 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 that type of benefit*. Figure 3.6 reflects both the percentage of indemnity claims with each benefit type (Figure 3.2) and average benefit amounts per claim with the respective benefit type (Figure 3.5).

- Despite a decrease in 2004, indemnity benefits per indemnity claim in 2004 were up 26 percent from 1997. These numbers (last column of Figure 3.6) are the DLI numbers in Figure 2.5.
- The increase in indemnity benefits per claim from 1997 to 2003 came 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 2004, total disability and stipulated benefits per indemnity claim were several times as large as TPD and PPD benefits per indemnity claim.
- DLI estimated that the indemnity benefit increases enacted by the 2000 Legislature would raise total indemnity benefits by 4.6 percent. Thus, the legislated benefit increases contributed about a sixth of the 26-percent increase in indemnity benefits per claim from 1997 to 2004. Most of the legislated benefit increase was in the form of an increase in PPD benefits and an increase in minimum and maximum weekly benefits (see Appendix B).

Figure 3.6 Average indemnity benefit by type *per paid indemnity claim*, adjusted for wage growth, injury years 1997-2004 [1]



| Injury year | Total disab. [2] | TPD     | PPD     | Stipulated [3] | Total indem. [4] |
|-------------|------------------|---------|---------|----------------|------------------|
| 1997        | \$3,980          | \$1,080 | \$1,470 | \$4,490        | \$11,810         |
| 2000        | 4,630            | 1,060   | 1,390   | 5,630          | 13,580           |
| 2001        | 5,020            | 1,110   | 1,460   | 6,470          | 14,990           |
| 2002        | 5,180            | 1,040   | 1,470   | 7,220          | 15,720           |
| 2003        | 5,180            | 1,030   | 1,480   | 7,300          | 15,820           |
| 2004        | 4,790            | 960     | 1,420   | 7,580          | 14,930           |

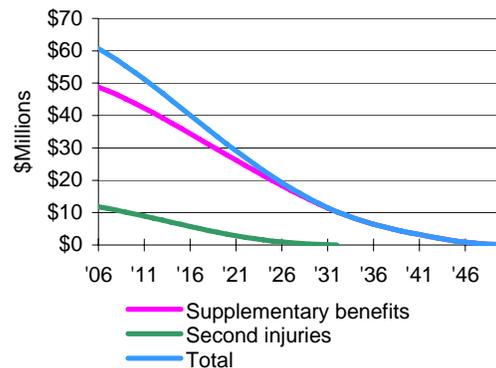
1. Developed statistics from DLI data (see Appendix C). Benefit amounts are adjusted for average wage growth between the respective year and 2004.
2. Total disability includes TTD and PTD. Before 2004, TTD and PTD were not distinguished in the DLI database.
3. Includes indemnity and medical components.
4. 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 in half by 2020.

- The total projected cost for 2006, \$61 million, is about 3.8 percent of total workers' compensation system cost.
- The 2006 cost consists of \$49 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 2030.
- Claim settlements will reduce future projections of these liabilities. Settlements amounted to about \$7 million in fiscal year 2005.

Figure 3.7 Projected cost of supplementary benefit and second-injury reimbursement claims, fiscal claim-receipt years 2006-2050 [1]



| Fiscal year of claim receipt | Projected amount claimed (\$millions) |                 |        |
|------------------------------|---------------------------------------|-----------------|--------|
|                              | Supplementary benefits                | Second injuries | Total  |
| 2006                         | \$48.8                                | \$11.8          | \$60.6 |
| 2010                         | 43.8                                  | 9.5             | 53.3   |
| 2020                         | 27.8                                  | 3.4             | 31.2   |
| 2030                         | 12.7                                  | .2              | 12.9   |
| 2050                         | .1                                    | .0              | .1     |

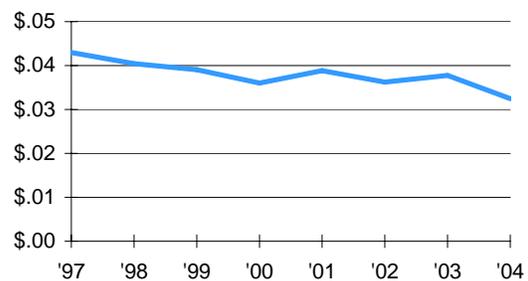
1. Projected from DLI data, assuming no future settlement activity. See Appendix C.

### 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 2004, state agency administrative cost (see note in figure) came to .032 cents per \$100 of payroll.
- Administrative cost for 2004 was about \$29 million or about 1.8 percent of total workers' compensation system cost.

Figure 3.8 Net state agency administrative costs per \$100 of payroll, fiscal years 1997-2004 [1]



| Fiscal year | Admin. cost per \$100 of payroll |
|-------------|----------------------------------|
| 1997        | .043                             |
| 2000        | .036                             |
| 2001        | .039                             |
| 2002        | .036                             |
| 2003        | .038                             |
| 2004        | .032                             |

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. Costs are net of fees for service. Data from DLI, MWCIA and WCRA.

# 4

## Medical cost detail

An important finding from Chapter 2 is that between policy years 1997 and 2003, average medical benefits per claim grew 63 percent after adjusting for wage growth. This chapter presents additional statistics about medical costs. DLI Research and Statistics computed these statistics from detailed workers' compensation medical cost data for Minnesota from a large insurer.<sup>11</sup> Although the claims in this data (the "research data") are similar to the state's overall claim population on some important dimensions (see below), it is uncertain how closely the results represent Minnesota's overall workers' compensation experience. However, on a qualitative level, the results do point out some important developments — highlighting, for example, certain types of services with relatively large cost increases.

Three differences from last year's analysis are that surgery and anesthesia are treated separately (rather than as a single category), outpatient facility service-providers are divided into outpatient hospital facilities and ambulatory surgical centers, and inpatient hospital services are divided into overnight room and other services.

### Major findings

The findings are broadly similar to those from last year regarding the relative contributions of different factors to the overall increase in medical cost, with new results for the categories just indicated.

The following findings emerge from the research data for injury years 1997 to 2004:

- Adjusted for wage growth, per-claim expenditures increased 83 percent for drugs, 70 percent for outpatient facility services and 34 percent for radiology. The increase for drugs was 46 percent for facility providers and 130 percent for nonfacility providers. (Figure 4.2)
- Of the \$337 increase in total medical cost per claim, outpatient facility services accounted for \$129 (33 percent), drugs \$67 (17 percent) and radiology \$59 (15 percent). (Figure 4.2)
- For all service groups except surgery and "other services," the cost increase came primarily from an increasing average cost per claim with the service, as opposed to an increasing proportion of claims receiving the service. (Figure 4.3)
- For radiology, an increasingly expensive service mix was responsible for most of the increase in cost per claim with service — 21 percentage points of the 26-percent increase. (Figure 4.4)
- Among the categories used in this analysis, all of the significant increases in cost per unit of service were in areas not covered by the fee schedule, particularly anesthesia (all provider types), overnight hospital rooms, and radiology and physical medicine involving providers not subject to the fee schedule. These increases ranged from 14 to 29 percent after adjusting for average wage growth. (Figure 4.4)

### 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

<sup>11</sup> Several large insurers, third-party administrators and managed care organizations were approached for data for this analysis. Several of them supplied data, but in only one case was the data sufficient for this analysis.

changes and in rules following those changes. The three most important cost-control mechanisms are the medical fee schedule, treatment parameters and the allowance for using certified managed care organizations.<sup>12</sup>

**Fee schedule** — The fee schedule sets reimbursement limits for a range of medical services in nonhospital and outpatient-large-hospital settings.<sup>13</sup> The schedule covers evaluation and management, surgery, radiology, pathology and laboratory services, physical medicine and rehabilitation, chiropractic manipulations and “other medicine.”<sup>14</sup> 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.<sup>15</sup>

Generally, services not covered by the fee schedule 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 in the schedule are also reimbursed at 85 percent of U&C. All small-hospital services are reimbursed at 100 percent of U&C.

<sup>12</sup> See Appendix B for additional detail.

<sup>13</sup> Large hospitals are those with more than 100 licensed beds.

<sup>14</sup> “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.

<sup>15</sup> The fee schedule distinguishes among four 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. Effective Oct. 1, 2005, this is achieved instead through different conversion factors for the four groups.

A separate formula applies to the reimbursement of drug charges.<sup>16</sup>

**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), conservative (nonsurgical) treatment, surgical treatment, inpatient hospitalization and chronic management.<sup>17</sup> The rules allow for treatments outside of the parameters if circumstances warrant. Insurers may deny payment for medical services outside of the parameters.<sup>18</sup>

**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, 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.<sup>19</sup>

This chapter analyzes the 1997 to 2004 period (see below). A comparison of the research data

<sup>16</sup> The maximum reimbursement for drugs (except for large-hospital inpatient settings and small hospitals) is the average wholesale price plus a \$5.14 dispensing fee (not to exceed retail price for nonprescription drugs). 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.

<sup>17</sup> The parameters concerning chronic management and some imaging procedures apply to all injuries.

<sup>18</sup> Medical providers may appeal a denial of payment.

<sup>19</sup> Details available upon request from DLI Research and Statistics.

with data for all insurers (available for 1997 to 2003) shows that average medical cost per claim rose significantly less in the research data than for all insurers. Thus, the estimated magnitudes of different components of the overall medical cost increase in the research data are likely to understate, on the whole, the corresponding magnitudes for all insurers combined.<sup>20</sup>

### Analytical approach

To analyze the major contributing factors to medical cost, this analysis delineates the following service groups:

- 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;<sup>21</sup>
- drugs (prescription and nonprescription drugs supplied to the worker for home use, plus drugs used in patient-care settings);
- equipment and supplies;
- inpatient hospital facility services (not included in the above categories);
- outpatient facility services (not included in the above categories; includes outpatient hospital facilities and ambulatory surgical centers [ASCs]); and
- other services.<sup>22</sup>

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 other than nursing homes (including ASCs), 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 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 are considered separately. For inpatient hospital facility services, the analysis distinguishes between overnight room and other services.

The analysis presents data by year of injury for injury years 1997 to 2004 (the most recent year in the research data).<sup>23</sup> 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.<sup>24</sup> To supplement the summary data shown in this chapter, Appendices D and E present annual trend data.

As elsewhere in the report, the statistics are presented at a uniform maturity so as to be comparable over time. In this chapter, the statistics are presented at an average maturity of five years after the date of injury.

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.<sup>25</sup> Because of these adjustments, the statistics in this chapter show how medical cost and service utilization would have changed over 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 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 in comparison with general inflation.

<sup>20</sup> See Appendix C (Figure A-1 and surrounding text) for details.

<sup>21</sup> Includes physical therapy and occupational therapy. Osteopathic manipulations are included in “other services.”

<sup>22</sup> Includes “other medicine” (see note 20) 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.

<sup>23</sup> See definition of injury year data in Appendix A.

<sup>24</sup> See Figure A-1 in Appendix C.

<sup>25</sup> See “Adjustment of cost data for wage growth” in Chapter 1 for rationale. See Appendix C for computational details.

**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 years). However, this chapter uses the term “medical cost” for consistency with the remainder of the report.

At several points in 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.”

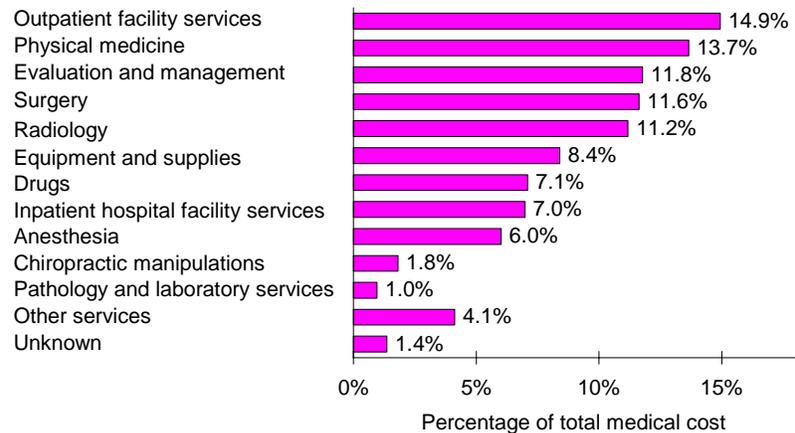
**Cost distribution by service group**

The cost of each service group per total claim is the product of the percentage of claims with that type of service and the average cost of that service per claim with the service (columns 1 and 2 in Figure 4.1).

The largest component of total medical cost for injury year 2004 was outpatient facility services.

- Outpatient facility services accounted for 15 percent of total medical cost for 2004, followed by physical medicine (14 percent).

**Figure 4.1 Medical cost per claim by service group, injury year 2004 [1]**



| Service group [2]   | Pctg. of claims w/ service | Cost per claim w/ service | Cost per total claim | Pctg. of total cost |
|---|----------------------------|---------------------------|----------------------|---------------------|
| Outpatient facility services                                    | 32.8%                      | \$956                     | \$313                | 14.9%               |
| <i>Outpatient hospital facilities</i>                           | 31.5                       | 747                       | 230                  | 11.0                |
| <i>Ambulatory surgical centers</i>                              | 2.2                        | 3,828                     | 83                   | 3.9                 |
| Physical medicine   | 25.5                       | 1,122                     | 286                  | 13.7                |
| <i>Providers subject to fee schedule (except chiropractors)</i> | 16.6                       | 1,229                     | 203                  | 9.7                 |
| <i>Chiropractic providers</i>                                   | 8.4                        | 300                       | 25                   | 1.2                 |
| <i>Providers not subject to fee sched.</i>                      | 4.0                        | 1,455                     | 58                   | 2.8                 |
| Evaluation and management                                       | 81.3                       | 304                       | 247                  | 11.8                |
| <i>Providers subject to fee schedule</i>                        | 79.3                       | 304                       | 241                  | 11.5                |
| <i>Providers not subject to fee sched.</i>                      | 3.5                        | 156                       | 6                    | 0.3                 |
| Surgery   | 33.1                       | 736                       | 244                  | 11.6                |
| <i>Providers subject to fee schedule</i>                        | 32.0                       | 749                       | 240                  | 11.4                |
| <i>Providers not subject to fee sched.</i>                      | 1.5                        | 272                       | 4                    | 0.2                 |
| Radiology   | 42.4                       | 552                       | 234                  | 11.2                |
| <i>Providers subject to fee schedule</i>                        | 41.0                       | 420                       | 172                  | 8.2                 |
| <i>Providers not subject to fee sched.</i>                      | 8.2                        | 752                       | 62                   | 3.0                 |
| Equipment and supplies  | 33.7                       | 523                       | 176                  | 8.4                 |
| <i>Nonfacility providers</i>                                    | 20.9                       | 172                       | 36                   | 1.7                 |
| <i>Facility providers</i>                                       | 18.5                       | 758                       | 140                  | 6.7                 |
| Drugs   | 45.5                       | 327                       | 149                  | 7.1                 |
| <i>Nonfacility providers</i>                                    | 33.2                       | 262                       | 86                   | 4.1                 |
| <i>Facility providers</i>                                       | 20.2                       | 315                       | 63                   | 3.0                 |
| Inpatient hospital facility services                            | 1.9                        | 7,627                     | 146                  | 7.0                 |
| <i>Overnight room [3]</i>                                       | 1.8                        | 2,378                     | 43                   | 2.1                 |
| <i>Other</i>  | 1.9                        | 5,431                     | 103                  | 4.9                 |
| Anesthesia  | 6.9                        | 1,840                     | 126                  | 6.0                 |
| <i>Nonfacility providers</i>                                    | 6.2                        | 1,133                     | 70                   | 3.4                 |
| <i>Facility providers</i>                                       | 4.7                        | 1,193                     | 56                   | 2.7                 |
| Chiropractic manipulations                                      | 9.6                        | 395                       | 38                   | 1.8                 |
| Pathology and laboratory services                               | 8.3                        | 244                       | 20                   | 1.0                 |
| Other services  | 20.5                       | 421                       | 86                   | 4.1                 |
| Unknown   | 20.4                       | 140                       | 29                   | 1.4                 |
| <b>Total</b>  | <b>100.0%</b>              | <b>\$2,096</b>            | <b>\$2,096</b>       | <b>100.0%</b>       |

1. Computed from data from a large insurer (see Appendix C).  
 2. See text (p. 20) for additional detail on service groups and provider subcategories.  
 3. Excludes intensive care unit.

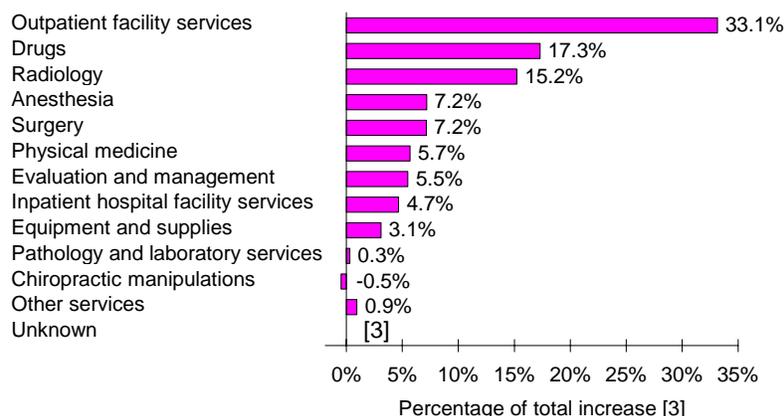
- The most prevalent types of service (according to the percentage of claims with the service) were evaluation and management (81 percent of claims), drugs (46 percent) and radiology (42 percent).
- The types of service with the greatest average cost (per claim with the service) were inpatient hospital facility services (\$7,630), anesthesia (\$1,840) and physical medicine (\$1,120).
- For some service groups, there are large differences by provider type in cost per claim with service. These differences may occur because of differences in quantity or complexity of service or cost per unit of service.
  - Notably, outpatient facility services cost \$3,830 per claim with service for ASCs, compared to \$747 for outpatient hospital facilities. Determining the meaning of this difference will require further analysis.<sup>26</sup>

### Major contributors to overall cost increase

Drugs and outpatient facility services showed the largest percent increases in cost per total claim from 1997 to 2004. These two service groups also contributed the largest amounts to the overall increase in cost per total claim.

<sup>26</sup> Part of the difference may relate to the complexity of the surgical procedures. For example, 36 percent of the procedures at outpatient hospital facilities were simple wound repairs, as opposed to less than one percent at ASCs.

**Figure 4.2 Contributions of service groups to overall change in total medical cost per total claim between injury years 1997 and 2004 [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                                    | 69.7%                                  | \$129                                    | 33.1%                                 |
| <i>Outpatient hospital facilities</i>                           | 39.5                                   | 63                                       | 16.3                                  |
| <i>Ambulatory surgical centers</i>                              | 445.4                                  | 65                                       | 16.9                                  |
| Drugs   | 82.5                                   | 67                                       | 17.3                                  |
| <i>Nonfacility providers</i>                                    | 129.7                                  | 48                                       | 12.3                                  |
| <i>Facility providers</i>                                       | 45.8                                   | 19                                       | 5.0                                   |
| Radiology   | 33.8                                   | 59                                       | 15.2                                  |
| <i>Providers subject to fee schedule</i>                        | 27.2                                   | 37                                       | 9.5                                   |
| <i>Providers not subject to fee sched.</i>                      | 55.6                                   | 22                                       | 5.7                                   |
| Anesthesia  | 28.3                                   | 28                                       | 7.2                                   |
| <i>Nonfacility providers</i>                                    | 36.8                                   | 19                                       | 4.8                                   |
| <i>Facility providers</i>                                       | 20.1                                   | 9  | 2.4                                   |
| Surgery [4]   | 12.9                                   | 28                                       | 7.2                                   |
| Physical medicine   | 8.4                                    | 22                                       | 5.7                                   |
| <i>Providers subject to fee schedule (except chiropractors)</i> | 8.5                                    | 15                                       | 4.0                                   |
| <i>Chiropractic providers</i>                                   | -10.9                                  | -3                                       | -0.8                                  |
| <i>Providers not subject to fee sched.</i>                      | 20.8                                   | 10                                       | 2.5                                   |
| Evaluation and management [5]                                   | 9.5                                    | 21                                       | 5.5                                   |
| Inpatient hospital facility services                            | 14.1                                   | 18                                       | 4.7                                   |
| <i>Overnight room [6]</i>                                       | -14.7                                  | -8                                       | -1.9                                  |
| <i>Other</i>  | 32.7                                   | 26                                       | 6.6                                   |
| Equipment and supplies  | 7.3                                    | 12                                       | 3.1                                   |
| <i>Nonfacility providers</i>                                    | -8.1                                   | -3                                       | -0.8                                  |
| <i>Facility providers</i>                                       | 12.1                                   | 15                                       | 3.9                                   |
| Pathology and laboratory services                               | 6.3                                    | 1  | 0.3                                   |
| Chiropractic manipulations                                      | -4.6                                   | -2                                       | -0.5                                  |
| Other services  | 4.4                                    | 4  | 0.9                                   |
| Unknown   | -64.1                                  | -51                                      | [3]                                   |
| <b>Total</b>  | <b>19.2%</b>                           | <b>\$337</b>                             | <b>100.0%</b>                         |

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 2004. (See Appendix C.)
2. See text (p. 20) for additional detail on service groups and provider subcategories.
3. The percent contribution to the total cost change is computed over services with reported (known) type.
4. Provider groups (nonfacility and facility providers) are not shown for surgery because facility providers of this service group accounted for only 0.2 percent of total medical cost in 2004 (Figure 4.1).
5. 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 0.3 percent of total medical cost in 2004 (Figure 4.1).
6. Excludes intensive care unit.

- After adjusting for average wage growth, expenditures per total claim increased 83 percent for drugs, 70 percent for outpatient facility services, 34 percent for radiology and 28 percent for anesthesia.
- Of the \$337 increase in total medical cost per claim, outpatient facility services accounted for \$129 (33 percent), drugs \$67 (17 percent) and radiology \$59 (15 percent).
- For outpatient facility services, cost per total claim increased 445 percent for ASCs as opposed to 40 percent for outpatient hospital facilities.<sup>27</sup> However, because ASCs accounted for a relatively small portion of cost within this service group (Figure 4.1), the two provider groups contributed roughly equal amounts to the overall cost increase.
- For drugs, cost per total claim increased 130 percent for nonfacility providers as opposed to 46 percent for facility providers.
- For inpatient hospital facility services, the increase in cost per total claim came entirely from services other than overnight room. Overnight room costs per total claim decreased.<sup>28</sup>

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<sup>27</sup> As shown in Figure 4.3, this resulted primarily from an increase in the proportion of claims using ASCs.

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<sup>28</sup> As shown in Figure 4.4, this resulted from a decrease in average hospital nights per claim counteracting an increase in cost per night.

Figure 4.3 Components of change in cost per total claim between injury years 1997 and 2004 [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 (33.1%)                                   | 24.7%                                       | 36.1%  | 69.7%   |
| <i>Outpatient hospital facilities (16.3%)</i>                          | 22.1%                                       | 14.2%  | 39.5%   |
| <i>Ambulatory surgical centers (16.9%)</i>                             | 251% [7]                                    | 57.3%  | 445% [7]                                      |
| Drugs (17.3%)  | 21.2%                                       | 50.6%  | 82.5%   |
| <i>Nonfacility providers (12.3%)</i>                                   | 36.9%                                       | 68.0%  | 129.7%  |
| <i>Facility providers (5.0%)</i>                                       | 11.6%                                       | 30.5%  | 45.8%   |
| Radiology (15.2%)  | 6.1%  | 26.1%  | 33.8%   |
| <i>Providers subj. to fee sched. (9.5%)</i>                            | 5.0%  | 21.2%  | 27.2%   |
| <i>Provs. not subj. to fee sched. (5.7%)</i>                           | 24.4%                                       | 25.0%  | 55.6%   |
| Anesthesia (7.2%)  | 9.5%  | 17.2%  | 28.3%   |
| <i>Nonfacility providers (4.8%)</i>                                    | 13.4%                                       | 20.7%  | 36.8%   |
| <i>Facility providers (2.4%)</i>                                       | 7.2%  | 11.9%  | 20.1%   |
| Surgery [4] (7.2%)   | 11.8%                                       | 0.9%   | 12.9%   |
| Physical medicine (5.7%)   | -2.4%                                       | 11.0%  | 8.4%  |
| <i>Providers subject to fee schedule (except chiropractors) (0.0%)</i> | -1.2%                                       | 9.9%   | 8.5%  |
| <i>Chiropractic providers (-0.8%)</i>                                  | -4.9%                                       | -6.4%  | -10.9%  |
| <i>Provs. not subj. to fee sched. (2.5%)</i>                           | -0.8%                                       | 22.0%  | 20.8%   |
| Evaluation and management [5] (5.5%)                                   | -2.2%                                       | 11.9%  | 9.5%  |
| Inpatient hospital facility services (4.7%)                            | 1.1%  | 13.2%  | 14.1%   |
| <i>Overnight room [6] (-1.9%)</i>                                      | -0.9%                                       | -14.0%   | -14.7%  |
| <i>Other (6.6%)</i>  | 5.2%  | 26.2%  | 32.7%   |
| Equipment and supplies (3.1%)  | -17.3%                                      | 29.7%  | 7.3%  |
| <i>Nonfacility providers (-0.8%)</i>                                   | -22.3%                                      | 18.1%  | -8.1%   |
| <i>Facility providers (3.9%)</i>                                       | -8.4%                                       | 22.4%  | 12.1%   |
| Pathology and laboratory servs. (0.3%)                                 | -0.9%                                       | 6.9%   | 6.3%  |
| Chiropractic manipulations (-0.5%)                                     | -3.6%                                       | -1.0%  | -4.6%   |
| Other services (0.9%)  | 39.6%                                       | -25.2%   | 4.4%  |
| Total (100.0%)   | 0.0%  | 19.2%  | 19.2%   |

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 1997 and 2004. (See Appendix C.)
2. See text (p. 20) for additional detail on service groups and provider subcategories. Percent contribution to overall cost increase per total claim (from Figure 4.2) 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. Provider groups (nonfacility and facility providers) are not shown for surgery because facility providers of this service group accounted for only 0.2 percent of total medical cost in 2004 (Figure 4.1).
5. 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 0.3 percent of total medical cost in 2004 (Figure 4.1).
6. Excludes intensive care unit.
7. A bar is not shown here because its length is out of the range for other services and provider subcategories.

## Analysis of cost change per total claim

The change in the cost of a type of service per total claim<sup>29</sup> is the product of the change in the percentage of claims with that service and the change in the average cost of the service for claims with the service (the latter is analyzed more fully below). Figure 4.3 presents these statistics in summary form; Appendix D shows the associated annual trends.

- For all service groups except surgery and "other services," combining provider types, the predominant factor was the change in the average cost of the service for claims with the service.
  - For drugs, for example, the 83-percent increase in cost per total claim resulted from a 51-percent increase in the average cost of drugs per claim with drugs and a 21-percent increase in the percentage of claims with drugs.

<sup>29</sup> Column 1 of Figure 4.2.

- For surgery, by contrast, the 13-percent increase in cost per total claim resulted primarily from a 12-percent increase in the percentage of claims with surgery.
- Significant variation occurs by provider type.
  - Within outpatient facility services, ASCs showed far larger increases than did outpatient hospital facilities in the percentage of claims with service (251 percent vs. 21 percent) and in the change in cost of service per claim with service (57 vs. 14 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 (the 2.2 percent figure for 2004 [Figure 4.2] is 251 percent greater than 0.6 percent).
  - For drugs, nonfacility providers showed significantly larger increases than did facility providers in the percentage of claims with drugs and in the cost of drugs for claims where they were used.
  - Within radiology, for providers subject to the fee schedule (nonhospital providers and large hospitals providing outpatient services), the increase in cost per total claim came mostly from an increase in cost per claim with service. By contrast, for providers not subject to the fee schedule (small hospitals and large hospitals providing inpatient services), the increase in cost per total claim came from roughly equal increases in the percentage of claims with the service and in cost per claim with service.

### Analysis of cost change for selected service groups

The change in the average cost of a service per claim with that service<sup>30</sup> is the product of the changes in (1) average units of service per claim, (2) average cost per unit (for a fixed 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 4.4 shows the results; Appendix E presents the associated annual trends.

<sup>30</sup> Second column of bars in Figure 4.3.

**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 within the group tend to be the more costly ones.<sup>31</sup>

- For radiology, an increasingly expensive service mix was responsible for most of the increase in cost per claim with service — 21 percentage points of the 26-percent increase.
- Surgery also moved toward a more expensive service mix, but this was balanced by decreases in units of service per claim and in average cost per unit, resulting in almost no change in cost per claim with service.
- For anesthesia, the 17-percent increase in cost per claim with service was entirely due to an increase in average cost per unit.
- For physical medicine, a 7-percent increase in average cost per unit was the main contributor to the 11-percent increase in cost per claim with service.
- For evaluation and management (E&M) overall, about half of the 12-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 E&M service fell by 31 percent, while the other three E&M subgroups showed increases of 10 to 36 percent in their frequency per claim with E&M service.<sup>32</sup> In absolute terms, new-patient office visits decreased by about the same frequency as established-patient visits increased.<sup>33</sup> 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 6-percent increase in service mix expensiveness for E&M overall reflects changes in service mix both within and

<sup>31</sup> See note 4 in Figure 4.4.

<sup>32</sup> See note 8 in Figure 4.4.

<sup>33</sup> The percent change for established-patient visits is smaller than for new-patient visits because of higher initial frequency.

Figure 4.4 Components of change in cost of selected service groups between injury years 1997 and 2004 [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   | 2.8%  | 1.4%                                   | 20.9%                                      | 26.1%  |
| <i>Providers subject to fee schedule</i>                        | 4.7%  | -7.5%                                  | 25.2%                                      | 21.2%  |
| <i>Providers not subject to fee schedule</i>                    | -5.4%   | 13.6%                                  | 16.3%                                      | 25.0%  |
| Anesthesia  | -0.8%   | 17.3%                                  | 0.7%                                       | 17.2%  |
| <i>Nonfacility providers</i>                                    | -2.2%   | 18.6%                                  | 4.0%                                       | 20.7%  |
| <i>Facility providers</i>                                       | -12.0%  | 22.6%                                  | 3.7%                                       | 11.9%  |
| Surgery [6]   | -1.5%   | -4.7%                                  | 7.5%                                       | 0.9%   |
| Physical medicine   | 4.6%  | 6.9%                                   | -0.6%                                      | 11.0%  |
| <i>Providers subject to fee schedule (except chiropractors)</i> | 9.7%  | -1.7%                                  | 1.9%                                       | 9.9%   |
| <i>Chiropractic providers</i>                                   | -4.3%   | -5.4%                                  | 3.4%                                       | -6.4%  |
| <i>Providers not subject to fee schedule</i>                    | -2.6%   | 29.3%                                  | -3.0%                                      | 22.0%  |
| Evaluation and management [7]                                   | 3.8%  | 2.2%                                   | 5.5%                                       | 11.9%  |
| <i>Office visits (new patient) [8]</i>                          | -31.4%  | 2.5%                                   | 1.1%                                       | -29.0%   |
| <i>Office visits (established patient) [8]</i>                  | 10.2%   | 4.2%                                   | 7.3%                                       | 23.2%  |
| <i>Office consultations [8]</i>                                 | 36.0%   | -1.2%                                  | -1.2%                                      | 32.7%  |
| <i>Emergency department visits [8]</i>                          | 20.3%   | 0.7%                                   | 9.5%                                       | 32.6%  |
| Inpatient hospital overnight room [9]                           | -33.3%  | 29.4%                                  | -0.4%                                      | -14.0%   |
| Chiropractic manipulations [10]                                 | 19.7%   | -15.7%                                 | -1.8%                                      | -0.9%  |

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 2004. (See Appendix C.)
2. See text (p. 20) for additional detail on 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 (nonfacility and facility providers) are not shown for surgery because facility providers of this service group accounted for only 0.2 percent of total medical cost in 2004 (Figure 4.1).
7. 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 0.3 percent of total medical cost in 2004 (Figure 4.1).
8. For the four subgroups under evaluation and management, units of 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.
9. Excludes intensive care unit. Service mix for this category pertains to the mix between private and semiprivate rooms.
10. The changes for chiropractic manipulations refer to 1998 to 2004 because service coding changes prevent comparisons before 1998.

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.<sup>34</sup> 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 chiropractic manipulations, a 16-percent decrease in cost per unit was offset by an increase in average units per claim. The decrease in unit cost was caused partly by new RVUs in 2001, which were lower than the previous ones for chiropractic manipulations.
- For inpatient hospital rooms, a 29-percent increase in unit cost (per night) was more than offset by a decrease in average units per claim, causing the net 14-percent decrease in cost per claim with service.

- Significant variation occurred by provider type.
  - For radiology, the shift to a more expensive service mix was strongest for providers subject to the fee schedule.
  - Among the categories used in this analysis, all of the significant increases in cost per unit were in areas not covered by the fee schedule, particularly anesthesia (all provider types), overnight hospital rooms, and radiology and physical medicine involving providers not subject to the fee schedule. These increases ranged from 14 to 29 percent after adjusting for average wage growth.<sup>35</sup> By contrast, with the exception of chiropractic manipulations, the unit-cost changes for services and providers covered by the fee schedule were relatively small negative or positive amounts.

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<sup>34</sup> Based on computations of the data.

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<sup>35</sup> For radiology, the overall increase in cost per unit was less than for either of the two provider categories. This is because the provider mix shifted toward providers subject to the fee schedule, which are relatively inexpensive. (In the unit cost index, the service mix is held constant but the provider mix is not.)

# 5

## Vocational rehabilitation

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

### Major findings

- Participation in vocational rehabilitation rose from 15 percent of paid indemnity claimants in 1997 to 23 percent for 2004. A projected 6,190 claimants injured in 2004 will receive VR services. (Figure 5.1)
- The total cost of VR services for 2004, \$37 million, was about 2.7 percent of workers' compensation system cost. (Figure 5.2)
- Adjusted for wage growth, the average cost of VR services fell from 2002 to 2004, but was about the same in 2004 as in 1999. (Figure 5.2)
- The average time from injury to start of VR services fell from 1998 to 2001 but increased from 2001 to 2004; the average duration of services increased steadily from 1998 to 2004. (Figures 5.3, 5.4)
- The percentage of workers with no job at plan closure increased from 26 percent in 1998 to 33 to 34 percent in 2003 and 2004. (Figure 5.5)
- The average VR participant returning to work receives a wage about the same as their pre-injury wage, but this varies widely among individuals. (Figure 5.7)
- Among plans closed in 2004, about 55 percent closed because of plan completion; another 43 percent closed by settlement or agreement of the parties. (Figure 5.8)

### 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 are held to professional conduct standards, specified in rules.

Most QRCs work in private-sector VR firms and they 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 choose to receive services from DLI's Vocational Rehabilitation unit which also provides VR services to injured workers whose claims are involved in disputes about primary liability.

QRCs determine whether injured workers are eligible for VR services, develop VR plans for those determined eligible and coordinate service delivery under these 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 increase in the statewide average weekly wage or 2 percent.

### **Data sources and time period covered**

The data in this chapter comes from VR documents filed with DLI for each claim with

VR activity. Injured workers may receive services from multiple VR service providers, each of whom may file VR service plans. The duration and cost of VR services reported in this chapter are the combined 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. Outcomes are not included if the claim has an open VR plan.

Since the VR participation and cost statistics are by injury year, they are developed, using a technique similar to the one described in Appendix C.

Since the VR system experienced major changes in the early and middle 1990s, the figures presenting data by year of plan closure begin with closure year 1998.

## Participation

The VR participation rate increased steadily from 1997 to 2004.

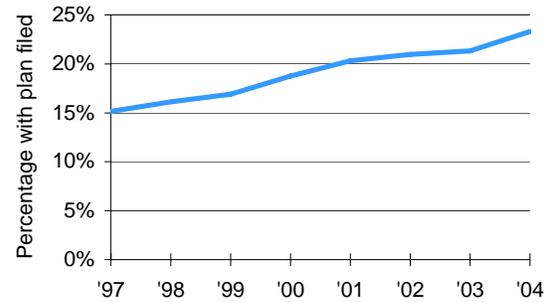
- During this seven-year period, the participation rate increased from 15 percent to 23 percent.
- The participation rate varies directly with the amount of time off the job. For workers injured between 2000 and 2003, the proportion receiving VR services was:
  - 9 percent for workers with less than three months of TTD benefits;
  - 52 percent for workers with three to six months of TTD benefits;
  - 86 percent for workers with six to 12 months of TTD benefits; and
  - 91 percent for workers with more than 12 months of TTD benefits.
- About 6,190 workers injured in 2004 are expected to receive VR services. (Some of these people have not yet begun services.)
- Despite the increasing VR participation rate, the actual number of claimants with VR plans decreased from 2000 to 2004, because the number of indemnity claims decreased.

## Cost

Adjusted for average wage growth, the average cost of VR services fell during injury years 2002 to 2004, and the total cost began falling after 2001.

- Average plan cost in 2004 was about 16 percent below 2002, but about the same as in 1999.
- Median plan cost has dropped slightly from the high point in 2000.
- Total service cost fell from 2001 to 2004, because of the decreasing number of participants and average plan cost.
- The estimated total cost of VR for 2004, \$37.3 million, was about 2.4 percent of total workers' compensation system cost.

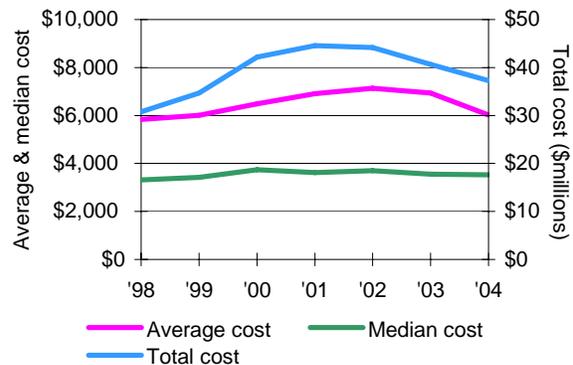
**Figure 5.1** Percentage of paid indemnity claims with a VR plan filed, injury years 1997-2004 [1]



| Injury year | Percentage with plan |
|-------------|----------------------|
| 1997        | 15.1%                |
| 2001        | 20.3                 |
| 2002        | 21.0                 |
| 2003        | 21.3                 |
| 2004        | 23.3                 |

1. Data from DLI. Statistics are developed (see Appendix C).

**Figure 5.2** VR plan costs, adjusted for wage growth, injury years 1997-2004 [1]



| Injury year | Average cost | Median cost | Total cost (\$millions) |
|-------------|--------------|-------------|-------------------------|
| 1998        | \$5,830      | \$3,310     | \$30.8                  |
| 2001        | 6,910        | 3,620       | 44.6                    |
| 2002        | 7,130        | 3,700       | 44.2                    |
| 2003        | 6,940        | 3,560       | 40.7                    |
| 2004        | 6,020        | 3,530       | 37.3                    |

1. Developed statistics from DLI data (see Appendix C). Costs are adjusted for average wage growth between the respective year and 2004.

## Timing of services

The success of VR is closely linked to prompt service provision. The average time from injury to the start of VR services increased from 2001 to 2004, after decreasing from 1998 to 2001.

- The average time from injury to the start of VR services declined by 3.3 months (23 percent) from 1998 to 2001, but increased by more than one month from 2001 to 2004. The median time has remained less than five months since 2000.
- Among plans closed in 2004, about one-third of VR service starts were within three months of the date of injury.
- Among VR participants whose plans closed in 2004, those who started within six months of injury, as compared to those starting after a year, had:
  - lower VR costs by 19 percent (\$6,080 vs. \$7,540);<sup>36</sup>
  - shorter VR service durations by 20 percent (13.6 months vs. 17.0 months); and
  - greater chances of returning to work with their pre-injury employer (48 percent vs. 31 percent).

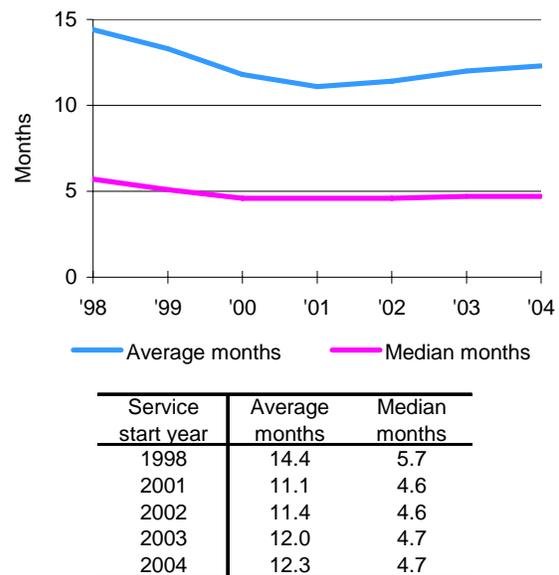
## Service duration

VR service duration has increased steadily since 1998.

- Average service duration increased 42 percent from 1998 to 2004. Median duration increased 23 percent. Durations of more than 18 months increased from 13 percent to 27 percent of plan closures. These increases may reflect a need for more extensive VR services in times of relatively poor job prospects.
- Among plan closures in 2004, average service duration was lowest for participants returning to work with their pre-injury employer (nine months), higher for those going to a different employer (18 months) and highest for those whose plans closed before returning to work (19 months).

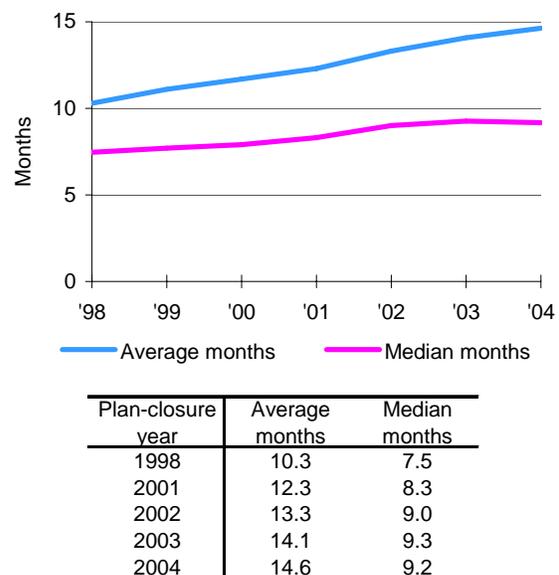
<sup>36</sup> These figures are limited to private service-providers.

Figure 5.3 Time from injury to start of VR services, plan-closure years 1998-2004 [1]



1. Data from DLI.

Figure 5.4 VR service duration, plan-closure years 1998-2004 [1]



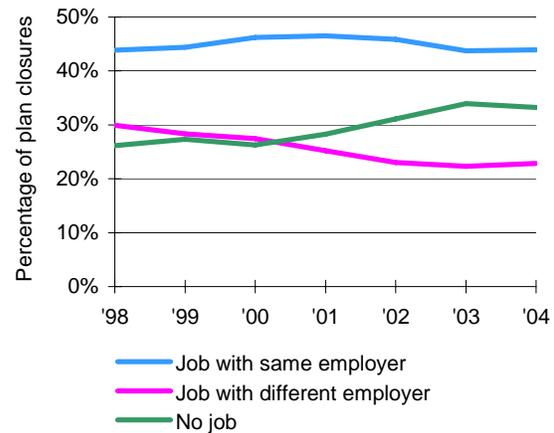
1. Data from DLI.

## Return-to-work status

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, the availability of job modifications, and claim litigation. The percentage of VR participants who had found a job at plan closure decreased during the past six years.

- The percentage of workers with no job at plan closure increased from 26 percent in 1998 to 33 percent in 2003 and 2004.
- This was accompanied by a comparable decrease in the percentage with a job at a different employer, from 30 percent in 1998 to 23 percent in 2004. The percentage who returned to their pre-injury employer was the same in 2004 as in 1998 (44 percent).
- Among plan closures in 2004, the average cost of services for participants returning to work with their pre-injury employer (\$3,520) was less than half the cost for those going to a different employer (\$9,520) and for those not returning to work (\$8,450).<sup>37</sup>

Figure 5.5 Return-to-work status, plan-closure years 1998-2004 [1]



| Plan-closure year | Job with same employer | Job with different employer | No job |
|-------------------|------------------------|-----------------------------|--------|
| 1998              | 43.9%                  | 30.0%                       | 26.2%  |
| 2001              | 46.5                   | 25.2                        | 28.3   |
| 2002              | 45.9                   | 23.0                        | 31.1   |
| 2003              | 43.8                   | 22.3                        | 33.9   |
| 2004              | 43.9                   | 22.9                        | 33.2   |

1. Data from DLI.

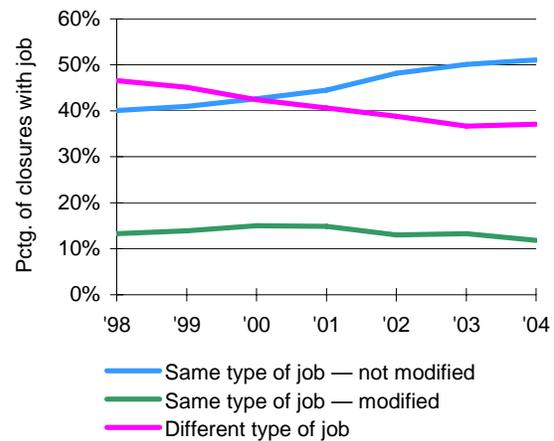
<sup>37</sup> These figures are limited to private service-providers.

## Type of return-to-work job

Among VR participants returning to work, the percentage returning to the same type of job as their pre-injury job increased steadily during the past six years, with a corresponding decrease in the percentage returning to a different type of job.

- From 1998 to 2004, among participants with a job at plan closure, the percentage with the same type of job *without modifications* rose from 40 to 51 percent, while the percentage with a different type of job fell from 47 to 37 percent.
- The percentage with the same type of job *with modifications* showed relatively little change.
- Most placements in the same type of job (with or without modifications) are with the pre-injury employer; most placements in a different type of job are with a different employer. Consequently, a decrease in the percentage of participants finding a job with a different employer, along with a steady percentage returning to the same employer (Figure 5.5), implies a decrease in the percentage going to a different type of job among those finding a job (Figure 5.7).
- Among plan closures in 2004, the average cost of VR services for injured workers returning to the same type of job *without modifications* was \$3,030, about one-third the cost of services for injured workers returning to a different type of job (\$9,140). The average service cost for injured workers returning to the same type of job *with modifications* was \$4,890.<sup>38</sup>

Figure 5.6 Type of return-to-work job, plan-closure years 1998-2004 [1]



| Plan-closure year | Same type of job |          | Different type of job |
|-------------------|------------------|----------|-----------------------|
|                   | Not modified     | Modified |                       |
| 1998              | 40.1%            | 13.3%    | 46.6%                 |
| 2001              | 44.5             | 14.9     | 40.6                  |
| 2002              | 48.2             | 13.0     | 38.8                  |
| 2003              | 50.1             | 13.3     | 36.7                  |
| 2004              | 51.1             | 11.8     | 37.1                  |

1. Data from DLI.

<sup>38</sup> These figures are limited to private service-providers.

## 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 return-to-work job.

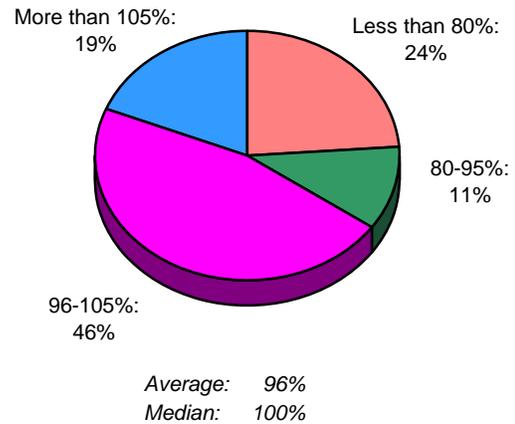
- In 2004, 65 percent of VR participants returning to work earned at least 95 percent of their pre-injury wage, but 24 percent earned less than 80 percent of their pre-injury wage.
- Workers are increasingly accepting lower pay when they have to find work with a different employer. Among these workers, the average RTW wage ratio dropped from 94 percent to 86 percent from 2000 to 2004, while the median ratio dropped 89 percent to 77 percent.
- For plan closures in 2004, the average RTW wage ratio was:
  - higher for participants who returned to their pre-injury employer (101 percent) than for those who went to a different employer (86 percent); and
  - higher for VR plans of less than six months (101 percent) than for longer service durations (e.g., 85 percent for durations longer than 18 months).

## Reasons for plan closure

A majority of plans close because they are completed, but the percentage of plans closing for other reasons has risen since 2000.

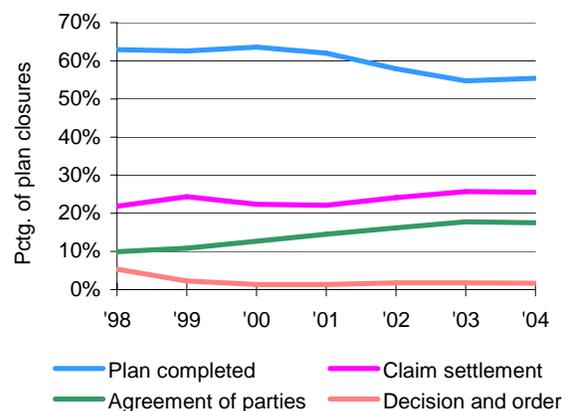
- The proportion of plans closed because of plan completion fell from 64 percent to 55 percent between 2000 and 2004.
- The proportion of plans closed by agreement rose from 10 percent in 1998 to 18 percent in 2003 and 2004.
- Plan completion almost always involves a return to work. For plans closed for reasons other than completion in 2004, participants returned to work only 27 percent of the time.
- Plan costs vary by type of closure: among closures involving private QRCs in 2004, completed plans averaged \$4,420; settlements, \$10,320; decision and orders, \$7,900; and agreements, \$7,300.

Figure 5.7 Ratio of return-to-work wage to pre-injury wage for participants returning to work, plan-closure year 2004 [1]



1. Data from DLI.

Figure 5.8 Reason for plan closure, plan-closure years 1998-2004 [1]



| Plan-closure year | Plan completed | Claim settlement | Agreement of parties | Decision and order |
|-------------------|----------------|------------------|----------------------|--------------------|
| 1998              | 62.9%          | 21.9%            | 9.9%                 | 5.3%               |
| 2000              | 63.6           | 22.3             | 12.7                 | 1.3                |
| 2002              | 57.9           | 24.1             | 16.2                 | 1.8                |
| 2003              | 54.7           | 25.7             | 17.8                 | 1.7                |
| 2004              | 55.4           | 25.5             | 17.5                 | 1.6                |

1. Data from DLI.

# 6

## Disputes and dispute resolution

This chapter presents data about workers' compensation disputes and dispute resolution.

### Major findings

- The overall dispute rate increased from 15.1 percent of filed indemnity claims in 1997 to 18.5 percent in 2004, a 23-percent increase.<sup>39</sup> (Figure 6.1)
- The rate of denial of filed indemnity claims fell from 15.8 percent in 1997 to 14.3 percent in 2000, but rose to 16.6 percent in 2004. (Figure 6.3)
- For wage-loss claims filed in 2004, the proportion with "prompt first action" (payment initiation or denial within the legal time limit) was 86 percent, an increase from 84 percent in 2001 and 81 percent in 1997. (Figure 6.4)
- The percentage of paid indemnity claims with claimant attorney fees rose from 14.4 percent in 1997 to 19.7 percent in 2004, a 36-percent increase. (Figure 6.6)

### 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 occur about five types of issues:<sup>40</sup>

- denial of primary liability;
- eligibility for and amount of monetary benefits;
- discontinuance of wage-loss benefits;
- medical issues; and
- rehabilitation issues.

### Dispute-resolution process

Depending on the nature of the dispute and the wishes of the parties, dispute resolution may be facilitated by a dispute-resolution specialist in the Benefit Management and Resolution (BMR) unit of the Department of Labor and Industry (DLI) or by a judge in the Office of Administrative Hearings (OAH). Decisions from OAH can be appealed to the Workers' Compensation Court of Appeals and then to the Minnesota Supreme Court.

BMR and OAH carry out a variety of dispute-resolution activities:

### Benefit Management and Resolution activities

**Informal intervention** — This process, which can be initiated by any party to a dispute, usually involves phone calls or correspondence with the parties to avoid a longer, more formal and costly process.

**Dispute certification** — In a medical or rehabilitation dispute, BMR must certify that a dispute exists and that informal intervention did not resolve the dispute before an attorney may charge for services.

**Mediation** — A mediation occurs when all parties agree to participate, and may be used to deal with any type of dispute. The mediator, a BMR specialist, works to facilitate agreement among the parties and formally records its terms.

<sup>39</sup> See note 7 on p. 9.

<sup>40</sup> Disputes also occur over miscellaneous other types of issues, such as attorney fees, which are not considered in this report.

**Administrative-conference and nonconference decision-and-orders** — An administrative conference is an expedited, informal proceeding where parties present and discuss viewpoints in a dispute. BMR conducts administrative conferences about rehabilitation issues and about medical issues involving \$7,500 or less.<sup>41</sup> If agreement is not achieved, the BMR specialist issues a “decision and order.” If BMR believes a dispute under its jurisdiction does not require a conference, it may issue a “nonconference decision and order.”

### Office of Administrative Hearings activities

**Settlement conference** — OAH conducts settlement conferences in litigated cases to achieve a negotiated settlement where possible without a formal hearing.

**Administrative conference** — OAH conducts administrative conferences about most discontinuance disputes and on medical disputes involving more than \$7,500. The OAH judge conducting the conference issues a “decision and order.”

**Formal hearing** — OAH conducts formal hearings about disputes presented on claim petitions (see “claim petition disputes” below) and other petitions where resolution through a settlement conference is not possible. OAH also conducts hearings about some discontinuance disputes, disputes referred by BMR because they do not seem amenable to less formal resolution, and disputes about miscellaneous issues such as attorney fees and pre-hearing disputes. OAH also conducts hearings *de novo* when a party disagrees with an administrative-conference or nonconference decision and order.

### Counting disputes

Four “dispute” categories are used in this report:

**Claim petition disputes** — Disputes about primary liability and 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 most often initiated when the claimant (usually by phone) requests an administrative conference 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* or the insurer’s petition to discontinue benefits, which leads to a hearing at OAH.

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

**Rehabilitation requests** — Vocational rehabilitation disputes are usually filed on a *Rehabilitation Request* form, which leads to an administrative conference at BMR after BMR certifies the dispute.

Many disputes, especially those handled informally by BMR through mediation or other means, are not counted in these categories.

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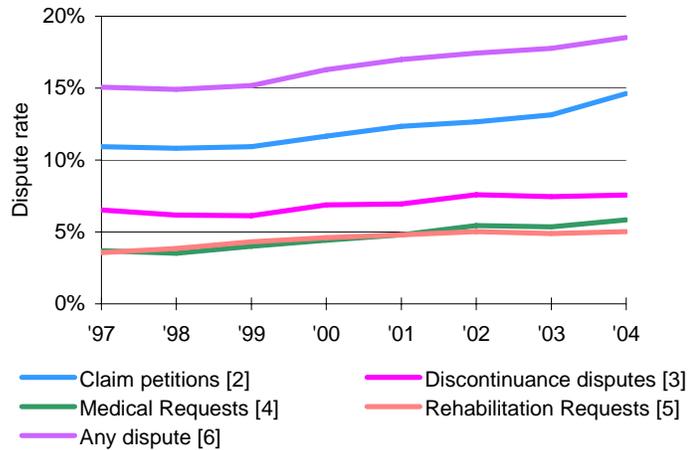
<sup>41</sup> This threshold was increased from \$1,500 by the 2005 Legislature.

### Dispute rates

After a period of stability from 1997 to 1999, the dispute rate rose sharply from 1999 to 2004.

- The overall dispute rate increased from 15.1 percent in 1997 to 18.5 percent in 2004, a 23-percent increase.<sup>42</sup> During the same period:
  - the rate of claim petitions rose 3.7 percentage points (34 percent);
  - the rate of discontinuance disputes rose 1.1 point (16 percent);
  - the rate of *Medical Requests* rose 2.1 points (58 percent); and
  - the rate of *Rehabilitation Requests* rose 1.4 points (41 percent).

Figure 6.1 Incidence of disputes, injury years 1997-2004 [1]



| Injury year | Dispute rate        |                              |                      |                             |                 |
|-------------|---------------------|------------------------------|----------------------|-----------------------------|-----------------|
|             | Claim petitions [2] | Discontinuation disputes [3] | Medical Requests [4] | Rehabilitation Requests [5] | Any dispute [6] |
| 1997        | 10.9%               | 6.5%                         | 3.7%                 | 3.6%                        | 15.1%           |
| 1999        | 10.9                | 6.1                          | 4.0                  | 4.3                         | 15.2            |
| 2000        | 11.7                | 6.9                          | 4.4                  | 4.6                         | 16.3            |
| 2001        | 12.3                | 6.9                          | 4.8                  | 4.8                         | 17.0            |
| 2002        | 12.7                | 7.6                          | 5.5                  | 5.0                         | 17.4            |
| 2003        | 13.1                | 7.4                          | 5.3                  | 4.9                         | 17.8            |
| 2004        | 14.6                | 7.6                          | 5.8                  | 5.0                         | 18.5            |

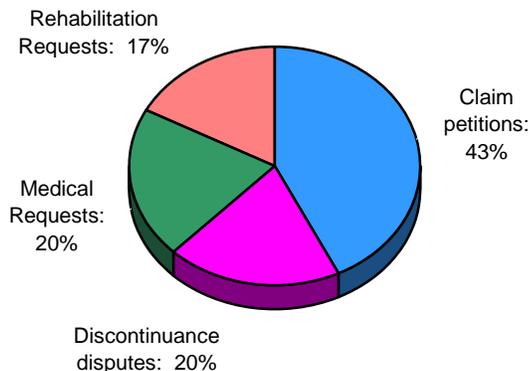
1. Developed statistics from DLI data (see Appendix C).
2. Percentage of filed indemnity claims with claim petitions. (Filed indemnity claims are claims for indemnity benefits, whether ultimately paid or not.)
3. Percentage of paid wage-loss claims with discontinuance disputes.
4. Percentage of paid indemnity claims with *Medical Requests*.
5. Percentage of paid indemnity claims with *Rehabilitation Requests*.
6. Percentage of filed indemnity claims with any disputes.

### Dispute types

Claim petitions constitute not quite half (43 percent) of all disputes.

- Discontinuation disputes, *Medical Requests* and *Rehabilitation Requests* make up roughly equal shares of the remaining disputes.

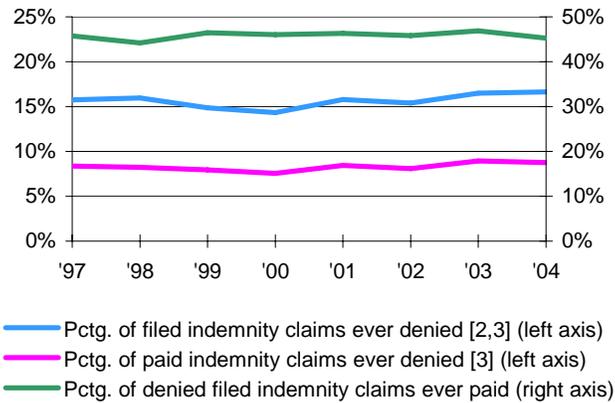
Figure 6.2 Dispute types as share of total, disputes filed in 2004 [1]



1. Data from DLI.

<sup>42</sup> See note 7 on p. 9.

Figure 6.3 Indemnity claim denial rates, injury years 1997-2004 [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        | 38,900                     | 15.8%                 | 33,600                | 8.4%                  | 45.8%  |
| 2000        | 39,700                     | 14.3                  | 34,700                | 7.5                   | 46.0   |
| 2001        | 36,600                     | 15.8                  | 31,700                | 8.4                   | 46.3   |
| 2002        | 33,900                     | 15.4                  | 29,600                | 8.1                   | 45.8   |
| 2003        | 31,700                     | 16.5                  | 27,500                | 8.9                   | 46.9   |
| 2004        | 30,900                     | 16.6                  | 26,500                | 8.8                   | 45.2   |

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. Denials are also important because if they are improperly made, workers' compensation fails in its purpose of providing benefits to injured workers. The denial rate has increased somewhat during the past four years from a low point in 2000.

- The rate of denial of filed indemnity claims fell from 15.8 percent in 1997 to 14.3 percent in 2000, but rose to 16.6 percent in 2004.

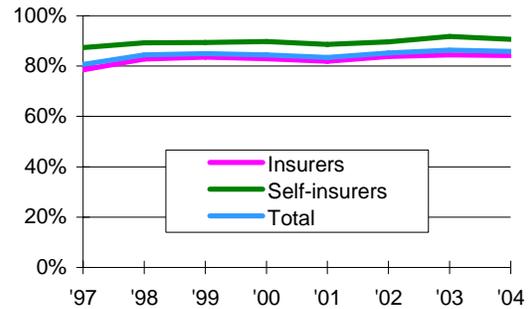
- The proportion of paid indemnity claims that had also been denied has been roughly 8 to 9 percent since 1997, with a low point of 7.5 percent in 2000. (These include cases denied and then paid or paid and then denied.)
- Among filed indemnity claims that were denied, the proportion ever paid has ranged from 44 to 46 percent.

### 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.<sup>43</sup> 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.<sup>44</sup>

- The fiscal year 2004 prompt-first-action rate was about 86 percent. This is up from 84 percent in 2001 and 81 percent in 1997.
- The prompt-first-action rate is higher for self-insurers than for insurers. This is to be expected to the extent that claims administration occurs in-house with self-insurers (avoiding the need to communicate with an insurer), although self-insurers often use third-party administrators to handle claims. Another possible factor is that self-insurers more directly realize any financial benefits of prompt claims administration that result from lower dispute frequency.

Figure 6.4 Percentage of lost-time claims with prompt first action, fiscal claim-receipt years 1997-2004 [1]



| Fiscal year of claim receipt | Insurers | Self-insurers | Total |
|------------------------------|----------|---------------|-------|
| 1997                         | 78.5%    | 87.3%         | 80.7% |
| 2000                         | 82.9     | 89.7          | 84.5  |
| 2001                         | 81.9     | 88.6          | 83.5  |
| 2002                         | 83.8     | 89.6          | 85.2  |
| 2003                         | 84.5     | 91.8          | 86.4  |
| 2004                         | 84.2     | 90.7          | 85.9  |

1. Computed from DLI data by DLI Benefit Management and Resolution. See DLI Benefit Management and Resolution, *2004 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, 2003 through June 30, 2004 is fiscal year 2004.

<sup>43</sup> Minnesota Statutes § 176.221.

<sup>44</sup> To improve system performance, DLI Benefit Management and Resolution publishes the annual *Prompt First Action Report* on the prompt-first-action performance of individual insurers and self-insurers and of the overall system.

## Dispute-resolution proceedings

Dispute-resolution statistics reflect the fact that DLI Benefit Management and Resolution is concerned with preventing disputes and resolving disputes in their early stages, while the Office of Administrative Hearings and the Workers' Compensation Court of Appeals handle smaller numbers of more complex cases.

- The most frequent dispute-resolution activity is informal interventions by BMR.
- Next most frequent are settlement conferences and administrative conferences at OAH.
- In fiscal year 2005, BMR determined 2,378 disputes to be noncertified, representing 43 percent of all certification decisions.
- About 71 percent of the dispute resolutions by BMR were by intervention.

Figure 6.5 Dispute-resolution activities, fiscal year 2005 [1]

| <b>DLI Benefit Management and Resolution</b>                      |        |
|---|--------|
| <i>Dispute prevention and resolution activities</i>               |        |
| Interventions [2]   | 13,820 |
| Mediations  | 240    |
| Administrative conferences  | 956    |
| Nonconference decisions   | 6      |
| <i>Dispute certification decisions [3]</i>                        |        |
| Disputes certified [4]  | 3,196  |
| Disputes not certified [5]  | 2,378  |
| <i>Dispute resolutions [6]</i>                                    |        |
| Resolutions by intervention [2]                                   | 2,840  |
| Mediation awards and other agreements via conference or mediation | 425    |
| Administrative conference decisions                               | 709    |
| Nonconference decisions   | 6      |
| <b>Office of Administrative Hearings</b>                          |        |
| Settlement conferences  | 2,784  |
| Administrative conferences — discontinuance                       | 1,328  |
| Administrative conferences — medical and rehabilitation           | 595    |
| Hearings [7]  | 860    |
| <b>Workers' Compensation Court of Appeals</b>                     |        |
| Cases received [8]  | 247    |

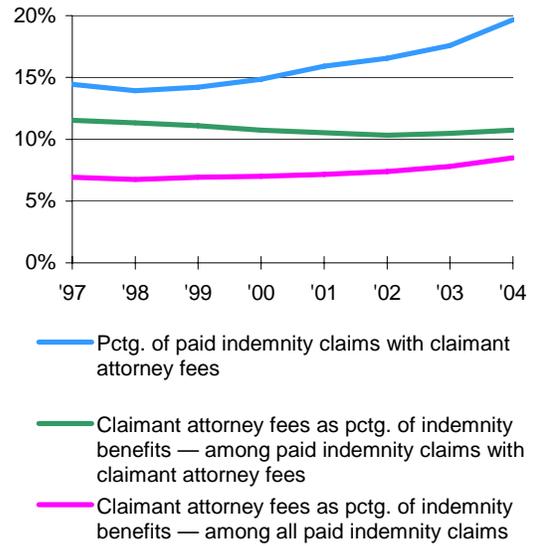
1. Data from DLI, OAH and the Workers' Compensation Court of Appeals.
2. Interventions include instances of providing information or assistance to prevent a potential dispute and interventions by phone, correspondence, or walk-in contact to resolve a dispute and/or determine whether a dispute should be certified. A "potential dispute" is a case in which a party to a claim contacts BMR and, in the judgment of the BMR specialist, a dispute would likely have arisen without BMR involvement. In most of these cases, there has been little or no attorney involvement before BMR was contacted. An intervention to prevent or resolve a dispute often occurs as part of the process of determining whether a dispute should be certified.
3. These numbers represent a result of "interventions" counted above; they do not represent additional activity.
4. Instances where BMR has determined that a medical or rehabilitation dispute exists and has not resolved the dispute.
5. Instances where BMR has either determined there is no medical or rehabilitation dispute or has intervened and resolved the dispute.
6. These numbers represent results of "dispute prevention and resolution activities" counted above; they do not represent additional activity.
7. Excludes attorney fee hearings.
8. Includes cases with and without hearings. Cases with hearings are usually disposed of by decisions but sometimes by settlement. Cases without hearings are usually disposed of by settlement but sometimes by decisions. Statistics are unavailable about the number of hearings at WCCA.

### Claimant attorney involvement<sup>45</sup>

Claimant attorney involvement increased during the past six years.

- From 1997 to 2004, the percentage of paid indemnity claims with claimant attorney fees<sup>46</sup> rose from 14.4 percent to 19.7 percent, a 36-percent increase.<sup>47</sup> This parallels a similar increase in the dispute rate (Figure 6.1).
- Among paid indemnity claims with claimant attorney fees, the ratio of attorney fees to indemnity benefits fell from 11.5 percent to 10.7 percent during the same period.
- Among all paid indemnity claims, the ratio of attorney fees to indemnity benefits rose from 1997 to 2004, because of the increase in the percentage of claims with attorney fees.
- Total claimant attorney fees are estimated at \$34 million for injury year 2004. This represents 2.1 percent of total workers' compensation system cost for that year.

Figure 6.6 Claimant attorney fees paid with respect to indemnity benefits, injury years 1997-2004 [1]



| Injury year | Pct. of paid indemnity claims with claimant attorney fees | Claimant attorney fees as pct. of indemnity benefits    |                                 |
|-------------|---|---|---------------------------------|
|             |   | Among paid indemnity claims with claimant attorney fees | Among all paid indemnity claims |
| 1997        | 14.4%   | 11.5%   | 6.9%                            |
| 1998        | 13.9  | 11.3  | 6.7                             |
| 1999        | 14.2  | 11.1  | 6.9                             |
| 2000        | 14.9  | 10.7  | 7.0                             |
| 2001        | 15.9  | 10.5  | 7.2                             |
| 2002        | 16.5  | 10.3  | 7.4                             |
| 2003        | 17.6  | 10.5  | 7.8                             |
| 2004        | 19.7  | 10.7  | 8.5                             |

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.

<sup>45</sup> Because of a 2005 law change, DLI no longer collects defense attorney fee data.

<sup>46</sup> See note 1 in figure.

<sup>47</sup> See note 7 on p. 9.

# Appendix A

## Glossary

**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. If agreement is not achieved, a “decision and order” is issued which is binding unless appealed. Currently, the Benefit Management and Resolution unit of the Department of Labor and Industry conducts administrative conferences about medical issues involving \$7,500 or less and about vocational rehabilitation issues; the Office of Administrative Hearings conducts conferences about medical issues involving more than \$7,500<sup>48</sup> and about discontinuance disputes presented on a *Request for Administrative Conference*.

**Assigned Risk Plan (ARP)** — The 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.

**Benefit Management and Resolution (BMR)** — A unit in the Department of Labor and Industry that provides information and clarification about workers' compensation statute, rules and

procedures; carries out a variety of dispute-prevention activities; conducts informal dispute-resolution activities, including mediations; and holds administrative conferences about some issues. See “administrative conference.”

**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 the 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 and dependents' benefits computed from the annual change in the statewide average weekly wage (SAWW). 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 proportion of the worker's gross pre-injury wage and are paid for a specified period of time, depending on the dependents concerned.

**Developed numbers** — Estimates of what the number of claims or their cost will be at a given maturity. Developed numbers 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 claim and cost figures, to tabulated numbers.

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<sup>48</sup> This threshold was raised from \$1,500 to \$7,500 by the 2005 legislature.

**Development** — The change over time in the reported number or cost of claims for a particular accident year, policy year or injury year. Claim costs develop whether the costs are paid or incurred. The reported figures 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 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.”

**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 about a disputed issue or issues in a workers' compensation claim, at the Office of Administrative Hearings or Workers' Compensation Court of Appeals, after which the judge issues a decision that is binding unless appealed.

**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 costs.

**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 qualifying for the temporary total disability or temporary partial disability benefits 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.

**Mediation** — A voluntary, informal proceeding conducted by the Benefit Management and Resolution unit of the Department of Labor and Industry to facilitate agreement among the parties in a dispute. If agreement is reached, its terms are formally recorded. 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. All reasonable and necessary medical costs related to the injury or illness are covered, subject to a maximum-fee schedule.

**Medical-only claim** — A claim with paid medical costs and no indemnity benefits.

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

**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 Benefit Management and Resolution (BMR) or to an administrative conference. The conference is held by BMR if the disputed amount is \$7,500 or less; otherwise

it is held by the Office of Administrative Hearings.

**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 Benefit Management and Resolution unit of the Department of Labor and Industry, without an administrative conference, about a dispute for which it has administrative conference authority (see "administrative conference"), when it has sufficient information without conducting a conference. The decision is binding unless appealed or overturned by review 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 proposed discontinuance of wage-loss benefits (temporary total, temporary partial or permanent total disability). The hearing is at the Office of Administrative Hearings.

**Office of Administrative Hearings (OAH)** — An executive branch body that conducts hearings about administrative law cases. One section is responsible for workers' compensation cases; it conducts administrative conferences and settlement conferences in addition to 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) has 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 a claim once the injury is determined to be compensable. An insurer may deny primary liability (deny that the injury is compensable) if it has reason to believe the injury was not work-related, was intentionally self-inflicted, resulted from intoxication or happened during participation in a nonrequired recreational program.

**Pure premium** — A measure of expected losses, equal to the sum, over all insurance classes, of payroll times the applicable pure premium rate(s) (the rate(s) for the insurance class(es) concerned), 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 Benefit Management and Resolution, or to an administrative conference.

**Request for Administrative Conference** — A form by which the injured worker requests an administrative conference to contest a proposed discontinuance of wage-loss benefits (temporary

total, temporary partial or permanent total disability).

**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 at the Office of Administrative Hearings to resolve issues presented on a claim petition when it appears possible to settle the issues without a formal hearing. If a settlement is reached, it typically includes an agreement by the claimant to release the employer and insurer from future liability for the claim other than for medical treatment.

**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 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 (DLI) 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 (2004) 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 incorporated into a mediation agreement, or may be reached in a settlement conference or associated preparatory activities, in which case it must be approved by a workers' compensation judge. 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). 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 vocational rehabilitation 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 decisions from the Office of Administrative Hearings. The next and final level of appeal is the Minnesota Supreme Court.

***Workers' Compensation Reinsurance Association (WCRA)*** — A nonprofit entity created by law to provide reinsurance to workers' compensation insurers (including self-insureds) 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.

# 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.

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.

# 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 Research and Statistics unit using tabulated numbers and associated development factors from the MWCIA.

Research and Statistics 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 21-year maturity for the claim and cost statistics in Chapters 2 and 4 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 2004 (in the numerator of the indemnity claim rate) is 26,500 (rounded to the nearest hundred). This is equal to the tabulated number as of Oct. 1, 2005, 23,892, times the appropriate development factor, 1.1107.

*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 2004 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 2004 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. Premium credit data through policy year (PY) 2003 is available from the MWCIA. The 2004 figure is estimated by applying the ratio of premium credits to written premium for 2003 to the 2004 premium figure. When the actual amount becomes available for 2004, 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-insureds, 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 2004. 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** — 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 2.4** — Claim and loss data is from the MWCIA's 2006 *Minneapolis 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 2.6 and 2.7** — Following the procedure in the MWCIA's *Ratemaking Report*, Figures 2.6 and 2.7 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 2006 *Ratemaking Report*. Payroll data for Figure 2.6 is from insurer reports about policy experience.

**Figure 3.1** — Statistics are derived in the same manner as for Figure 2.4, 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) over the most recent three years to total claims and losses for 2002.

**Figures 4.1 to 4.4 and Appendices D and E** —

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 Figures 4.2 and 4.3 were computed as fixed-weight averages over gender, age and injury groups (a modified procedure was used for Figure 4.4, as described below).<sup>49</sup> 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.<sup>50</sup> 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.

In Figure 4.4, a variation of this procedure was used. The indices of units of service per claim, unit cost and service-mix expensiveness are computed by first computing numbers within

<sup>49</sup> 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 changes in the employer clientele of the insurer supplying the data.

<sup>50</sup> The age groups were 14-29, 30-39, 40-49, and 50+. The injury groups were musculo-skeletal injuries of the back, musculo-skeletal injuries of limbs, other musculo-skeletal 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).

detailed service categories and then aggregating across these categories. When a fixed-weight procedure is used in this process, the computations are done separately within the weighting groups. This causes some instability in the results because of small numbers of cases within the weighting groups within individual service categories. Therefore, the indices were computed without the fixed-weight procedure but were then adjusted (“benchmarked”) so that the resulting annual changes in cost per claim with service (product of the three indices) were equal to the amounts computed for Figure 4.3 with the fixed-weight procedure.

The statistics in these figures and appendices were computed by injury year at an average maturity of somewhat more than five years after the date of injury. Specifically, for the claims that arise in each year, medical services and costs were counted through Aug. 28 of the fifth year following the year of injury. For injury years 2001 to 2004, data of this maturity was not yet available.<sup>51</sup> 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.

How well does the research data represent the overall population of insured claims? A partial answer is given by Figure A-1. Average medical cost per claim shows different amounts of increase after 1997 in the two data sources. In the overall insurance data, average medical cost per claim increased 63 percent from 1997 to 2003. In the research data, the increase was only 21 percent during the same period and 19 percent from 1997 to 2004.

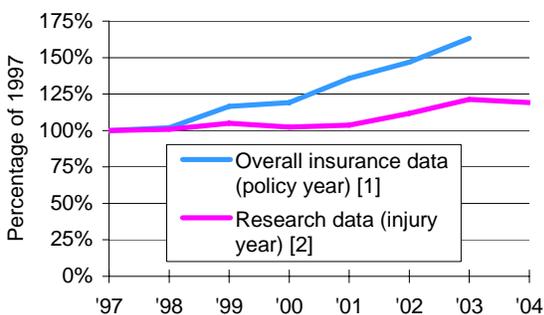
*Because of the difference in the amounts of increase after 1997 shown in Figure A-1, the estimated magnitudes of different components of the overall medical cost increase in the research data are likely to understate, on the whole, the corresponding magnitudes for all insurers combined.* However, the implications are different for different figures in Chapter 4.

Figures 4.1 and 4.2 show percent contributions to total cost (Figure 4.1) and to the total cost change per claim (Figure 4.2). Therefore, these figures would not necessarily be different if the

<sup>51</sup> DLI received the data in October 2005.

overall cost increase in the research data is the same as for all insurers (although this seems a likely possibility). Figures 4.3 and 4.4, by contrast, indicate changes in different components of the overall increase in average medical cost per claim (19.2 percent, shown in Figure 4.3). If this overall increase were as great as in the insurance data, the increase in the different components would have to be larger on the whole, although this would probably be true in varying degrees for different cost components.

**Figure A-1 Average medical cost per claim, overall insurance data and research data, injury years 1997-2004**



| 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                  | \$2,380                                  | 100.0%        | \$1,760                         | 100.0%        |
| 1998                  | 2,430                                    | 101.8         | 1,770                           | 100.8         |
| 1999                  | 2,780                                    | 116.5         | 1,850                           | 105.0         |
| 2000                  | 2,840                                    | 119.2         | 1,800                           | 102.3         |
| 2001                  | 3,240                                    | 135.7         | 1,820                           | 103.7         |
| 2002                  | 3,500                                    | 146.8         | 1,970                           | 111.8         |
| 2003                  | 3,890                                    | 163.1         | 2,130                           | 121.3         |
| 2004                  | [3]                                      | [3]           | 2,100                           | 119.2         |

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 2004. (See text.)
3. Not yet available.

**Figure 4.4 and Appendix E** — 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. 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.*<sup>52</sup> 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.*<sup>53</sup> 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 service mix, not changes in the costs of particular services.

**Figure 6.6.** See discussion relating to Figure 3.2.

<sup>52</sup> This is a simplified version of the computation. More detail is available upon request.

<sup>53</sup> This is a simplified version of the computation. More detail is available upon request.

# *Appendix D*

## Medical cost trends, part 1: costs of service groups per total claim

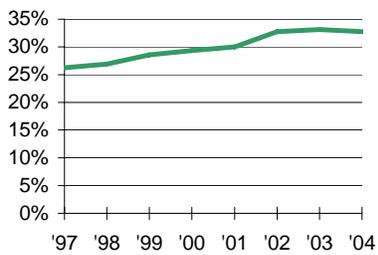
This appendix presents the medical-cost trend data behind Figure 4.3. For each service group, trends are presented for the percentage of claims with the service, the average cost of the service

for claims with the service and the average cost of the service per total claim. The last of these items is the product of the first two.

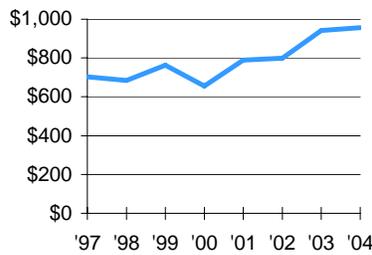
Costs of medical service groups per total claim, injury years 1997-2004 [1]

**Outpatient facility services (total)**

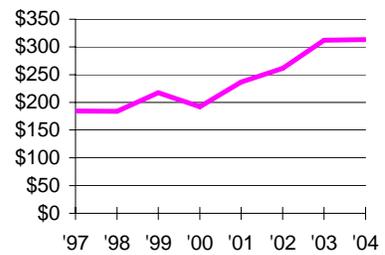
Percentage of claims with this service



Cost of this service per claim with this service

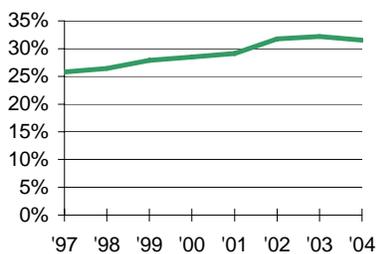


Cost of this service per total claim [2]

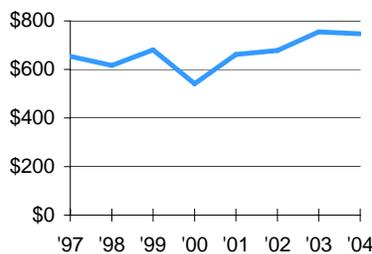


**Outpatient facility services (hospital)**

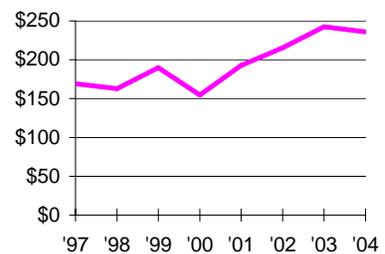
Percentage of claims with this service



Cost of this service per claim with this service

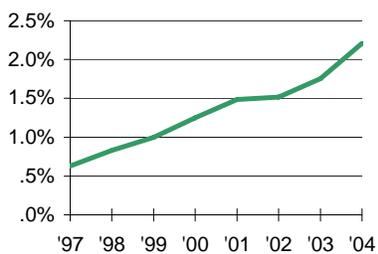


Cost of this service per total claim [2]

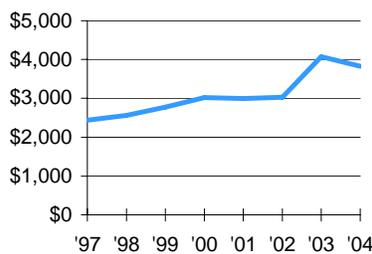


**Outpatient facility services (ambulatory surgical center)**

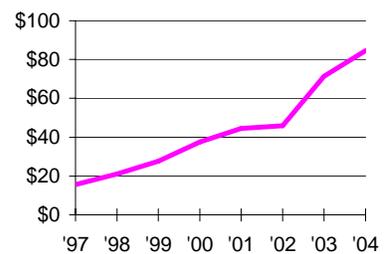
Percentage of claims with this service



Cost of this service per claim with this service

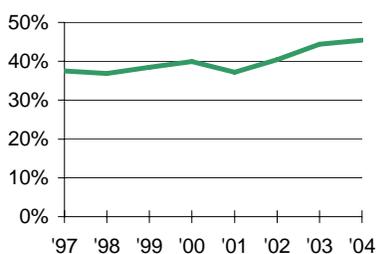


Cost of this service per total claim [2]

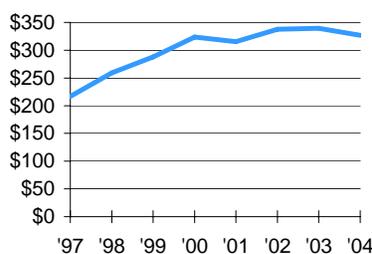


**Drugs (total)**

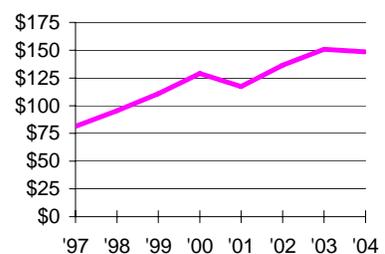
Percentage of claims with this service



Cost of this service per claim with this service



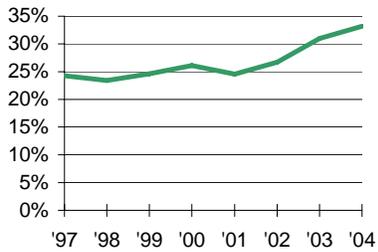
Cost of this service per total claim [2]



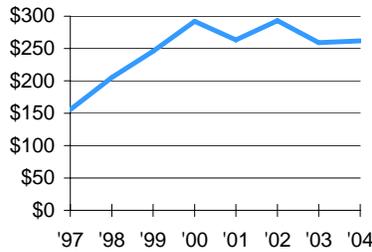
(Notes at end of figure.)

**Drugs (nonfacility providers)**

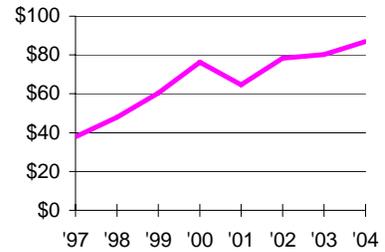
Percentage of claims with this service



Cost of this service per claim with this service

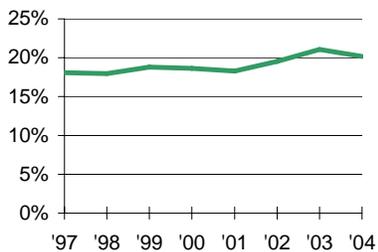


Cost of this service per total claim [2]

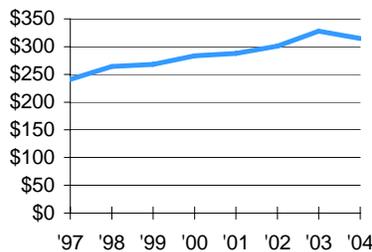


**Drugs (facility providers)**

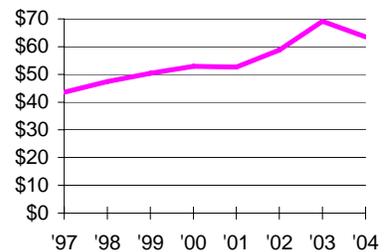
Percentage of claims with this service



Cost of this service per claim with this service

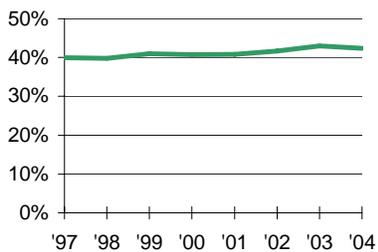


Cost of this service per total claim [2]

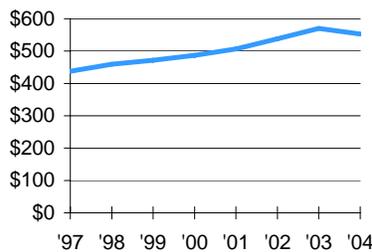


**Radiology (total)**

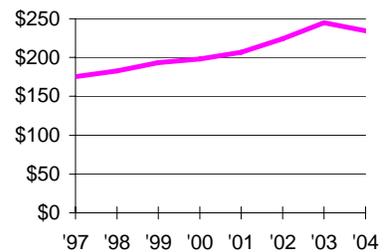
Percentage of claims with this service



Cost of this service per claim with this service

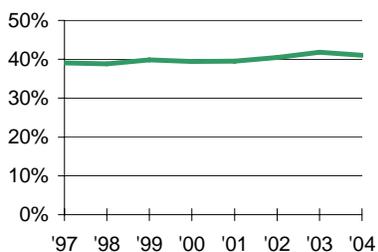


Cost of this service per total claim [2]

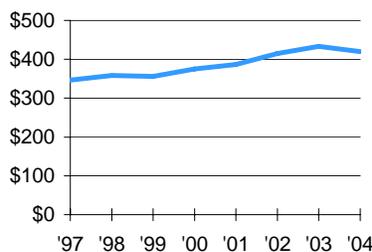


**Radiology (providers subject to fee schedule)**

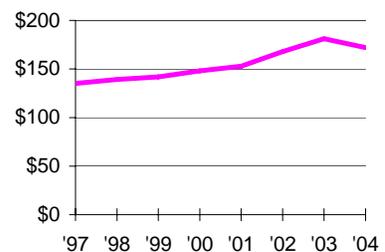
Percentage of claims with this service



Cost of this service per claim with this service



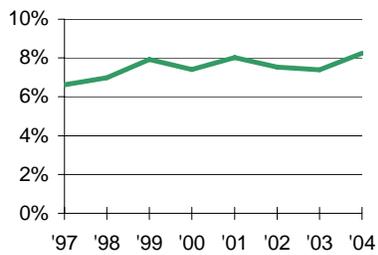
Cost of this service per total claim [2]



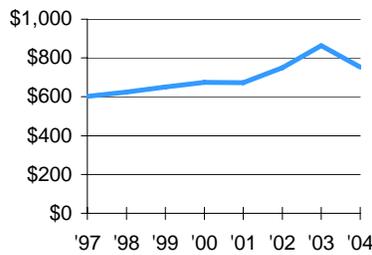
(Notes at end of figure.)

**Radiology (providers not subject to fee schedule)**

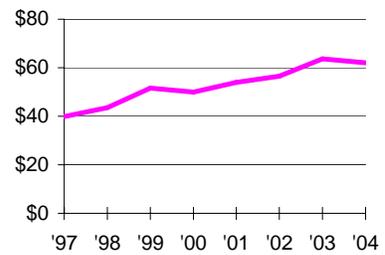
Percentage of claims with this service



Cost of this service per claim with this service

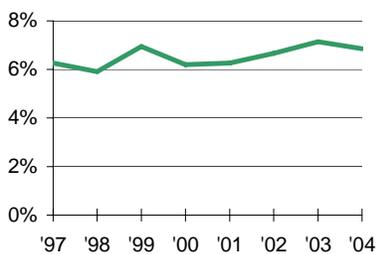


Cost of this service per total claim [2]

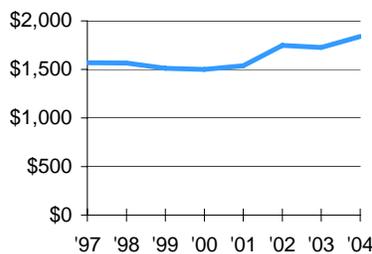


**Anesthesia (total)**

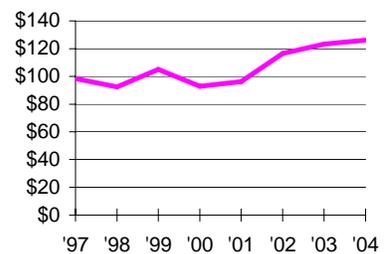
Percentage of claims with this service



Cost of this service per claim with this service

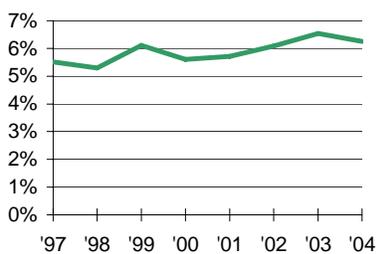


Cost of this service per total claim [2]

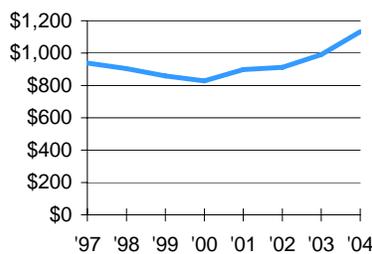


**Anesthesia (nonfacility providers)**

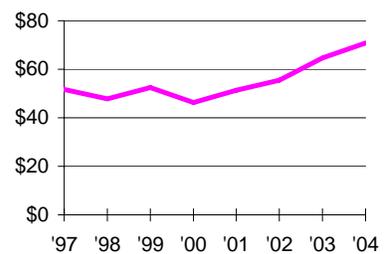
Percentage of claims with this service



Cost of this service per claim with this service

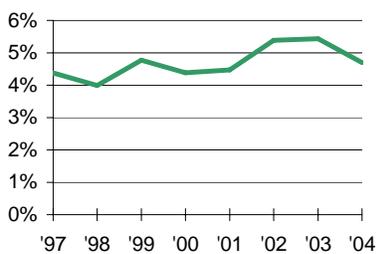


Cost of this service per total claim [2]

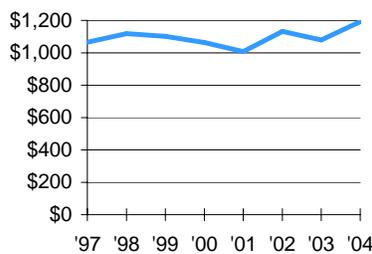


**Anesthesia (facility providers)**

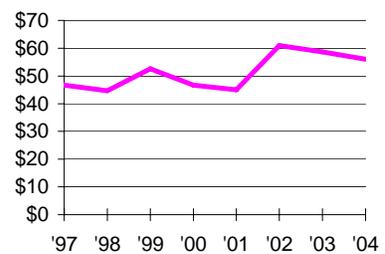
Percentage of claims with this service



Cost of this service per claim with this service



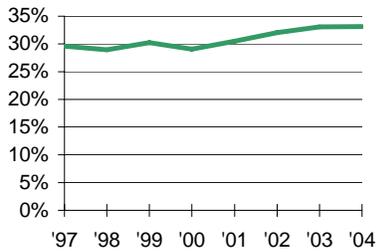
Cost of this service per total claim [2]



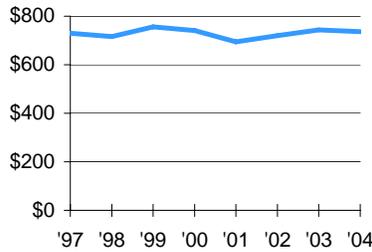
(Notes at end of figure.)

**Surgery (total) [3]**

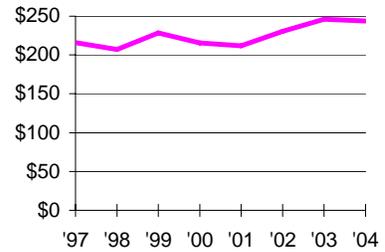
Percentage of claims with this service



Cost of this service per claim with this service

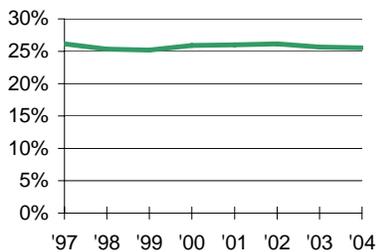


Cost of this service per total claim [2]

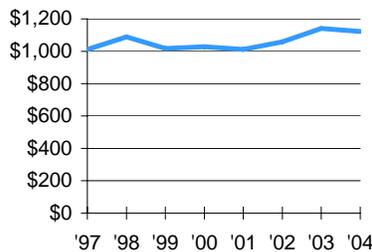


**Physical medicine (total)**

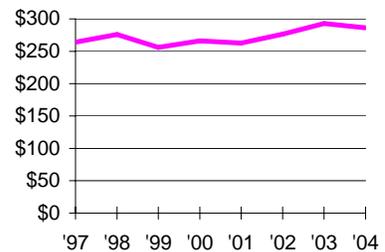
Percentage of claims with this service



Cost of this service per claim with this service

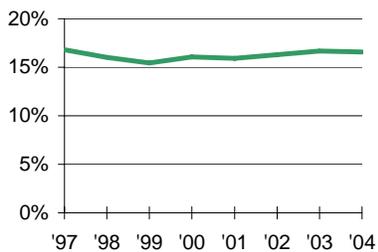


Cost of this service per total claim [2]

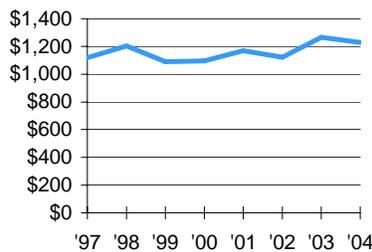


**Physical medicine (providers subject to fee schedule [except chiropractors])**

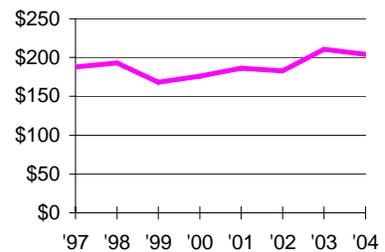
Percentage of claims with this service



Cost of this service per claim with this service

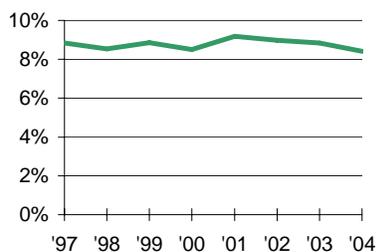


Cost of this service per total claim [2]

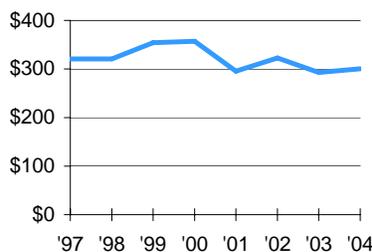


**Physical medicine (chiropractic providers)**

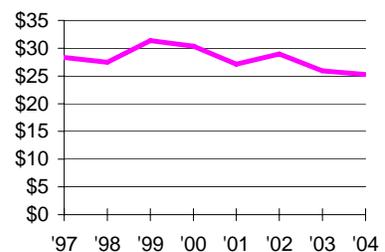
Percentage of claims with this service



Cost of this service per claim with this service



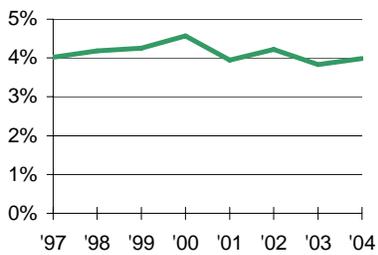
Cost of this service per total claim [2]



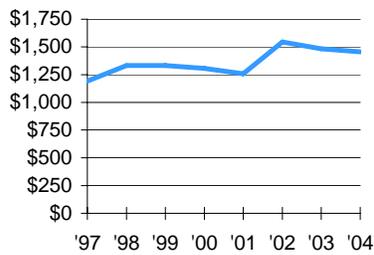
(Notes at end of figure.)

**Physical medicine (providers not subject to fee schedule)**

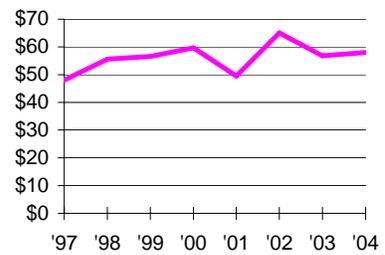
Percentage of claims with this service



Cost of this service per claim with this service

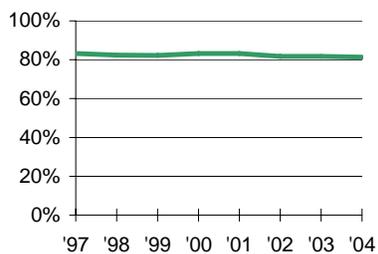


Cost of this service per total claim [2]

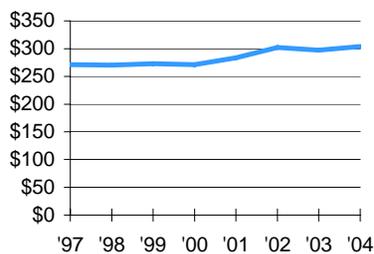


**Evaluation and management (total) [4]**

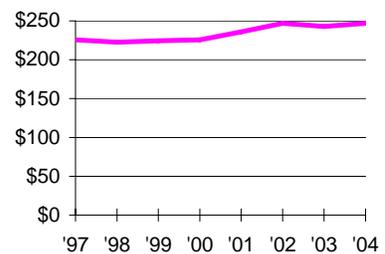
Percentage of claims with this service



Cost of this service per claim with this service

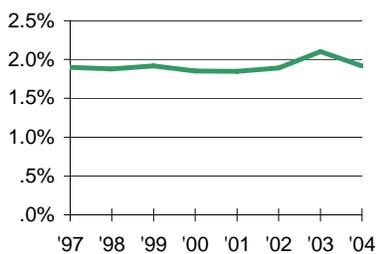


Cost of this service per total claim [2]

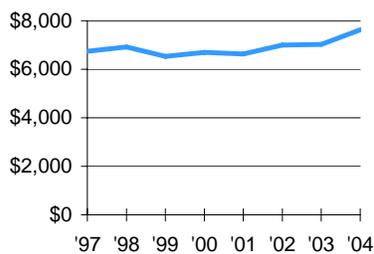


**Inpatient hospital facility services (total)**

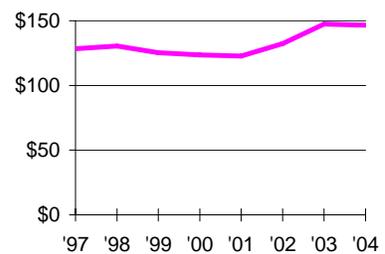
Percentage of claims with this service



Cost of this service per claim with this service

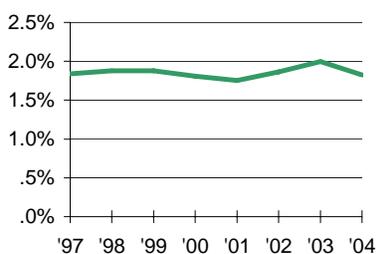


Cost of this service per total claim [2]

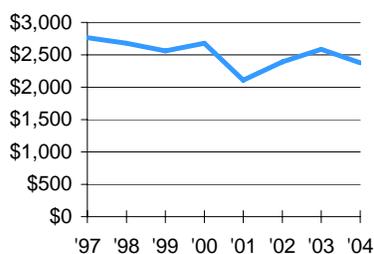


**Inpatient hospital facility services (overnight room) [5]**

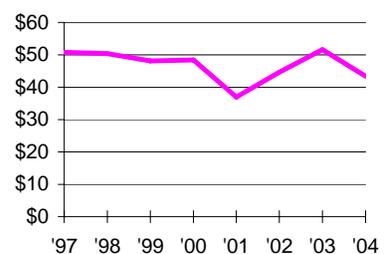
Percentage of claims with this service



Cost of this service per claim with this service



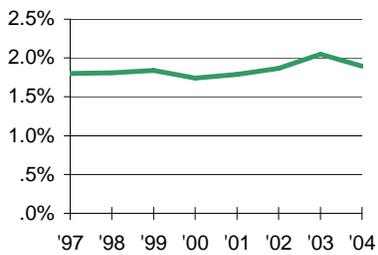
Cost of this service per total claim [2]



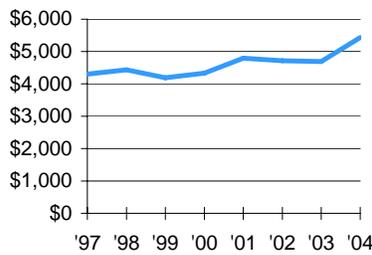
(Notes at end of figure.)

**Inpatient hospital facility services (other)**

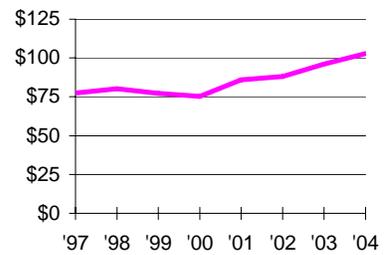
Percentage of claims with this service



Cost of this service per claim with this service

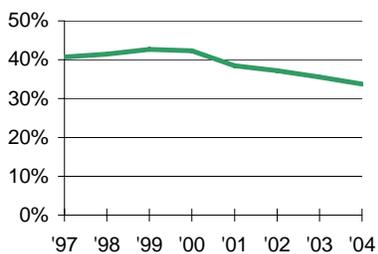


Cost of this service per total claim [2]

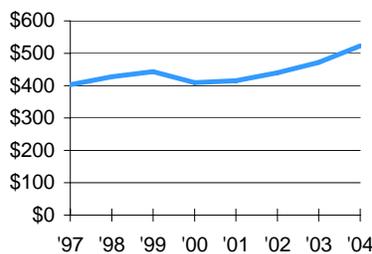


**Equipment and supplies (total)**

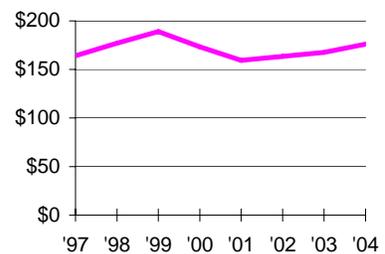
Percentage of claims with this service



Cost of this service per claim with this service

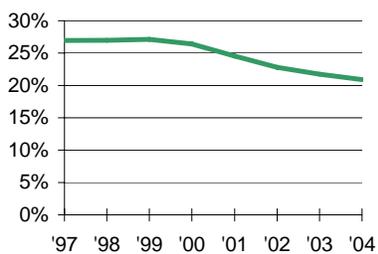


Cost of this service per total claim [2]

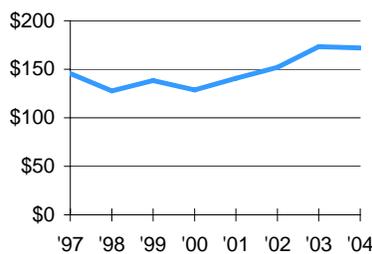


**Equipment and supplies (nonfacility providers)**

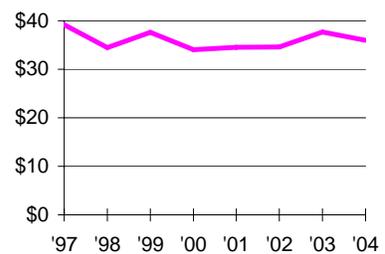
Percentage of claims with this service



Cost of this service per claim with this service

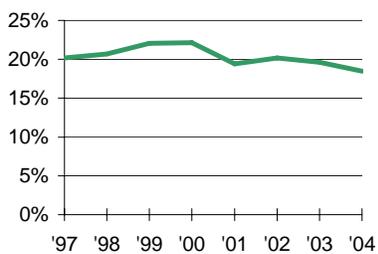


Cost of this service per total claim [2]

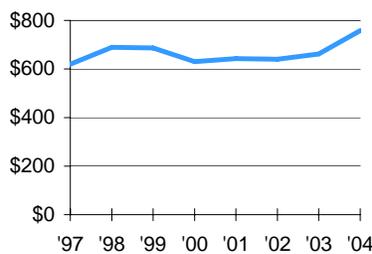


**Equipment and supplies (facility providers)**

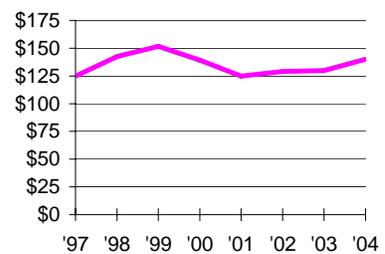
Percentage of claims with this service



Cost of this service per claim with this service



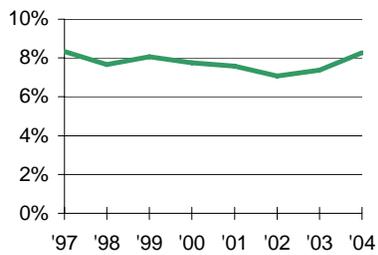
Cost of this service per total claim [2]



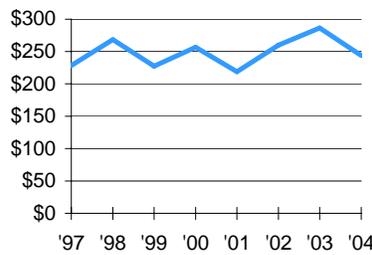
(Notes at end of figure.)

**Pathology and laboratory services**

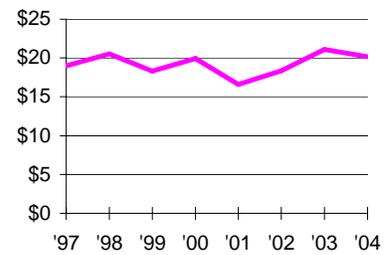
Percentage of claims with this service



Cost of this service per claim with this service

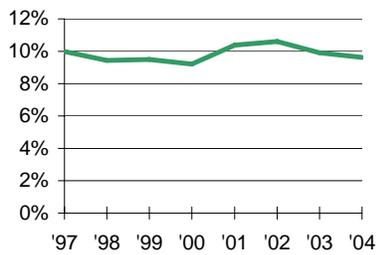


Cost of this service per total claim [2]

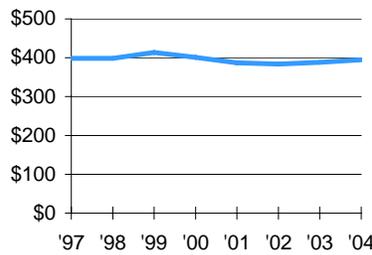


**Chiropractic manipulations**

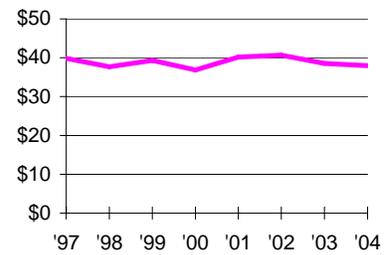
Percentage of claims with this service



Cost of this service per claim with this service

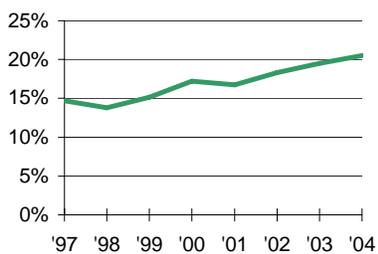


Cost of this service per total claim [2]

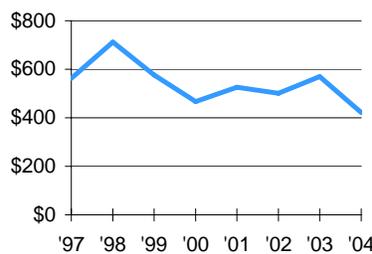


**Other services**

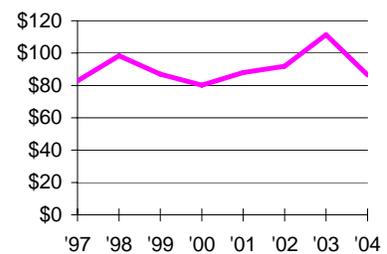
Percentage of claims with this service



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 2004. (See Appendix C.) Service categories are shown in the same order as in Figures 4.2 and 4.3. See Chapter 4 for explanation of service categories and provider groups.
2. Equal to the product of the first two trends for each service group.
3. Provider groups (nonfacility) and facility providers are not shown for surgery because facility providers of this service group accounted for only 0.2 percent of total medical cost in 2004 (Figure 4.1).
4. 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 0.3 percent of total medical cost in 2004 (Figure 4.1).
5. Excludes intensive care unit.

# *Appendix E*

## Medical cost trends, part 2: quantity, unit-cost and service-mix indices

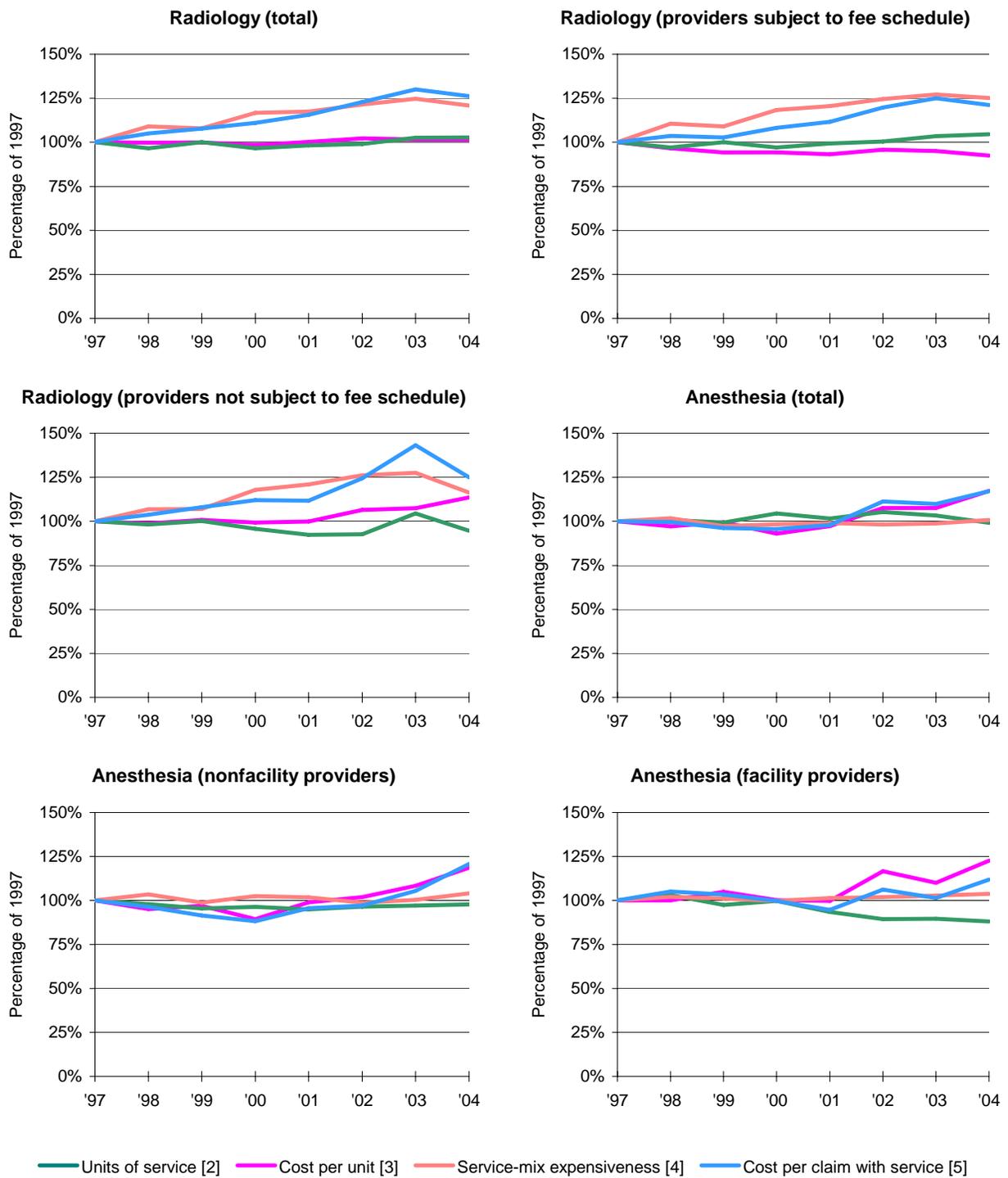
This appendix presents the medical-cost trend data behind Figure 4.4. For selected service groups, trends are presented for the number of units of service per claim with the service, the average cost per unit of service, the expensiveness of the service mix and the

average cost of the service per claim with the service. The trends are presented in index form, meaning that the value for each year is expressed as a percentage of the base year, 1997. The last of the four items is the product of the first three.<sup>54</sup>

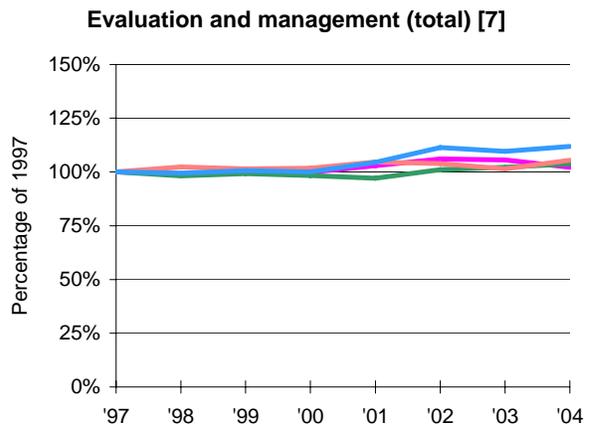
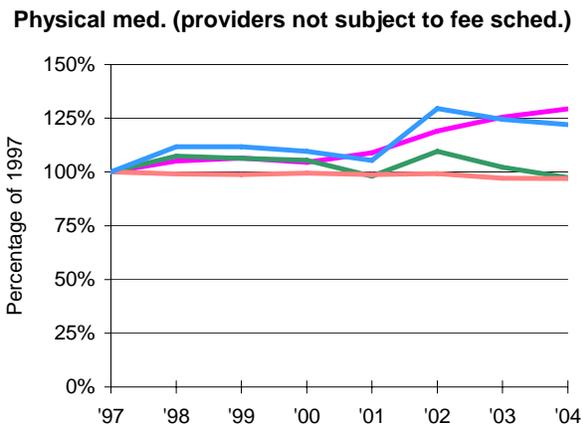
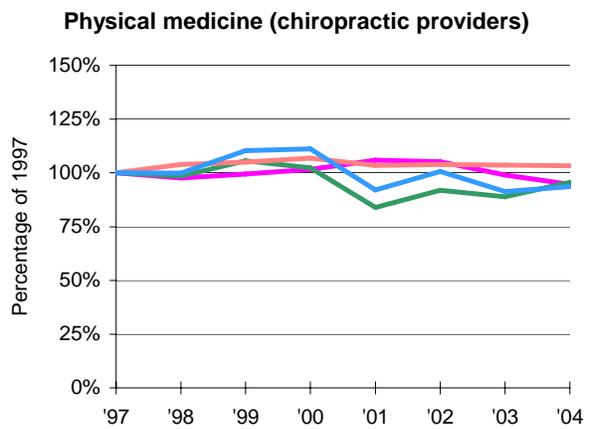
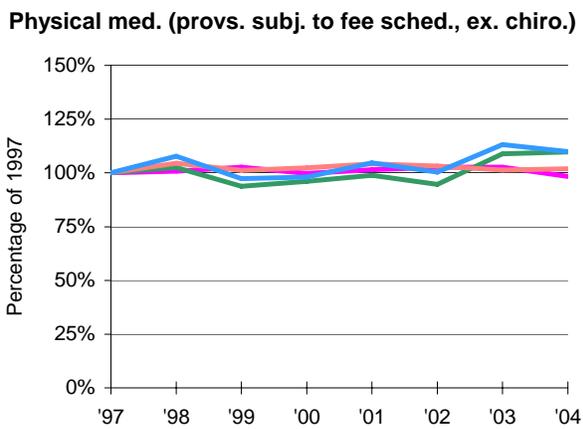
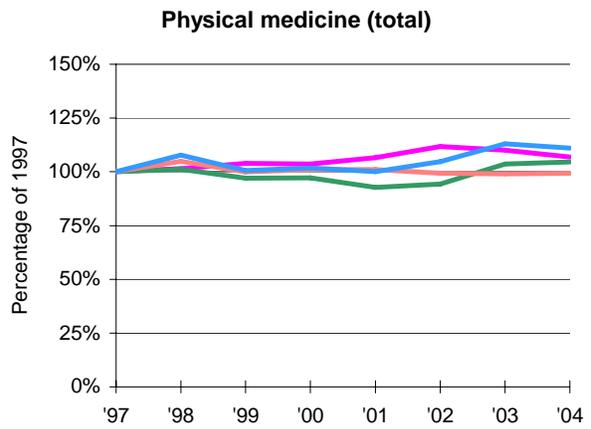
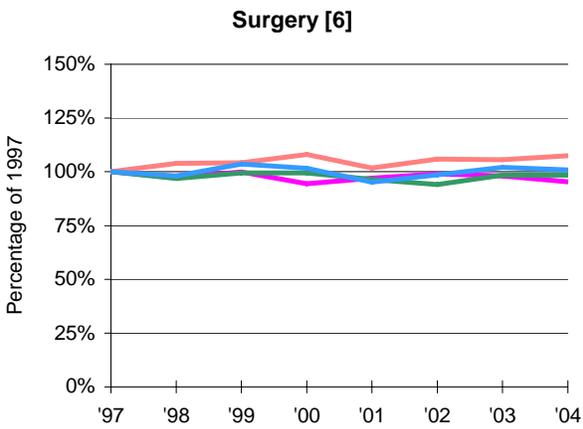
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<sup>54</sup> See note 5 at the end of the figure.

Quantity, unit-cost and service-mix indices, injury years 1997-2004 [1]

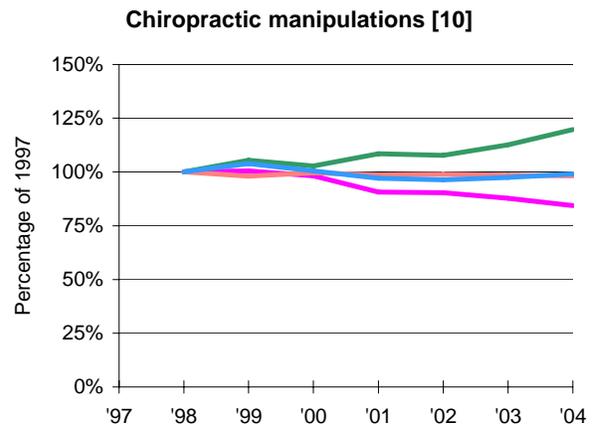
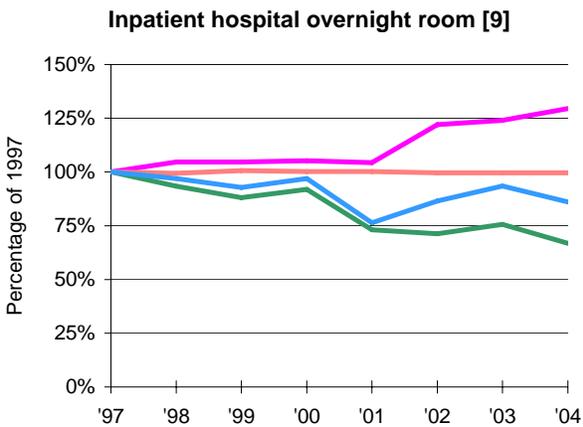
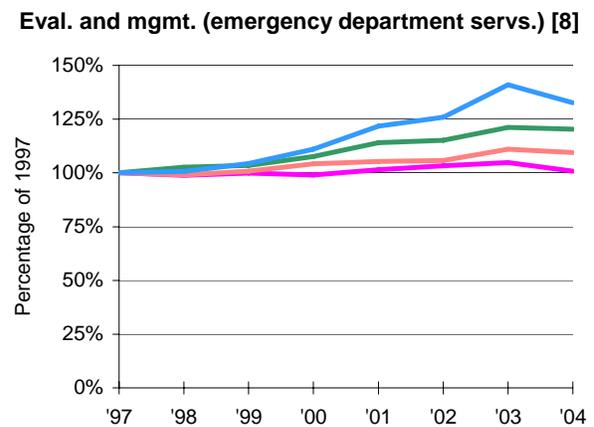
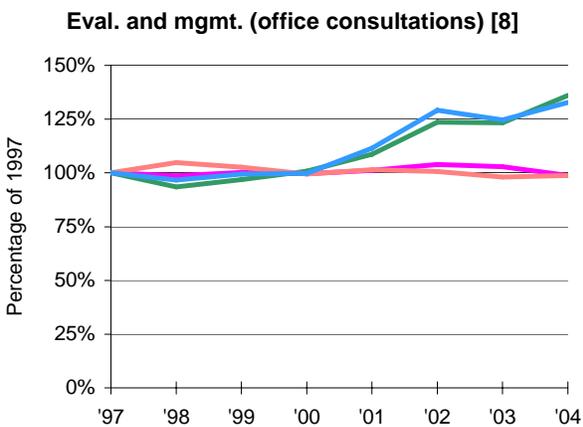
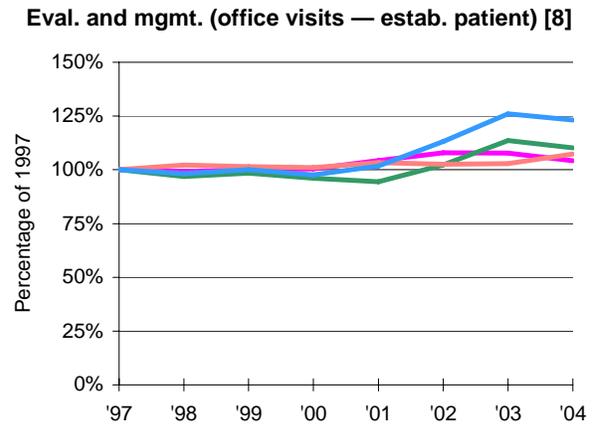
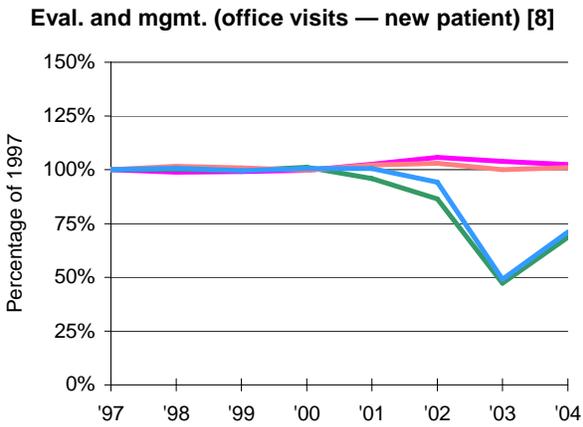


(Notes at end of figure.)



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

(Notes at end of figure.)



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

(Notes at end of figure.)

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 4.4. 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 cost 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 0.2 percent of total medical cost in 2004 (Figure 4.1).
7. 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 0.3 percent of total medical cost in 2004 (Figure 4.1).
8. 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.
9. Excludes intensive care unit. Service mix for this category pertains to the mix between private and semiprivate rooms.
10. The indices for chiropractic manipulations begin with 1998 because service-coding changes prevent comparisons with earlier years.