

Report on the Status of Occupational Health and Safety

**at the
City & County of San Francisco**

Prepared for:

Workers' Compensation Council

Prepared by:

Department of Human Resources

December 2006



Signed: _____

Dated: 1/17/06

Table of Contents

Executive Summary	1
Introduction	3
DHR Role in Health and Safety	3
Global Claims Statistics	3
Top-10 Claims and Expenditure Analysis	5
Nature-of-Injury	6
Body Part	7
Cause	7
Source	9
Comparison to Other California Cities	12
Cal/OSHA Compliance	14
Noteworthy Topics	16
Aging Workforce	16
Repeated Motion Analysis	16
Work-related Stress	20
Disease Related to Sedentary Lifestyles and Poor Nutrition	21
Insurance Surcharges for Smoking Employees	21
Workers' Compensation Fraud and Abuse	22
Major Accomplishments	24
Conclusions	25
Recommendations	26
Appendices	
Appendix A – Citywide Top-10 Rankings by Claims Category	
Appendix B – Seven-year Trends in Claims and Expenditures by Nature of Injury	
Appendix C – Seven-year Trends in Claims and Expenditures by Body Part	
Appendix D – Annual Claims and Aggregate Expenditure Table	
Appendix E – Table No. 4 Claims Statistics Compared to Other CA Public Entities	

EXECUTIVE SUMMARY

Findings

The Department of Human Resources (DHR) analyzed the last seven fiscal years of workers' compensation losses for all departments within the City & County of San Francisco (City), excluding claims of the Metropolitan Transit Agency, City College, San Francisco Unified School District and the Trial Courts, to report on the status of health and safety in City workplaces. Claims analyses, reviews of scientific literature, and findings from other public entities yielded the following key conclusions:

- The number of workers' compensation claims declined. Over the first four years, claims rose a modest six percent and peaked at 4,862 claims in FY 02/03. Claims dipped repeatedly over the last three years: 5% in FY 03/04, 17% in FY 04/05 and then 4.9% to 3,813 claims in FY 05/06.
- Annual claims expenditures rose consistently for the first five fiscal years and then dropped significantly in the sixth and seventh years. After consecutive increases, annual claims expenditures peaked in FY 03/04 at nearly \$54.1M from the \$36.4M spent in FY 99/00 – a 49% jump. They then dropped 16% in FY 04/05 and another 3.7% in FY 05/06 to \$43.6M.
- The City's performance was mixed in a comparison of key workers' compensation statistics to three other California Cities. San Francisco out-performed most other cities in controlling its average cost per claim, but was middle-ranked in claims per million-dollars-of-payroll and consistently had the most claims filed per 100 FTEs.
- Claims analysis revealed frequent causes of injuries with specific worker populations. Employees engaged in public safety, healthcare, and skilled labor work suffered most frequently from: (1) overexertion and repetitive strenuous movements associated with lifting, bending, stooping, reaching, twisting and turning, and operating powered and manual tools; and (2) sudden or traumatic strenuous movements associated with slips and trips, assaults, adjusting to shifting loads, and running and walking.

The major exposures for office workers and those who work both in the office and the field included: (1) repeated motion associated with computer use and other clerical tasks; (2) strenuous movements that were reactions to slips, trips, and events where physical conditions changed quickly; and (3) rare lifts executed by unfit employees, employees using high-risk body mechanics, or employees, who exceeded their load capacities.

- Current trends in demographics reveal predictable changes in the City's workforce and its claims profile. The City's aging workforce is becoming an increasingly important factor. It is anticipated to increase certain types of claims, especially in physically demanding positions of law enforcement, fire and skilled and/or manual labor. It is also anticipated that workers' compensation laws will increase the number of illnesses considered presumptive for law enforcement and fire staff, as they age and their health declines. Moreover, since many City employees are approaching retirement, a large exodus is predicted to spawn shortages in some employment sectors, due to a lack of younger qualified workers in the pipeline.

Recommendations

- With the exception of most departments that have in-house or contract health and safety resources, departments should do more to improve health and safety in their workplaces. Even though annual claims have declined and the City has demonstrated proficiency at controlling costs associated with claims administration, some departments lacking health and safety resources have shown a lack of focus in their safety and health programs. While the nature of a particular type of work may limit the amount of control that can be attained over injury risk factors and hazards, departments can become more proactive in managing them. Additionally, management must foster safer workplace cultures and enforce safe work practices, so that employees become more conscientious about working safely.

DHR recommends that the City fund a pilot wellness study, to determine if a traditional wellness program would substantially reduce the City's claims risk and expenditures. Credible evidence from scientific studies that analyzed the fiscal impacts of wellness programs indicated that they reduced the risk of occupational injury and lifestyle-related illnesses and led to reductions in workers' compensation claims and health care utilization costs. Based on the findings, the City could realize a positive return-on-investment (ROI) if it implemented a traditional wellness program. Details on the main features of the pilot study can be found in the Recommendations.

- Departments should support the Mayor's Shape Up San Francisco initiative, which may reduce the City's risk exposures and their associated costs. It is estimated that widespread participation in the Mayor's initiative could generate some cost-savings and would also improve morale and receive union support.
- The City should develop an aggressive anti-fraud program with the collaboration of DHR's Workers' Compensation Division(WCD), the District Attorney's Office and the City Attorney's Office. Workers' compensation claims expenditures for fraudulent activity could account for an estimated \$2.5 million or more, annually. Additionally, fraud adversely affects morale, encourages more fraud, and generates substantial productivity losses.
- The City should also implement the following corrective actions to reduce claims:
 - (1) Ensure departmental compliance with Cal/OSHA 300 Log requirements to eliminate citation liability and provide accurate workplace injury and illness data;
 - (2) Review and modify the City's hiring practices, to assure that new hires are not unnecessarily exposed to risk of injury;
 - (3) Target high-risk jobs for proactive job hazard analysis;
 - (4) Provide customized body mechanics and defensive tactics training for healthcare and public safety employees;
 - (5) Examine the claims information process and correct conditions that increase the risk of error or data loss;
 - (6) Encourage at-risk employees to seek EAP services following exposure to potentially traumatizing events;
 - (7) DHR follow up on Cal/OSHA inspections;
 - (8) Change the City's culture regarding health and safety with safety awareness and injury and illness prevention training to create an environment that supports employees who work in a safe manner;
 - (9) Allocate funding to maintain a central supply of ergonomic accessories for citywide distribution;

- (10) Assemble a citywide health and safety committee to facilitate sharing information about effective safety measures, resources and developing a citywide safety culture;
- (11) Allow departments to apply all or some portion of savings in annual claims costs to internal health and safety needs.

INTRODUCTION

The authority for this report comes from: (1) DHR's powers granted under the City Charter; and (2) a recommendation issued by the City's Workers' Compensation Council (WCC) in its April 2000 report, *Recommendations for Improvement in the Management of the City's Workers' Compensation Program*. The WCC recommended periodic reporting on the City's injury prevention efforts and results because it recognized that management could not set goals and/or identify the actions needed to reduce the risk of occupational injury and illness without it. This is the first report to be issued since DHR embarked on its efforts to centralize coordination of regulatory compliance and enhance citywide health and safety performance. It covers all City entities. To comprehensively report on the City's health and safety status, DHR addressed the following topics:

- Global Claims Statistics
- Top-10 Claims and Expenditure Analysis
- Comparison of the City to other California Public Entities
- Cal/OSHA Compliance
- Noteworthy Topics
- Major Accomplishments in Health and Safety
- Conclusions
- Recommendations

DHR Role in Health & Safety

Section 10.102 of the City Charter establishes DHR's mandate in managing health and safety by outlining its responsibilities as "... coordination of all state, local and federal health and safety mandates, programs and requirements relating to employees, including but not limited to industrial hygiene programs, health and safety programs, OSHA compliance ..." DHR interprets its authority to include: policy making; the collection, analysis, and exchange of claims and injury/illness data; evaluation and control of hazards; health and safety program implementation; training; compliance monitoring and enforcement; issuing opinions and recommendations; regulatory interpretation; and representing the City to the public and other agencies or groups. DHR's recent efforts have been intended to correct systemic flaws that have led to non-uniform compliance, citywide, by providing leadership in standardization and networking. DHR has been providing basic health and safety services to over 45 small departments and has been focusing on coordination, information sharing, and specialized assistance with 17 large departments, most of which have in-house health and safety resources.

GLOBAL CLAIMS STATISTICS

In many organizations, OSHA logs are used to generate statistics on health and safety performance. Due to the variability in OSHA log data quality among city departments, data from the City's worker's compensation claims management system, for the period FY 99/00 to FY 05/06, were used to generate claims statistics for this report.

Figure No. 1 New Claims by Fiscal Year

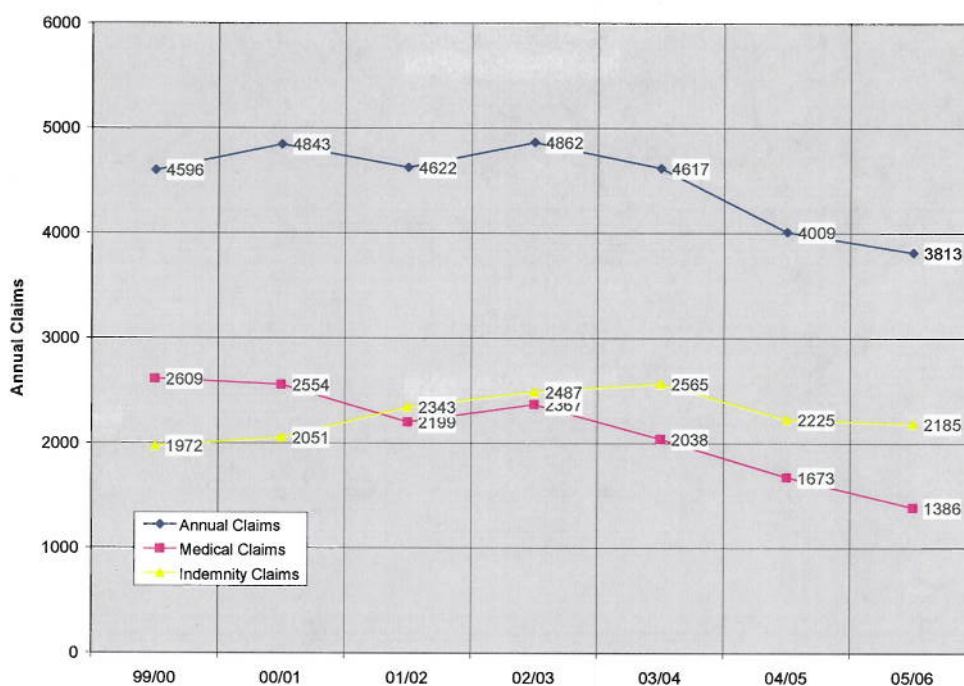
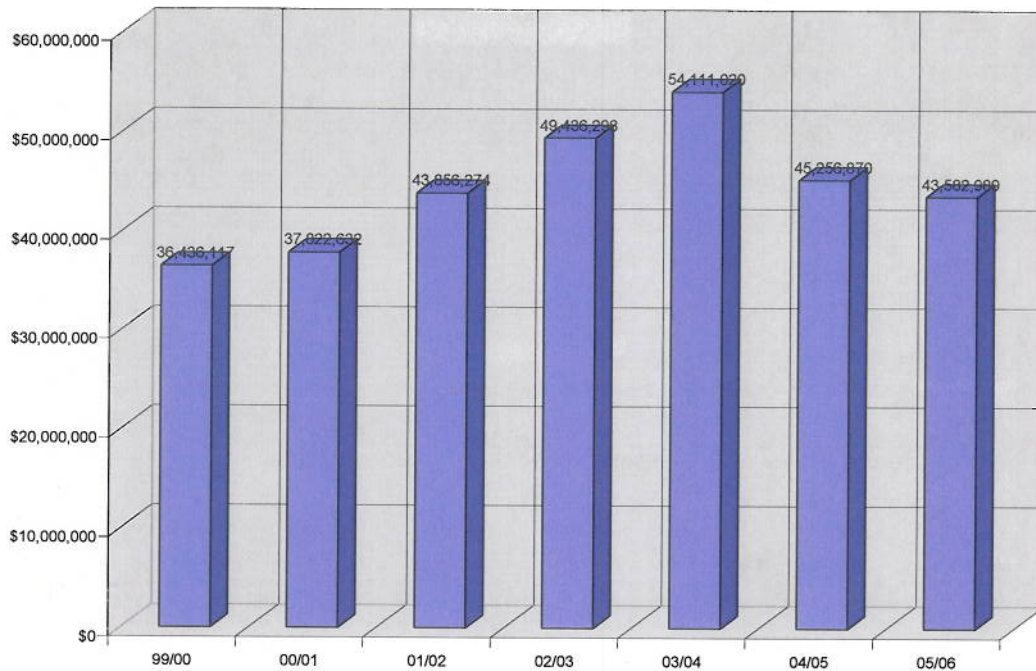


Figure No. 1 above shows a marked decline in the annual number of workers' compensation claims over the seven-year period. The number of new claims varied during the first four years, but declined substantially over the last three, dipping nearly 17.5% between FY 03/04 and FY 04/05 and another 3.7% in FY 05/06. The drop in new claims is attributable to a combination of factors: (1) procedural changes in the claims process mandated by recently enacted workers' compensation reform (SB 899); (2) a decrease in the number of employees during the period; (3) restructuring that resulted in the Department of Parking and Traffic (DPT) being transferred from the City's workers' compensation system after FY 03/04 – a reduction of about 120 claims; and (4) prevention-focused health and safety services that DHR has been providing since FY 01/02.

Significant trends in the types of claims are also identified in Figure No. 1 above. Medical claims (future medical plus medical only) declined 46.9% between FY 01/02 and FY 05/06, while indemnity claims increased nearly 10.8%. While the number of new indemnity claims increased at the beginning of the period, they leveled off and began decreasing in FY 04/05. In contrast, medical claims generally decreased, except for a spike in FY 02/03.

Annual claims expenditures for all claims are depicted in Figure No. 2 below. Claims expenditures rose gradually for the first three fiscal years (from FY 99/00) – peaking at \$54.1M – and then dropping over the last two years to \$43.6M in FY 05/06. This trend of substantial consecutive increases, absent commensurate up-ticks in claims, is largely explained by medical inflation and statutory increases in workers' compensation benefits (AB 749). According to the 2005 Annual Report from the California Commission on Health and Safety and Workers' Compensation, California's workers' compensation medical costs grew by over 120% from 1997 to 2004. AB 749 incrementally increased temporary total disability payments from \$490 per week in 2002 to \$602 in 2003, and then to \$728 per week in 2003, and finally to \$840 per week in 2005.

Figure No. 2 Citywide Annual Claims Expenditures



Recent workers' compensation legislative reforms (SB 899) have generated considerable savings for the City - about \$7.7M in actual savings since FY 04/05. This trend is projected to continue in the short term as additional legislative changes take effect, but will eventually reverse due to medical inflation and future benefit increases.

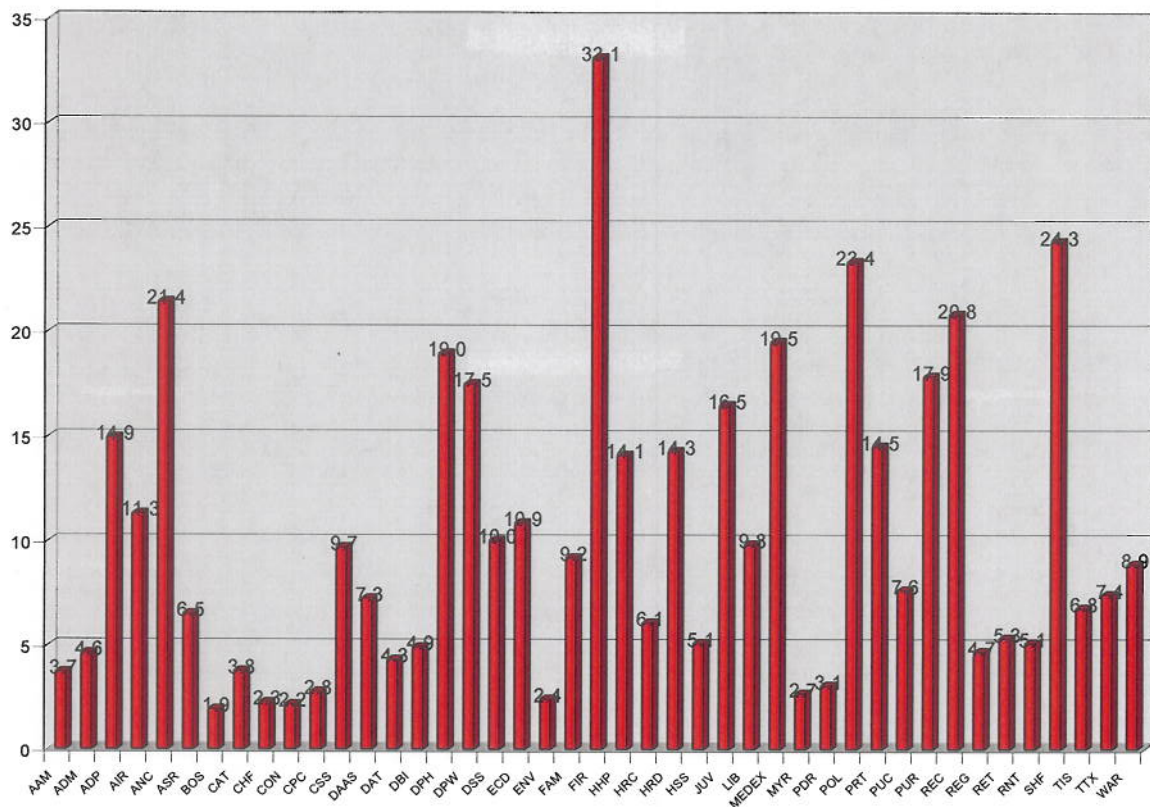
It is useful to analyze claims data by grouping large and small departments. Twelve (12) large departments (500 or more FTEs) employ nearly 17,000 workers and accounted for about 89% of claims and 85% of claims expenditures, over the seven-year period. 48 small departments that employ about 1,900 accounted for the balance of claims and expenditures. Employees of small departments mainly do sedentary work in office settings, while large departments also employ workers in public safety, healthcare, and skilled labor. The latter group has a higher risk of injury due to inherently hazardous working conditions, high-risk tasks and larger workforces. The number of office workers is estimated to be 4,000 to 6,000, citywide.

Figure No. 3 below shows annual claims per 100 FTEs for departments with 30 or more staff. Smaller departments are excluded because a single claim can lead to a very high ratio. The median claims rate was 7.6 claims per 100 FTEs per year. Generally, public safety, skilled labor, and healthcare departments led the claims rates. The SFFD was first with 33 claims per 100 FTEs per year.

TOP-10 CLAIMS AND EXPENDITURE ANALYSIS

DHR analyzed the City's workers' compensation claims losses from FY 99/00 through FY 05/06 (inclusive). 31,362 claims were added to the system during that period. They generated nearly \$196M in expenditures, excluding \$74.2M in LC 4850 payments.

Figure No. 3 Average Annual Claims per 100 FTEs



(The California Labor Code Section 4850 requires that public safety employees receive their full salary, untaxed, for up to one year, for each work-related injury or illness. In addition, the City provides up to one year of disability pay for those public safety employees not covered under LC 4850). Over the seven-year period, all workers' compensation claims generated about \$310.5M in aggregate expenditures. Aggregate expenditures are what departments spend on all claims in a given fiscal year. At least 80% of annual expenditures apply to claims filed prior to that year. After FY 03/04, DPT expenditures were adjusted to account for the transfer of DPT claims from the City's claims system that year.

By industry convention, workers' compensation claims are organized into four main categories: Nature of Injury (Nature), Body Part, Cause and Source. (Example: A person trips (cause) over a chair (source), falls to the floor and breaks (nature) their leg (body part)). The City's claims losses are described following this convention in the sections below, with additional data in Appendices A, B, C, and D. Data on claims and expenditures for the top-10 causes and sources are discussed below in greater detail because they offer direct insight into how and why claims occur and can indicate useful corrective actions.

Claims and Expenditure Trends by Nature-of-Injury

Nature-of-Injury is the parameter that describes the type of injury (e.g. fracture). This statistical parameter is useful because it may reveal underlying patterns and relationships between injuries and claims losses. The Top-10 natures are tabulated in Appendix A. Generally, the first seven or eight rankings are nearly the same from year to year with slight variations. Strains, Pain, Bruises, Sprains, and Inflammation consistently comprise the Top-5 natures.

The seven-year trends in claims and expenditures are graphed in Appendix B. The highlights were: (1) Strain claims declined nearly 44% overall, from a high of 1,633 claims in FY 00/01; (2) Pain claims skyrocketed 182% in FY 01/02 from a low of 327 claims in FY 99/00 and then vacillated down to 810 claims in FY 05/06; (3) Bruise claims trended downward about 54% from their seven-year high of 625 claims in FY 00/01; (4) Strain claim expenditures jumped 26% in FY 01/02 from \$15.4M in FY 99/00, stabilized until FY 03/04, declined 23% in FY 04/05 and were virtually constant in FY 05/06; (5) Pain expenditures skyrocketed 210% in FY 02/03 from \$2.7M in FY 00/01 and began a modest 16% decline over the last three years; and (6) Sprain claim expenditures rose gradually from \$2M in FY 99/00 to \$4.4M in FY 03/04, declined about 26% in FY 04/05, and then grew 15% in FY 05/06.

Claims and Expenditure Trends by Body Part

The 10 body parts that are the most frequently injured are tabulated in Appendix A, and their seven-year claims and expenditure trends are graphed in Appendix C. The claims highlights include: (1) Multiple parts claims jumped 144% by FY 04/05 from their low of 325 in FY 01/02 and then dropped 25% to 593 claims in FY 05/06; (2) Lumbar/back claims dipped slightly between FY 99/00 and FY 02/03, then fell 32% to 417 claims in FY 03/04, and stabilized through FY 05/06 and (3) Knee claims declined about 28% overall from a high of 391 in FY 01/02 to 282 claims in FY 05/06.

Claims expenditure highlights include: (1) Lumbar-back costs jumped from about \$7.2M in FY 00/01 to \$10.9M in FY 03/04, and then plummeted by 41% to \$6.4M in FY 05/06; (2) Multiple body parts expenditures increased almost every year, for an overall 80% jump to \$8.3M in FY 05/06; and (3) Knee and shoulder claim expenditures virtually mirrored each other – showing overall 32.5% and 35.7% growth, respectively, over the entire seven-year period. Claims expenditures for the remaining six body parts stayed below the \$2.1M mark.

Claims and Expenditure Trends by Cause

The Cause category describes the direct action or motion that resulted in a claim. The Top-10 causes are ranked and analyzed in Table No. 1 below.

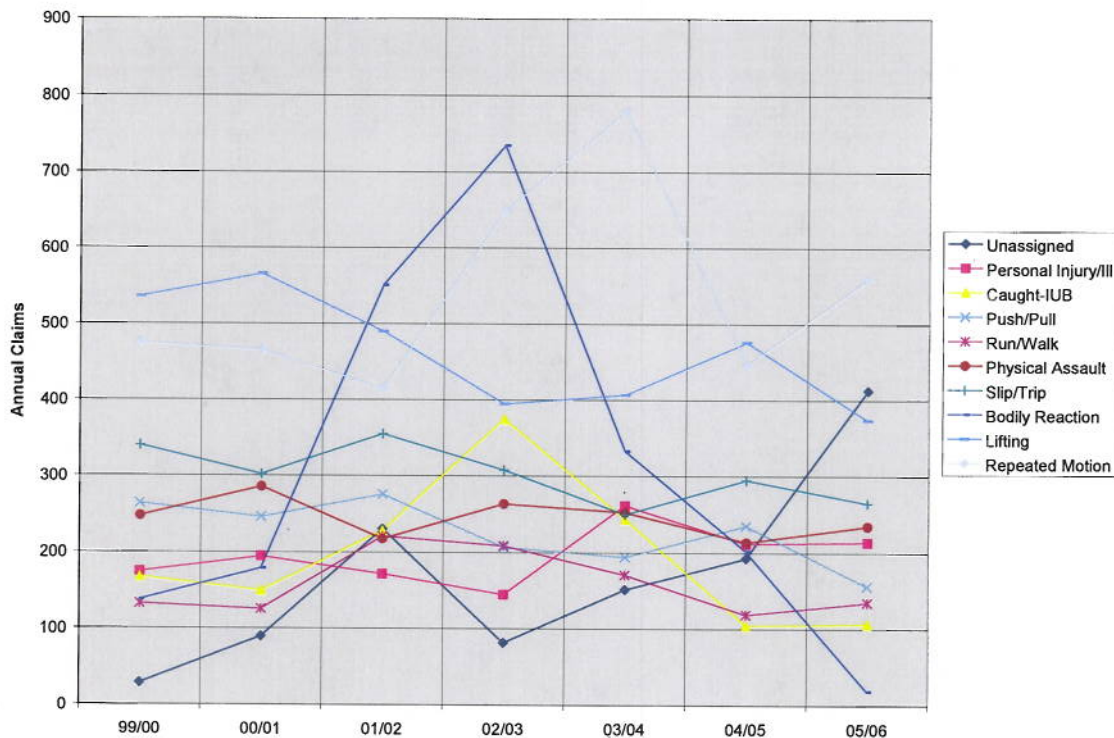
Table No. 1 Top-10 Causes of Workers' Compensation Claims - FY 99/00 – FY 05/06

Cause	Claims	%	Rank	Paid (\$)	% Total	Rank	Avg\$/Claim
Repeated Motion	3,784	12.1	1	33,071,710	16.9	1	8,740
Lifting	3,237	10.3	2	30,229,234	15.4	2	9,339
Bodily Reaction	2,150	6.9	3	14,452,241	7.4	4	6,722
Slip/Trip	2,108	6.7	4	16,415,945	8.4	3	7,788
Physical Assault	1,711	5.5	5	6,224,656	3.2	8	3,638
Pull/Push	1,571	5	6	11,949,530	6.1	5	7,607
Caught-IUB	1,371	4.4	7	4,580,191	2.3	9	3,341
Personal Injury/III	1,368	4.4	8	8,568,991	4.4	6	6,264
Unassigned	1,183	3.8	9	3,844,518	2.0	10	3,250
Run/Walk	1,107	3.5	10	6,320,740	3.2	7	5,710
Other	11,772	37.5	n/a	60,327,824	30.8	n/a	5,125
	31,362	100		195,985,580	100		6,250

1. "Claims" represents all claims for a specific cause that were filed between FY 99/00 and FY 05/06. "Paid" applies only to payments made on those claims, not claims filed before FY 99/00.
2. All payment data exclude LC 4850 payments.
3. The first ranking is by frequency of claims. The second ranking is by severity.

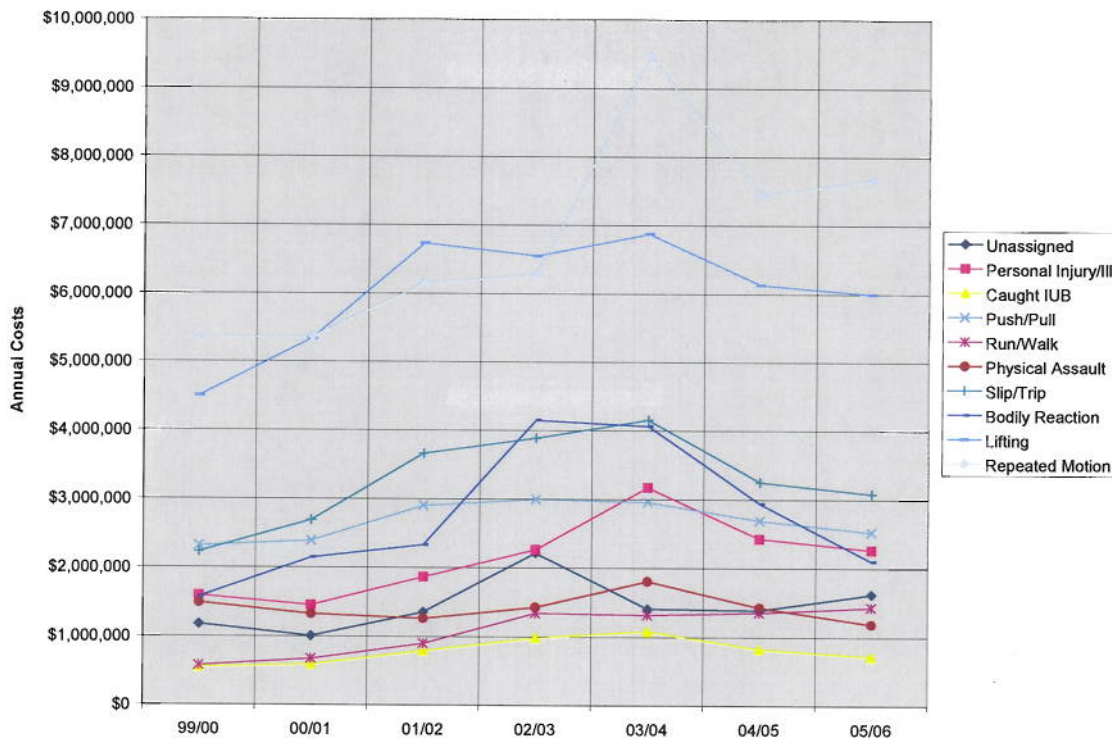
The "Other" category includes causes that occur with insufficient frequency to make the Top-10. Organizing claims by cause often reveals what factors need to be controlled for prevention. For example: Examination of Table No. 1 above shows that Repeated Motion is the City's leading cause of injury by frequency and severity, accounting for 12% (3,784) of claims and \$33.1M in claims expenditures (16.9% of expenditures) for claims filed during the seven-year period. Lifting is the second leading cause with 3,237 claims (10.3%) and a severity of \$30.2M in claims expenditures (15.4%). However, their severity rankings flip-flop when you look at aggregate expenditures (Appendix D) – nearly \$42.1M spent on lifting claims, while repeated motion claims cost about \$41.4M. This switch occurs because lifting claims frequently involve back injury, and the back is the most costly body part. This suggests that controlling the factors involved in back injury will probably result in substantial claims reduction (and severity). The third and fourth-ranked causes had nearly one-third the claims and about half the expenditures of the first two causes. The remaining Top-10 causes had substantially lower claims and ranged from one-fifth to one-eighth the expenditures. Ordinarily, the first six or seven causes in the Top-10 list stay the same from year to year, while the last two causes are at high risk of being displaced from the list. Claims trend lines are shown in Figure No. 4 below.

Figure No. 4 Annual Claims by Top-10 Causes



Extreme variation is readily observable in Figure No. 4 above. No clear cause(s) for the variation was identified. Claims attributed to Repeated Motion, Bodily reaction, and Caught-IUB exhibit mountain-shaped trend lines that ascend sharply, peak in FY 02/03 or FY 03/04, and decline sharply. Claims attributed to Lifting and Slip/Trip showed overall declines with a lot of vacillation. Graphs for the remaining Top-10 causes show a lot of variation with no discernable pattern below the 300 claim threshold. Claims expenditure trend lines for the Top-10 causes are shown in Figure No. 5 below.

Figure No. 5 Annual Expenditures for Claims by Top-10 Causes



Expenditure trend lines for the Top-10 Causes in Figure No. 5 above are more congruous than the trend lines for claims in Figure No. 4. Recent medical inflation, claims loss development (the tendency for claims expenditures to rise as claimants undergo medical treatments and receive disability payments for extended periods).

Claims expenditures attributed to both Repeated Motion and Lifting show substantial increases with a lot of vacillation. Annual expenditures for repeated motion claims gradually increased and peaked at \$9.47M in FY 03/04, up 77% from \$5.35M in FY 99/00. Then, they dipped 21% to \$7.4M in FY 04/05 and closed by inching up three percent in FY 05/06. The expenditure trend line for Lifting claims grew 50% over the first three-years, stabilized through FY 03/04, and then declined 12.8% to nearly \$6M in FY 05/06.

Claims expenditures for the remaining eight causes typically show a gradual increase until FY 02/03 or FY 03/04 and a smaller decline, resulting in a net gain overall. Expenditures for Bodily Reaction, Slip/Trip, and Personal Injury/Illness lead the remaining causes and range from about \$1.45M to \$4.1M.

Claims and Expenditure Trends by Source

The City's claims system refers to sources as "Incident Type". They are the underlying or "root" cause(s) that often initiate the chain of events that lead to a claim. Organizing claims by source often reveals management and staff errors that facilitated events leading up to a claim and information that may hint at preventive measures. In Table No. 2 below, Bodily Motion overwhelmingly leads among the sources of claims. It has the highest frequency with 6,299 claims (20% of claims) over the seven-ear period and the highest severity at nearly \$50.6M. Bodily Motion leads so overwhelmingly because most of the injuries that occur have causes that are subsumed under it (e.g., Push/Pull, Run/Walk, Slip/Trip, Lifting, etc.).

Table No. 2 Top-10 Sources of Workers' Compensation Claims

Cause	Claims	%	Rank	Paid (\$)	% Total	Rank	Avg\$/Claim
Bodily Motion	6,299	20.1	1	50,554,709	25.8	1	8,026
Unknown	3,770	12.0	2	20,454,049	10.4	2	5,426
Person – Client/Patient	2,998	9.6	3	13,734,305	7.0	3	4,582
Person – Public	1,439	4.6	4	6,486,992	3.3	5	4,508
Vehicle	1,041	3.3	5	8,102,314	4.1	4	7,784
Walking Surface – Out, Dry	897	2.9	6	5,682,706	2.9	6	6,336
Equipment – Fixture/Furniture	795	2.5	7	5,459,769	2.8	7	6,868
Bldg/Structure – Door	623	2.0	8	2,225,985	1.1	10	3,573
Equipment – Heavy	622	2.0	9	5,455,400	2.8	8	8,771
Metal Item	598	1.9	10	2,723,923	1.4	9	4,555
Other	12,280	39.1	n/a	75,105,428	38.3	n/a	6,116
	31,362	100		195,985,580	100		6,250

1. "Claims" represents all claims for a specific cause that were filed between FY 99/00 and FY 05/06. "Paid" applies only to payments made on those claims, not claims filed before FY 99/00.
2. The first ranking is by frequency of claims, and the second ranking is by severity.

Claims attributed to "Unknown" sources ranked second (by frequency). Clearly, these claims were not without a source, which strongly suggests that there are problems with the generation and/or flow of initial claims information. Person-Client/Patient ranked third, largely due to the disproportionately high number of physical assaults and occupational accidents involving patients and clients. Vehicles rank fifth by frequency and third by severity. This disparity between claims frequency and severity rankings was observed with causes in Table No. 1 and is probably due to the severe, costly injuries resulting from high-impact forces during moving vehicle accidents. Heavy Equipment is another example: Analysis revealed that 40% of claims attributed to Equipment-Heavy involved back injury. Injuries associated with lifting heavy equipment have the highest average cost per claim of \$8,771, yet they are ranked eighth by claims frequency.

Figure No. 6 below shows claims trends for the Top-10 sources. Bodily Motion, Unknown and Person-Client/Patient were the leading sources. Bodily Motion showed a 97% increase to 1,233 claims in FY 02/03, followed by a 44% decline over the remaining years – producing a net gain. Claims with *Unknown* sources also increased. By FY 05/06, they exceeded 1,100, which was a 335% increase from FY 99/00. After FY 00/01, claims attributed to Person-Client/Patient declined gradually from 499 and 358 claims, and resulting in a 28% drop. Public health workers filed 74% of person-client/patient claims and firefighters filed almost 16%. The remaining sources' trend lines are clustered between 50 and 300 claims.

Figure No. 7 below depicts expenditure trend lines for the Top-10 sources. Both Bodily Motion and Unknown claims expenditures trended upward, although bodily motion claims expenditures had a sharper increase.

Figure No. 6 Annual Claims by Top-10 Source

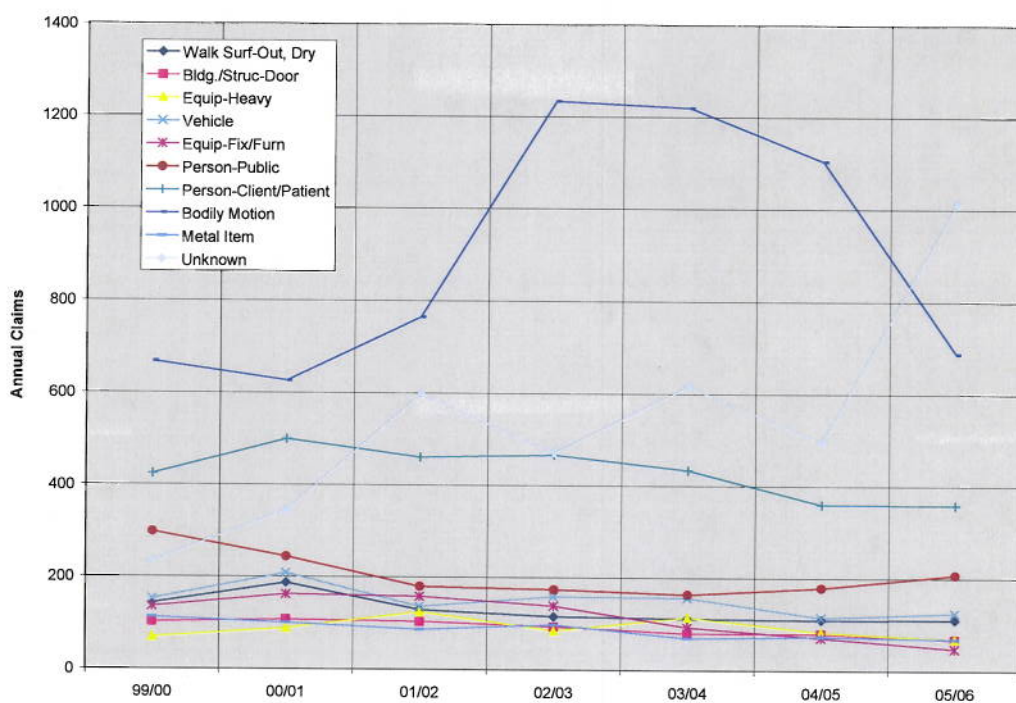
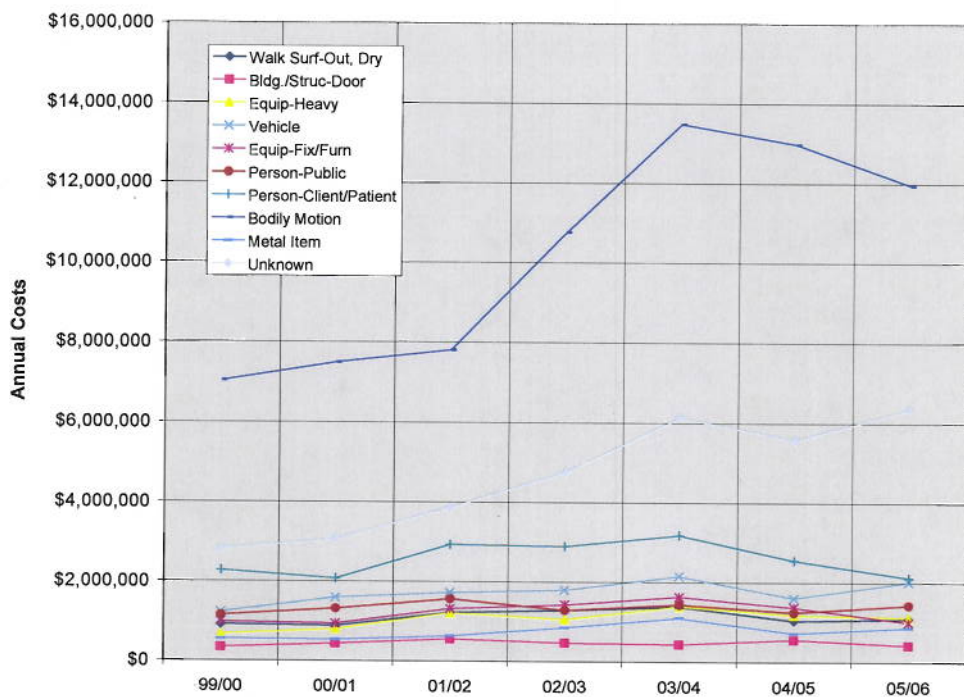


Figure No. 7 Annual Claims Expenditures by Top-10 Sources



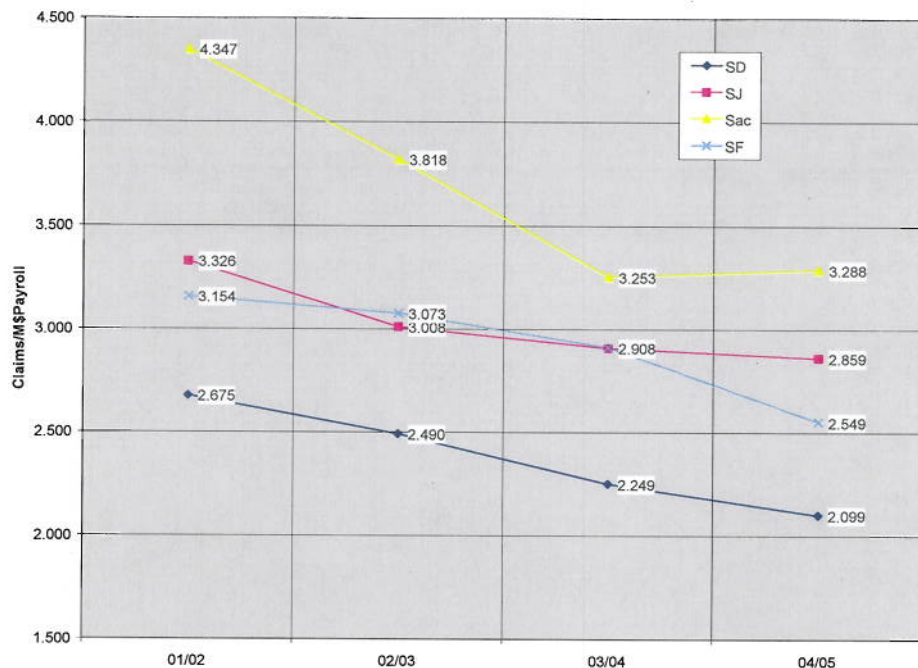
In Figure No.7, bodily motion claims expenditures rose to their peak of nearly \$13.5M in FY 03/04, a 73% hike from \$7.8M in FY 01/02, and then declined 11% to \$11.9M. The overall trend for Unknown source claims expenditures shows gradual growth (125% overall), with a 9.2%

downturn in FY 04/05 and a 14% increase in FY 05/06 to end at \$6.3M. Expenditures for Person-Client/Patient claims showed a rise, relative plateau, and decline. Expenditure trend lines for the remaining Top-10 sources fell between about \$500K and \$2.1M.

COMPARISON TO OTHER CALIFORNIA CITIES

DHR compared key claims metrics among three other major California cities to get a perspective on the City's claims management performance. San Diego, Sacramento, and San Jose supplied the total FTEs, annual claims, total payroll, and total claims expenditures over a four-fiscal year period, FY 01/02 thorough FY 04/05 (tabulated in Appendix E). These data were used to compute three metrics used in the claims management industry: (1) claims-per-million-dollars-of-payroll; (2) average payout per claim; and (3) claims per 100 FTEs. Claims-per-million-dollars-of-payroll is graphed below in Figure No. 8.

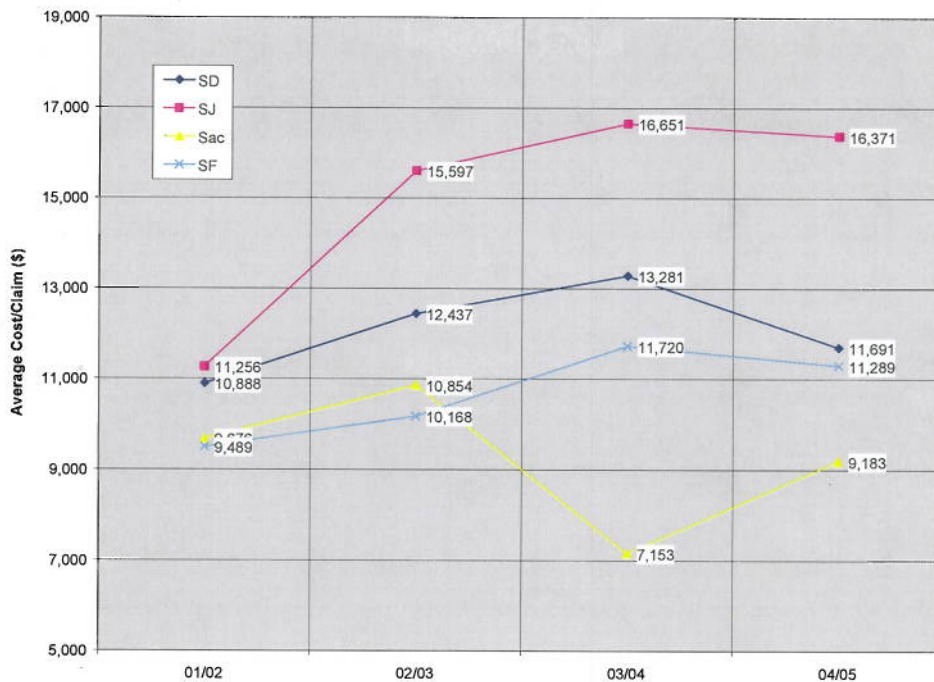
Figure No. 8 Comparison of Claims per Million Dollars of Payroll



The trend lines show declines in each city. Sacramento maintained the highest claims-per-million-dollars-of-payroll, but showed the sharpest overall decline (24%), which stopped abruptly in FY 03/04 for unknown reasons. San Diego consistently had the least claims-per-million-dollars-of-payroll. San Francisco and San Jose were the moderates, with overall 19% and 14% declines, respectively. The across-the-board decline may be due to increases in payroll and benefits from cyclical bargaining agreements and declines in claims. This statistic also has implications for claims administration and health and safety performance.

Figure No. 9 below depicts trends in the average payout per claim. San Jose consistently spent the most per claim, with a 39% increase in FY 02/03 and a subsequent relative stabilization. Why San Jose consistently led in this statistic was unexplained, since it was subject to the similar medical inflation. This anomaly suggests that internal factors may have played an important role. San Diego and San Francisco trend lines follow a similar pattern, but with considerably lower numbers than San Jose's.

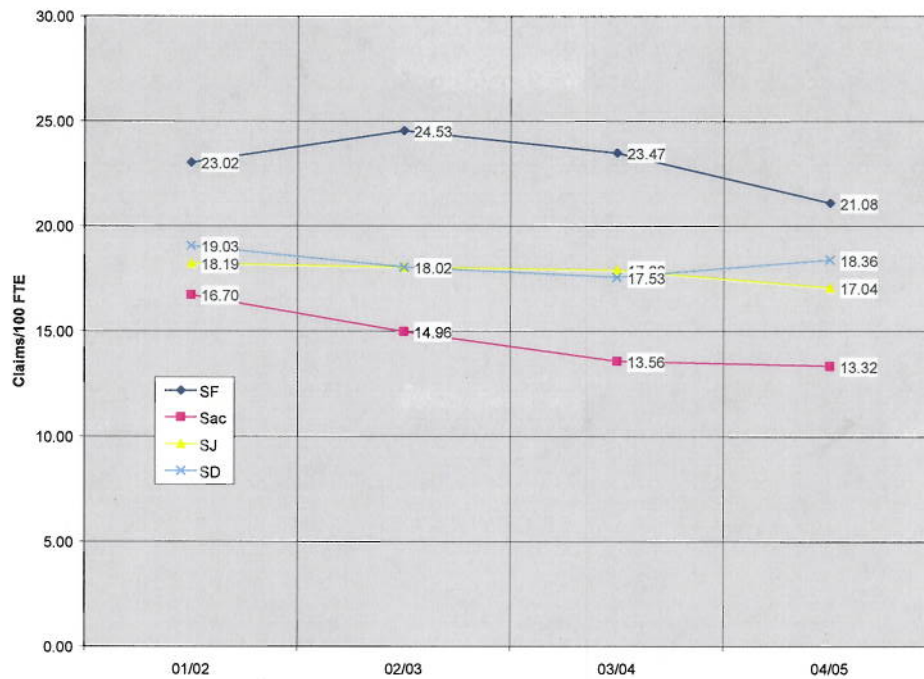
Figure No. 9 Comparison of Average Payout per Claim



In Figure No. 9 above, San Francisco had the lowest payout per claim in FY 01/02 and FY 02/03. Sacramento experienced an extraordinary 34% dip in FY 03/04, which gave it the lowest average cost per claim for the last two years. There are a lot of variables that affect this statistic. Some are common to all public entities (such as administrative costs, medical inflation, and disability payments), while others are city-specific and make it difficult to identify cause-and-effect relationships.

Figure No. 10 below shows the trend lines for claims per 100 FTEs for each city. San Francisco consistently led in this statistic ranging from 13% to 26% higher than the next highest city, San Diego. No clear explanation was found for this. It was suspected that San Francisco's status as both a city and county, which obligates it to provide more services (e.g., a sheriff's department and county jails, county hospital, etc.), was behind the elevated claims rate. When the corresponding FTEs and claims were backed out of the calculations, San Francisco's claims rate was still the highest for every year. This suggests that other factors may be responsible, such as a lack of health and safety compliance. One positive aspect was that San Francisco trended downward at the fastest rate. San Diego and San Jose ranked in the middle, with similar trend lines. Sacramento consistently had the lowest number of claims per 100 FTEs, and its trend line shows a gradual 25% decline overall.

Figure No. 10 Annual Claims per 100 FTEs



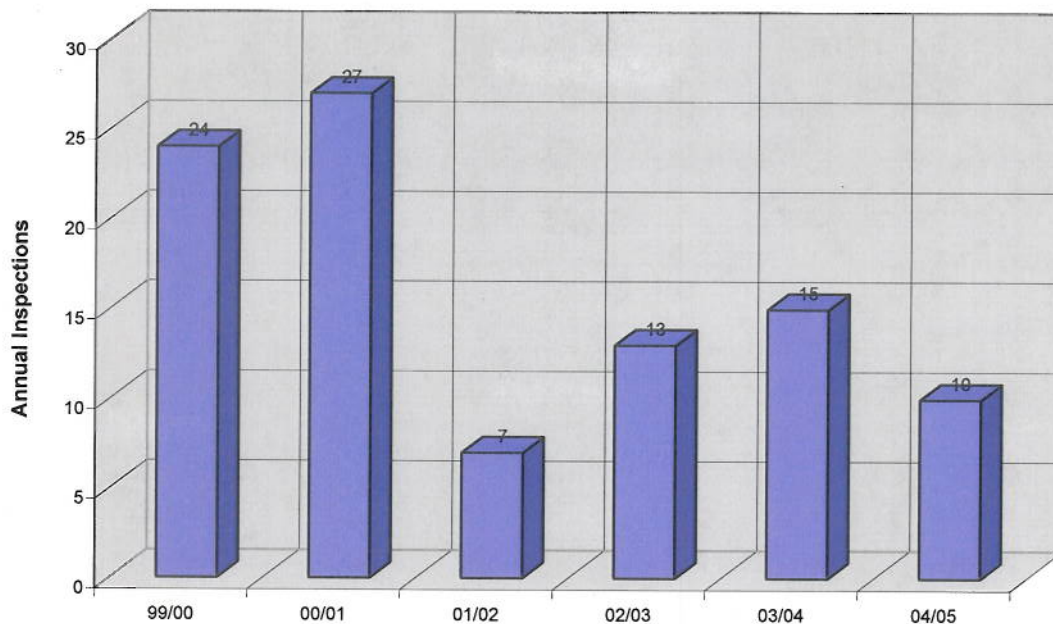
CAL/OSHA COMPLIANCE

Centralizing the coordination of health and safety compliance among City departments is one of DHR's main goals. Prior to year 2000, departments were exempt from Cal/OSHA fines; consequently, compliance was largely dependent on departmental resources and culture, employees' injury risks, and historical severity. This decentralized approach to managing health and safety resulted in checkered compliance. In 1999, AB 1127 was a proposed statute that abolished the long standing exemption from fines granted to public entities. When departments were surveyed to determine status of compliance with health and safety regulations, many were found to be marginally compliant. In response, the WCC recommended centralizing coordination of the City's compliance efforts. In 2000, AB 1127 passed, and the City began changing its approach to managing health and safety, to minimize the risk regulatory citation.

As part of this report, DHR queried a Federal OSHA database and analyzed reports of Cal/OSHA inspections conducted at City workplaces over six fiscal years (FY 99/00 through FY 04/05). All City entities were included in the queries.

Over the six years, Cal/OSHA conducted 93 inspections at City workplaces. The annual number of inspections vacillated substantially (Figure No. 11 below). Of the 93 inspections conducted, 67 have been closed and 26 remain open (as of March 2006). The sharp decrease in inspections in FY 01/02 was likely due to layoffs and transfers, which affected one-third to one-half of Cal/OSHA's San Francisco District Office staff – forcing Cal/OSHA to use its enforcement resources sparingly. It is also possible that City employees filed fewer complaints after FY 00/01.

Figure No. 11 Annual Cal/OSHA Inspections at San Francisco Workplaces



The 67 closed inspections took an average of 240 days to close and yielded 91 general violations and eight serious violations. Approximately 64% of closed inspections were prompted by complaints, and about 19% were in response to occupational accidents. The following standards were among the most violated in City workplaces:

- 3203 – injury and illness prevention;
- 1529 – asbestos (construction industry standard);
- 3273 – working area standards;
- 3362 – sanitation general practices;
- 5162 – emergency eyewash;
- 6151 – portable fire extinguisher;
- 14301 – injury and illness reporting and recordkeeping; and
- 3364 – sanitary facilities

City departments paid \$30,515 in fines over the six-year period (Fines did not apply in calendar year 1999.) Excluding the 11 closed inspections that were conducted before AB 1127 passed, 45% of inspections resulted in fines, with an average fine of \$1,221. Most inspections were conducted at departments whose primary functions were associated with public safety, healthcare, and transportation.

The 26 open inspections yielded 69 pending general violations and 18 pending serious violations. About 54% of open inspections were in response to complaints, and nearly 23% were triggered by occupational accidents. Potential fines totaled \$90,205. Excluding two open inspections conducted before the passage of AB 1127, 24 have pending fines that are likely to be reduced before settlement. The average potential fine was about \$3,469. Only one of the 26 inspections was conducted at a workplace that was controlled by a small department.

Note that the average fine was \$1,221, while the average pending fine was \$3,469. Even though inspection fines are often negotiated down, this may be a harbinger of steeper fines. It is unclear whether Cal/OSHA intentionally increased penalties, or whether departments may be losing their eligibility to qualify for *good faith* penalty reductions – something that employers lose if they are repeat-violators within a brief period.

Injury and illness prevention, reporting, and recordkeeping, asbestos-related compliance issues, work area conditions, sanitation, and fire safety issues were among the leading violations cited. DHR developed and actively marketed training courses and health and safety programs that address injury and illness prevention, fire extinguishers, and injury and illness reporting and recordkeeping, among other topics.

NOTEWORTHY TOPICS

Aging Workforce

The City will have to adjust to an aging workforce. This poses a two-way problem for the City: As the fraction of older experienced employees grows, a large exodus of retirees is expected to cause a shortage of qualified workers in some employment sectors (e.g., education, administrative, and social services). Additionally, the City will probably have to cope with increasing health care costs, claims expenditures, productivity losses, overtime, training, and employee replacement costs, as the number age-related conditions contribute to injuries: (1) losses in vision and hearing that can adversely impact workers' ability to react to potential hazards; (2) deterioration in reflexes and balance that can increase the risk of slips, trips, falls, and motor vehicle accidents; (3) decreases in cardiovascular capacity that preclude older workers from meeting high cardiac output demands; and (4) losses in flexibility, range of motion, and the ability to perform repetitive tasks due to arthritic changes (e.g., weakening tendons, degenerative discs, etc.). Research findings support these predictions.

Repeated Motion Analysis

The City has experienced marginal improvement in controlling computer-related repeated motion claims. Repeated motion claims were analyzed to determine the impact of computer-related claims filed during the seven-year period. Figure No. 12 below depicts the trends for repeated motion claims. 812 (21.5%) of the 3,784 repeated motion claims filed were computer-related. The trend line for computer-related claims in Figure No. 12 below shows vacillation: -19% in FY 00/01, -4% in FY 01/02, +8% in FY 02/03, +12% in FY 03/04, -46% in FY 04/05, and +50% in FY 05/06. Because the numbers are small compared to non-computer claims, the trend line appears fairly smooth, until the 46% drop in FY 04/05 and the ensuing recovery. While it is reasonable to infer that computer-related claims are not out of control, the lack of a consistent decline in the trend line suggests that the City needs to redouble its efforts in controlling them. DHR has contributed by targeting the City's office worker population and assisting departments in complying with the State's Ergonomics Standard (T8 CCR § 5110) by drafting and distributing its boilerplate Ergonomics Program, evaluating hundreds of computer workstations, and providing training to over 1,400 City employees.

Figure No. 12 Annual Repeated Motion Claims

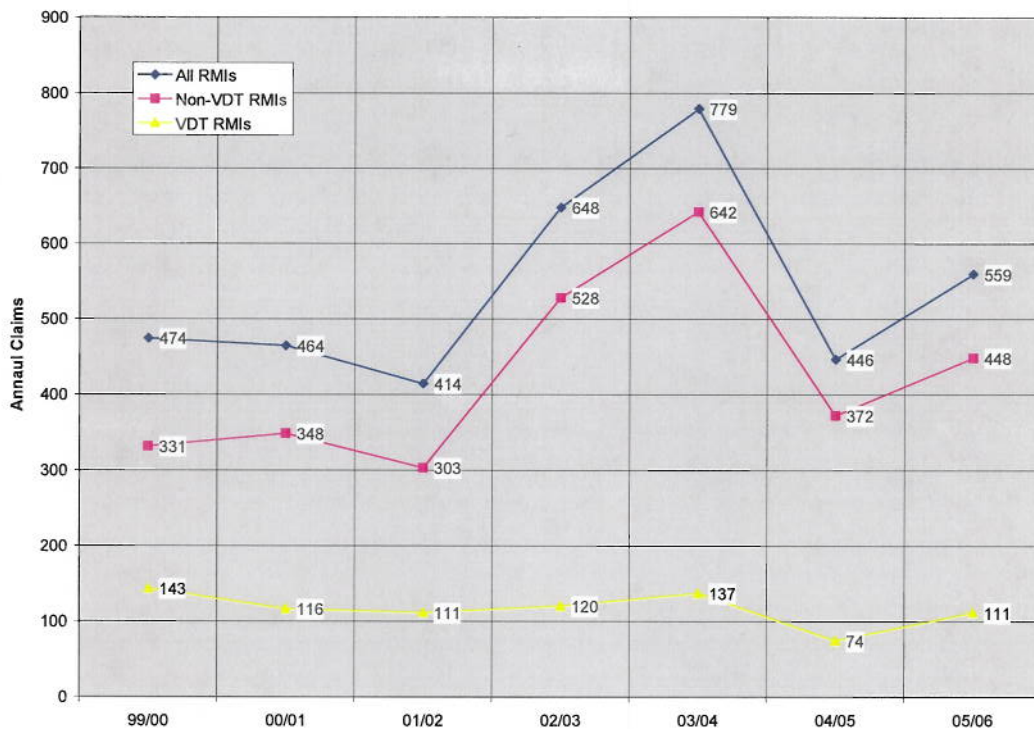
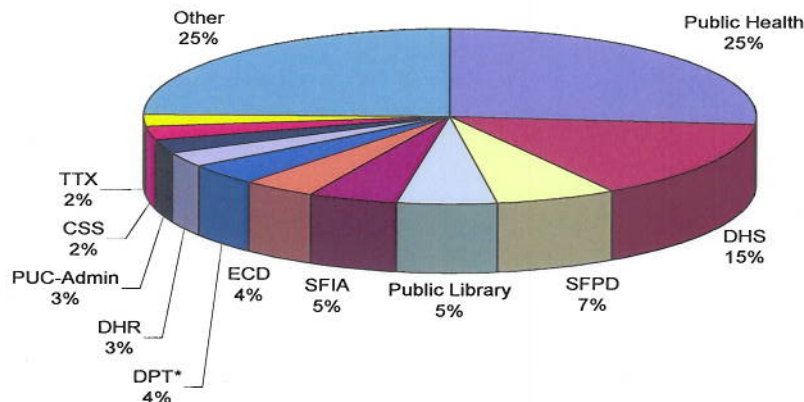


Figure No. 13 below shows the distribution of computer-related claims among the Top-10 departments. Collectively, Public Health and DHS account for 40% of computer-related claims. Contrary to the prevailing misperception that office workers dominate computer-related claims, the strong demand for electronic documentation and use of computerized medical equipment appear to drive the disproportionately high rate of computer-related claims for healthcare and social services workers. It is noteworthy that the departments that span the two to four-percent range (inclusive) have substantially smaller workforces.

Figure No. 13 Computer-related Claims Distribution among Top-10 Departments



For example: Emergency Communications (ECD) has approximately 230 employees, nearly one-sixth the Airport's (SFIA's) workforce (about 1,360 FTEs), yet it is ranked (by claims frequency) immediately below SFIA. ECD has a computer-related claim rate of 16.5 per 100 FTEs, while SFIA's rate is 2.5 claims per 100 FTEs indicating that the risk for computer-related claims for ECD employees is substantially greater than that for SFIA employees.

Figure No. 14 below shows the distribution of non-computer claims filed over the last seven years. Again, Public Health is the leader with almost a third of all non-computer claims. This graphic confirms that public safety (15%), public health (31%), and skilled labor (Rec & Parks, DPW and PUC-Water combined - 19%) workers dominate non-computer claims and all repeated motion claims, since non-computer claims account for 78.5% of them. Reasons include: (1) comparatively larger workforces; (2) inherently high-risk tasks and their frequencies; (3) the aging workforce; and (4) limited investment in proactively controlling such claims.

Figure No. 14 Non-computer Claims Distribution among Top-10 Departments

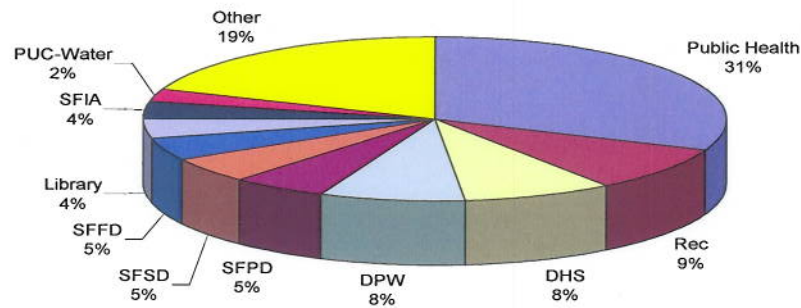


Figure No. 15 Annual Repetitive Motion Claims Expenditures

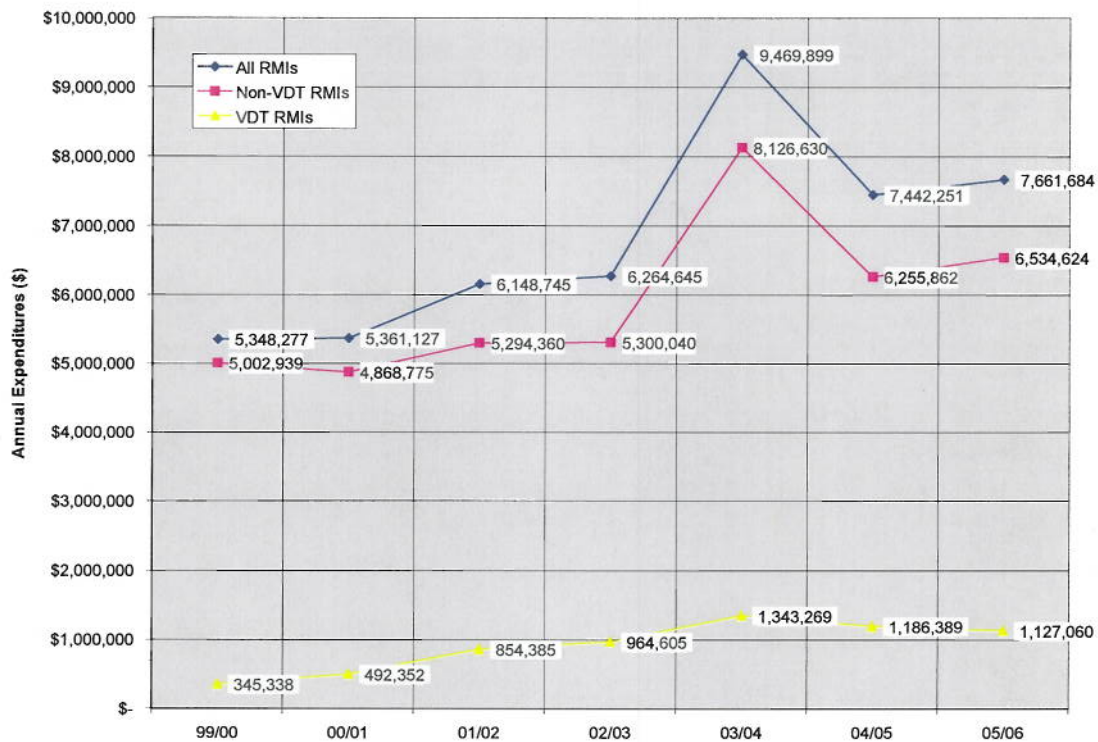


Figure No. 15 above depicts aggregate expenditures for computer-related, non-computer, and all repeated motion claims. It is readily seen that expenditures for all three groups have increased. The difference is that expenditures for computer-related claims are much less and grew gradually, resulting in an overall 225% jump, while non-computer claims' expenditures rose about 31% with vacillation. A review of the expenditure trend line for all repeated motion claims revealed consecutive increases for the first four years – peaking with a 77% increase to

\$9.47M in FY 03/04. FY 04/05 showed a 21.4% decline, and FY 05/06 closed out with a three-percent up-tick. Double-digit medical inflation and statutory increases in workers' compensation benefits (AB 749) contributed significantly to the cost increases, even though claims increases obviously played a role. The escalation in claims and expenditures for non-computer claims highlights the importance of focusing resources on this predominant exposure. They are mainly caused by overexertion and repetitive strenuous movements associated with lifting, bending, stooping, reaching, twisting and turning.

Figure No. 16 below shows the distribution of aggregate expenditures for repeated motion claims over the seven-year period. Total aggregate expenditures were about \$47.7M, and computer-related claims accounted for just 13.2% of them – again highlighting where resources should be invested (non-computer claims).

Figure No. 16 Repeated Motion Claims Expenditures Distribution FY 99/00 – FY 05/06

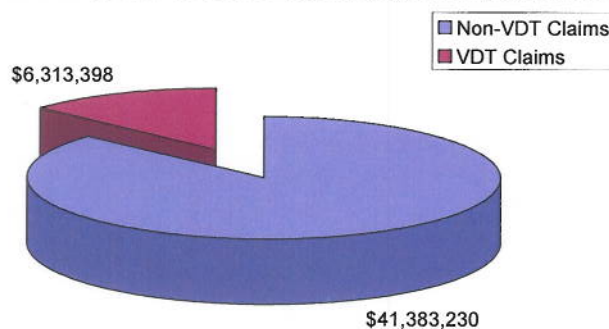
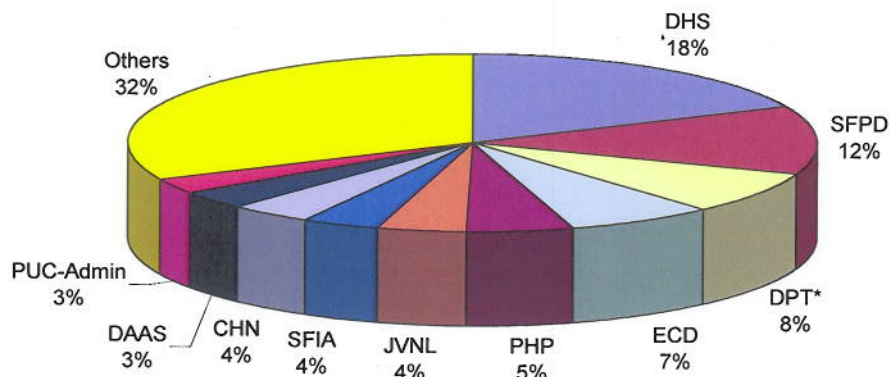


Figure No. 17 below shows the distribution of expenditures for computer-related claims among the Top-10 departments. Surprises include: DHS costing the most and the Department of Aging and Adult Services (DAAS) making it among the Top-10.

Figure No. 17 Computer-related Claims Expenditures among Top 10 Departments



Work-related Stress

Work-related stress is a growing concern for employers nationally, but conflicting statistics about its true impact on U.S. employers have fueled a controversy. While the National Safety Council (NSC) estimated that as many as one million workers per day are absent due to stress-related problems, 2002 Bureau of Labor Statistics (BLS) data showed that private industry reported 5,500 stress, anxiety, and neurotic disorder cases involving days away from work. The costs of

occupational stress (e.g., productivity losses, absenteeism, healthcare utilization, occupational accidents, etc.) have steadily increased and are likely to continue, at least in the short term. The National Institute of Occupational Safety and Health (NIOSH) estimates that stressed workers cost their employers 46% more (about \$600 per year) in healthcare, compared to those not suffering from stress. Statistics show that Americans spent \$17.2B on anti-depressants and anti-anxiety drugs in 2002 – up from \$15.5B in 2001 and \$13.5B in 2000 (National Data Corporation Health).

Work-related stress may be beginning to show early signs of becoming a problem for the City. An analysis of claims attributed to Stress, Mental/Verbal Assault, and Relational Conflict showed that:

- 557 stress claims were filed over the seven years. Both their annual numbers and expenditures showed a lot of fluctuation. Expenditures totaled about \$5.8M over the seven-year period. Public Health led in stress claims and their expenditures. Public safety departments and Human Services (DHS) were distant seconds.
- 475 relational conflict claims were filed over the same period, costing \$2.7M. Both claims and expenditures showed overall increases with substantial vacillation. Relational conflict claims expenditures showed considerable variation ranging from \$266K in FY 00/01 to \$636.5K in FY 05/06, a 65% hike. SFPD accounted for 68% of claims and dwarfed all other departments in expenditures – accounting for \$1.54M (57% of all relation conflict claims expenditures). SFPD employees filed just six percent of stress claims, but accounted for nearly 20% of stress claim expenditures (\$1.15M) most likely due to higher benefits available to them.
- 153 mental/verbal assault claims were filed and they cost \$1.63M. Both the number of claims and expenditures varied. Healthcare workers led the City with about 29% of mental/verbal assault claims.

Stress-related claims are probably under-reported citywide for a variety of reasons including, but not limited to: (1) managers and supervisors providing inaccurate or incomplete claims information; and (2) some employees don't file because they fear reprisals or hostile treatment from management and co-workers. While no clear explanation for the variation in stress-related claims was determined, it is possible that the Employee Assistance Program's (EAP's) efforts averted tens of them annually, which might have translated into a five-figure savings. EAP statistics for FY 01/02 through FY 03/04 showed that:

- Work-related issues, psychological problems, and family/relationship problems consistently accounted for about 83% of EAP cases annually.
- Work-related issues (e.g., coworker and supervisor relations and work loads) consistently lead (nearly 43% of cases) as the issue with which clients need assistance.
- Family, marital, and relationship problems consistently ranked second (about 25%) and included domestic violence, separation and divorce, and parenting issues.
- On average, 56% of clients are male, but nationally, females file most stress claims.
- Healthcare, social services, and skilled labor employees consistently accounted for more than half of EAP cases annually.

Disease Related to Sedentary Lifestyles and Poor Nutrition

Lifestyle-related diseases are a problem for the City because their escalating claims drive healthcare utilization costs, and productivity losses. Cardiovascular disease (CVD) and medical conditions such as Metabolic Syndrome, Type-II Diabetes, and Hypertension are considered

lifestyle-related illnesses because the risk of sustaining them (hereditary component excluded) depends on risk factors such as: nutrition; fitness; exposure to stressors, stressor perception and coping mechanisms; chronic sleep deprivation; age; and the use of addictive substances. In some cases, employees who suffer such medical conditions do so because they develop unhealthy habits and/or engage in risky behaviors.

CVD is the leading cause of death in the U.S. – accounting for about 42% of deaths – and a confirmed link has been established between emotional stress and CVD. Common symptoms of lifestyle-related illnesses include: chest pain, shortness of breath, chronic fatigue, loss of consciousness, stroke, heart attack, and death. Sworn personnel probably have a higher incidence of such claims due to some of the non-occupational risk factors that have already been mentioned and occupational risk factors such as: (1) the inherently stressful nature of their work; (2) work schedules and conditions that disrupt circadian rhythms and pose challenges to maintaining good nutrition; and (3) extended sedentary periods. This growing threat to the City's workforce warrants adequate resources to control it.

DHR queried the City's claims database for statistics on CVD, stroke, loss of consciousness, hypertension, vascular disease, and death. 384 claims were initially identified, but a manual review of the data identified 177 claims with descriptions that contained key symptoms associated with CVD and associated medical conditions. 33% of those 177 claims were filed by SFPD employees, 38% were filed by SFFD employees, and SFSD employees filed 8.5%. About 80% of such claims were filed by public safety employees, probably because of the inherent nature of their work as well as the medical presumption they are allowed under the Labor Code. Annual claims showed a 50% decline in FY 02/03, a 53% jump in FY 03/04, and a 79% dive in FY 04/05. The annual average was about 26 claims. Data also revealed that the City spent \$11.8M on all claims attributed to CVD-related symptoms and illness over the seven-year period. The average CVD-related claim costs \$30,726.

Insurance Surcharges for Smoking Employees

Numerous articles stated that a growing number of public and private-sector employers are imposing higher health insurance premiums on their smoking employees, compared to their non-smoking employees. This move is in response to: (1) smokers' escalating healthcare costs; (2) insurer rate hikes; (3) liabilities posed by second-hand smoke exposures; and (4) employers trying to motivate their smoking employees to quit. Comparatively, smoking employees cost 25% to 50% more in healthcare than non-smoking employees. Based on a survey conducted by the Centers for Disease Control (CDC), California, New York, and Washington, D.C. have the nation's highest healthcare costs and productivity losses – exceeding \$13 per pack of cigarettes. Over 30 states have healthcare costs and productivity losses that range between \$7 and \$11 per pack of cigarettes, and the CDC estimates that smokers' direct healthcare costs are about \$76 billion per year. Most employers imposing surcharges are self-insured and participate in some type of cost-sharing with their employees. Many are beginning to offer incentives for exercising, weight loss, and other healthy behaviors. Large employers like Gannett Co., PepsiCo, Inc., and Northwest Airlines are charging or planning to charge smoking employees an additional \$20 to \$50 per month for health benefits. In an extreme effort to control its smoking-related increases in health insurance, one Michigan employer adopted a policy of firing employees that smoke, even if they do it away from work, and has fired four employees for smoking so far. West Virginia, Kentucky, Alabama, and Georgia have spearheaded the movement among public employers to apply surcharges to smoking civil servants. Georgia charges an extra \$40 per month for smoking employees' health insurance, and has threatened to cut their healthcare benefits if they are caught lying about smoking. With public opinion squarely behind banning smoking in most public places, and talk of outdoor

smoking bans, medical screening to determine whether employees smoke is on the horizon. This trend, and the fact that the City is among those public employers that suffer the highest medical inflation in the country, is likely to have significant implications for the City's ability to maintain the current level of healthcare benefits that it provides to its employees. San Francisco is likely to come under pressure to consider adopting similar policies as healthcare costs continue to rise.

Workers' Compensation Fraud and Abuse

Workers' compensation fraud is the fabrication or intentional misrepresentation of an occupational injury, with the intent to deceitfully and/or illegally obtain workers' compensation benefits. It includes various illegal practices such as: (1) employers misrepresenting the work that their employees do to pay lower premiums; (2) medical providers over-billing or billing for services not provided; and (3) employees filing fabricated claims. Workers' compensation abuse is the legal use of the system's rules and protocols to circumvent the system's intent to get workers' compensation benefits. Abuse is not chargeable as a crime.

Workers' compensation fraud and abuse has been widely discussed in California for the past few decades because California leads the nation in its incidence, and because California employers pay the highest workers' compensation premiums. One opportunity for fraud and abuse that many large California public entities struggle with involves LC 4850, which entitles occupationally injured public safety employees to receive their full salary, untaxed, for up to one year for each injury. This creates an economic incentive to not work since they net more pay while receiving benefits than they do when they work. Moreover, that income can be supplemented by disability insurance and in some cases a second job. This has translated into a disincentive to return to work. Many public entities have also noticed a pattern of public safety officers, who are nearing retirement age, getting injured within a year or two of retiring. In effect, they retire early. Though well intentioned, LC 4850 creates an economic incentive for employees to fabricate work-related injuries and to remain off duty longer than medically necessary.

Another statute that poses challenges for large public entities face is LC 3212, which mandates medical presumptions for certain illnesses among public safety employees. The problem is that some illnesses that are under presumption (i.e. presumed to be work related) are heavily influenced by non-occupational risk factors and exposures. For example, cardiovascular disease (CVD) is preventable in many people, and an elevated risk of CVD is strongly associated with unhealthy lifestyle choices. This means that public entities pay workers' compensation benefits (income maintenance under LC 4850 benefits and healthcare costs) for illnesses caused by personal behaviors. Some believe that LC 4850, LC 3212, and other codified benefits have created a "culture of entitlement", which compounds the workers' compensation fraud and abuse problem.

State agencies and public entities have encountered a myriad of problems in their attempts to develop and coordinate proactive comprehensive systems to prevent, detect, measure and prosecute fraud and abuse. A 2004 report issued by the Bureau of State Audits listed the following problems with agencies' anti-fraud efforts: (1) poor interagency coordination; (2) the failure to develop evaluative metrics; (3) inadequate efforts to detect and prevent fraud; and (4) the absence a comprehensive strategy, which has no doubt led to inefficient use of the \$30M-plus in annual funding from private-sector California employers.

Currently, state agencies and public entities do not have systematic methods for detecting fraud and abuse. Most of the cases that have led to arrest and conviction have come from referrals

made by insurers, third-party administrators, and claims administration personnel who detect irregularities, patterns, and signs of perpetrators that do a poor job at concealing their fraudulent efforts. The number of such referrals varies from year to year. In FY 03/04, about 5,100 suspected fraudulent claims were referred to enforcement authorities statewide, and they led to 481 arrests. Unfortunately, out-of-court-settlements, judgments, court awards, and penalties often amount to a fraction of what the perpetrators fraudulently received from the system.

State agencies and public entities also lack systematic methods for measuring fraud. A 2001 report issued by the Commission on Health, Safety and Workers' Compensation (CHSWC) states, "There is no generally accepted method or standard for measuring the extent of workers' compensation fraud in California." In response to this need, the state's Fraud Commission, the CHSWC, and various other agencies have partnered to develop and commission a study designed to determine effective ways to measure workers' compensation fraud.

The City's Workers' Compensation Division has been and is vigilant in its efforts to detect and investigate suspected cases of fraud and abuse. The City's claims adjusters are trained and experienced in identifying claimant and provider fraud and cases that are clearly fraudulent are frequently investigated. Unfortunately, investigative findings – sometimes including video evidence of employees doing vigorous activities using body parts that they claim are injured – are insufficient evidence for a prosecutable case. Consequently, cases are not referred to the District Attorney (DA) for prosecution, or the DA declines to prosecute when they are referred.

To gain some perspective of the potential scope of its losses, Los Angeles County used estimates put out by experts in the field – nongovernmental organizations that study in workers' compensation fraud and abuse and government officials involved in its regulation. This same model was applied in Table No. 3 below to show a range of San Francisco's estimated losses attributable to fraud and abuse. The estimated range of losses is between \$600K and \$18M. Losses at the high end are likely overstated. If the City is experiencing substantial losses, abuse is likely to account for more of the losses than fraud.

Table No. 3 Estimated Impact of Workers' Compensation Fraud and Abuse

FY 04/05 Benefits	Sources	Estimates	Potential Fiscal Impact
59.88M*	CA Applicants' Attorneys Assoc.	1%	\$599K
	LA County Risk Management	3%	\$1.8M
	Industry experts	10% - 20%	\$5.99M - \$11.98M
	CA Little Hoover Commission	30%	\$17.96M

* FY 04/05 benefits are estimated based on the City's annual aggregate claims expenditures and LC 4850 payments for that year. Estimated benefits exclude claims expenditures for MUNI, DPT, City College, SFUSD, and Trial Courts.

State agencies are beginning to formulate solutions to some of the challenges. Senate Bill 1218, which passed in 1991, made workers' compensation fraud a felony, required insurers to report suspected fraud, and established a mechanism for funding enforcement and prosecution activities, increased penalties for fraud, provided a means to assess employers annually, and established the state's Fraud Commission. Recently, legislation that is designed to deter fraud and abuse and enhance the detection, measurement, and prosecution of it has been promulgated. Assembly Bills 749, 227, and 228 have changed existing workers' compensation law by: (1) increasing fines for fraud; (2) facilitating access to fraud information; (3) adopting protocols for medical provider fraud; and (4) mandating that insurers, self-insured employers, third-party administrators and others report suspected fraud. Previous anti-fraud legislation has also provided for funding to counties to investigate and prosecute workers' compensation fraud.

MAJOR ACCOMPLISHMENTS

Since 2001, DHR has made important progress towards its goal of centralizing regulatory compliance and improving health and safety citywide. Major accomplishments include:

- **Citywide Anthrax Policy** – In the wake of 9-11, DHR organized a series of meetings with various City public safety and administrative agencies and the U.S. Postal Service. The focus was to address potentially credible anthrax-related threats and hoaxes involving parcels and letters sent through the mail, and discoveries of powdery substances in City workplaces. DHR produced a citywide policy on handling suspicious parcels and mail suspected of containing explosives or hazardous materials and a protocol for addressing potential contamination incidents.
- **Training** – DHR has developed training courses in various topics, such as office ergonomics, stress management, and injury and illness prevention, to meet the needs of City departments. Most of the courses have citywide application, but a few were designed specifically for particular departments. DHR has trained approximately 1,400 employees in health and safety since 2002.
- **Compliance and Hazard Evaluation and Control** – DHR has authored multiple policies and health and safety programs to assist departments with compliance, including the Sheriff's Department and Juvenile Probation. They have covered injury and illness prevention, ergonomics, respiratory protection, Cal/OSHA inspections, emergency response, BLS injury and illness surveys, second-hand smoke and other indoor air quality issues, radio frequency radiation, exposure to communicable diseases, and other health and safety issues. DHR has advised many departments on health and safety issues and interacted with regulators on their behalf. DHR has provided guidance to various health and safety committees, conducted health and safety inspections and audits, and issued recommendations to control various hazards including asbestos-containing building materials, indoor air contaminants, workstation and office design, slip/trip hazards, and others.
- **Coordination and Information Sharing** – DHR has hosted several quarterly meetings for the City's departmental health and safety personnel from all departments (OSH Meetings). They include presentations on a relevant health and safety topic, a guest speaker, and department-specific updates. DHR has also issued newsletters on health and safety issues to requesting departments.
- **Health and Safety Research** – DHR has conducted extensive literature research on health and safety issues and remedies, including contacting and working with nationally-renowned subject matter experts. DHR has expended substantial resources investigating the feasibility of implementing a wellness program to reduce the risk of prevalent injuries and lifestyle-related illness.
- **Return-to-Work Program** – DHR is in the process of implementing a citywide return-to-work (RTW) program, as a means to reduce increasing workers' compensation claims costs. In response to considerable attention to RTW programs and after noting that a few City departments had implemented their own, DHR conducted extensive literature research and contacted experts to determine if they had reduced claims and generated a positive return-on-investment (ROI). DHR concluded that a RTW program would probably benefit the City and its employees. DHR then developed the framework for the

City's RTW program: the Temporary Transitional Work Program (TTWP). The program is designed to accommodate City employees who qualify for temporary total disability payments (TTD), by locating temporary work assignments in other departments, when their original departments do not have work available that conforms to their medical restrictions. After developing the program framework, DHR hired a program coordinator and retained a consultant to participate in an advisory role and help jumpstart its implementation in July 2006.

- **2006 Citywide Health and Safety Report** – This is the first issue of a citywide health and safety report that will help policymakers and managers measure health and safety performance and plan steps for improvement.

CONCLUSIONS

An historical analysis of the City's workers' compensation claims losses was conducted to identify leading exposures and important trends and anomalies. With this information, and Cal/OSHA inspection metrics, DHR evaluated the City's health and safety performance, identified prevalent health and safety exposures, and issued opinions and recommendations to control the exposures.

1) Bodily motion is the most prevalent source of claims and loss exposure for the City.

Bodily Motion leads all sources of claims in frequency and severity. The bodily motions that drive claims include voluntary and involuntary, strenuous, and sudden or violent Repeated Motion, Lifting, Slip and Trips, Pushing and Pulling, Running and Walking, and Twisting and Turning. Aggregate expenditures totaled \$71.4M for the seven-year period and they increased every year until FY 04/05, and began to decline in FY 05/06. This represents about 36.4% of expenditures on claims filed during the period and nearly 23% of total aggregate expenditures. Bodily Motion also ranked the highest in claims frequency – accounting for 20% of claims and seven of the Top-10 causes. Its top ranking underscores the importance of mitigating claims attributed to Bodily Motion.

2) Repeated motion is the leading cause of claims and warrants additional focus and resources.

Repeated Motion is the leading cause of claims for the City. It accounted for 3,784 claims that generated about \$31.5M in expenditures, over the seven-year period. If you include claims filed before FY 99/00, the City spent about \$41.4M (aggregate). Repeated Motion accounted for 20% of small departments' claims and 25% of their expenditures (\$6.1M), and was mainly associated with repetitive office tasks and harmful postures and movements at ill-configured computer workstations (for small departments). These hazards often resulted in strains, inflammation syndromes such as tendonitis, and repetitive motion injuries (RMIs) involving upper extremities such as carpal tunnel syndrome and Epicondylitis.

For large departments, Repeated Motion accounted for 2,967 claims (11%) that generated about \$15.6M in expenditures. Aggregate expenditures for large departments totaled about \$37.2M. Repeated motion claims in large departments' claims were associated with: (1) repetitive lifting, bending, stooping, and twisting and fine motor movements; (2) operating power tools (e.g., jack hammers, chain saws, and weed trimmers); (3) operating hand tools; and (4) trade-specific movements such as DPT workers directing traffic and deputies locking/unlocking doors and gates in the jails. Most repeated motion claims from large departments stemmed from gross motor movements such as lifting, bending at the waist, squatting, and twisting the

trunk. The Department of Public Health accounted for the lion's share (30.2%) of aggregate repeated motion claims. Because of these and other risks factors (e.g., age), Repeated Motion is likely to continue as the leading cause of claims for the City.

RECOMMENDATIONS

Since FY 01/02, DHR has worked with City departments to address specific hazards and compliance issues, but focused much of its prevention efforts on: (1) developing basic health and safety programs; (2) training employees; and (3) reducing claims attributed to computer-related hazards. These activities have been fruitful, but have had a limited impact on the City's high-severity exposures. To affect sweeping change, DHR recommends the following:

1) The City should consider making Cal/OSHA 300 Log reporting a performance criterion for department heads.

Workers' compensation claims loss data were used to generate statistics about employee injury and illness because Cal/OSHA 300 Log data were not available from many departments. This problem is rooted in historical compliance issues that stem from the pre-AB 1127 era, when City departments were not held liable for Cal/OSHA fines. Health and safety professionals use Cal/OSHA 300 Log data to evaluate health and safety performance. They provide crucial metrics that enable health and safety professionals to analyze occupational injuries and illnesses, track trends, and make decisions. Requiring directors to report their Cal/OSHA 300 Log data to DHR will: (1) instill management accountability; (2) establish compliance with T8 CCR §14300 and reduce Cal/OSHA citations and fines; (3) support DHR's effort to raise the citywide level of health and safety compliance; and (4) generate raw injury and illness data that can assist health and safety professionals in identifying and mitigating hazardous conditions and unsafe acts. Compliance can be enforced with audits.

2) DHR should review the City's hiring process and applicable laws, to determine the feasibility of modifying its job applications, hiring procedures, and job specifications.

The purpose of the review would be to determine which policies and procedures may be lawfully altered to increase the City's chances of identifying and not selecting applicants that have an elevated risk of developing injuries or conditions that are commonly associated certain jobs. This strategy is proactive and can eventually lead to reductions in claims. The following scenarios are examples of how hiring practices may be amended to help prevent claims:

- 1) A department wants to fill a position that requires frequent reaching, squatting, stooping, and lifting light to moderate loads (1 to 15lbs.). The department could implement medical screening to detect pre-existing conditions that may predispose applicants to symptomatic flare-ups, re-injury, and/or new injuries when doing the job. Including (in writing) physical fitness and the capacity to repeatedly perform various bodily motions as minimum qualifications for the job, the employer can legitimately select applicants that are less susceptible to injury. This can ultimately reduce productivity losses (e.g., absenteeism) and claims. The liability exposure can be greatly reduced by: (1) documenting a clear link between employees' ability to meet the minimum qualifications, non-injury to certain body parts, physical fitness, and specific job requirements; and (2) consulting counsel from the City Attorney's Office, DHR, and Risk Management to conduct a cost-benefits analysis.
- 2) The City could decide to eliminate smoking employees from its workforce through attrition. Studies have shown that smoking employees cost employers at least \$600

more per year than nonsmokers, 25% to 50% more in healthcare insurance than nonsmokers, and they average roughly 50% more sick leave. To reduce its liability exposure and avoid protracted conflicts with bargaining units, the City should retain employees who currently smoke and offer traditional interventions and incentives to help them quit smoking. Simultaneously, the City could begin screening applicants for a history of smoking and hire qualified ones that test negative. This policy would result in substantial, long-term savings on smoking-related productivity losses, healthcare utilization and costs, and workers' compensation claims.

3) Departments should proactively target high-risk occupations for job hazard analysis.

Findings from the job hazard analyses would be used to guide decision-making in selecting controls. Claims data suggest that there is an urgent need for pre-emptive job hazard analyses in the public safety, healthcare, and skilled labor sectors of the City's workforce. Modifying work environments and providing ergonomically-designed equipment and accessories can help keep tasks within employees' physical limitations by: (1) eliminating lifts; (2) reducing the physical force required to move loads or operate hand tools; (3) reducing reach, lift, and carrying distances; (4) decreasing the number of repetitions; and (5) dampening or isolating vibration. Examples of how administrative controls can help keep tasks within employees' physical limitations include: (1) increasing task time; (2) alternative work breaks; (3) rotating employees; and (4) training employees to execute tasks safely.

4) Public safety, healthcare, and skilled labor departments should provide long-term, customized body mechanics and/or defensive tactics training.

A review of the City's claims data and some research data suggested that significant reductions in claims would likely include providing customized body mechanics and defensive tactics instruction for extended periods. Healthcare workers have the highest number of repeated motion claims and physical assaults – demonstrating the need for such instruction. Customized body mechanics and defensive tactics instruction is also needed for public safety workers because their injury risk factors (varying degrees of violence and situations that allow little or no control over their movement in reaction to external stimuli) are difficult to control. Long-term training is needed to impart a permanent working understanding of the fundamentals. Violent encounters will be controlled quicker and more safely – preemptively eliminating injuries (claims). Healthcare, firefighters, and skilled labor workers should mainly receive instruction that emphasizes safe lifting techniques and customized body mechanics for routine tasks that pose a high risk of strenuous movement or overexertion.

5) The City should fund a study to determine the potential to substantially reduce workers' compensation claims and yield a positive ROI through a wellness program.

This recommendation stems from DHR's research on the potential for wellness programs to reduce workers' compensation claims and the return on investment (ROI) that the City might expect if it implemented one. DHR solicited and received information on the results of wellness programs from 12 public entities located in the western U.S., most of which had a public safety focus. Half provided limited data that indicated implementing a wellness program had resulted in modest to moderate cost savings. DHR also conducted a literature review of scientific studies that analyzed the fiscal impacts of wellness programs and found: (1) evidence that wellness programs reduced the risk of occupational injury and illness and health care utilization and costs (indirect evidence that they reduced claims); and (2) a general consensus that appropriately designed and implemented wellness programs lower employee risk for

occupational injuries and lifestyle-related illnesses. Data on the fiscal impacts of wellness programs were limited and reflected a wide range of benefit-cost ratios – from about \$1.50 to \$13 for every program dollar spent. DHR estimated that the City could see a ROI ranging between \$2 and \$6 for every program-dollar spent, after three to five years of operation. This estimate was based on: (1) implementing the right program elements; (2) ROIs observed from other wellness programs; (3) less than optimal participation; and (4) the anticipated high cost of program implementation and operation due to the Bay Area's market.

The main features planned for the pilot study include: (1) a joint committee partnering the City with leading wellness experts/researchers to oversee the three-phase, 24-month study; (2) a sample employee population of ranging between 470 and 700 that undergoes an initial health assessment, medical monitoring, customized fitness training, intervention classes and workshops, and promotional activities; and (3) an estimated cost ranging between \$300K and \$480K – with opportunities for external funding that should be explored. Depending on the findings of the pilot study, the scope and budget of a citywide wellness program could be determined. The City needs a wellness program that combines lifestyle-related disease management with specialized training for targeted risks.

6) DHR should review the claims information process to assure accuracy and eradicate sources of error.

Over the seven-year period, claims that were reported to have “Unassigned” causes and “Unknown” sources accounted for nearly 15.8% of aggregate claims (4,953 claims) and 13.8% (\$42.7M) of aggregate expenditures. It is highly unlikely that these claims did not have causes or sources. It is currently unclear why a substantial minority of claims documentation lacks crucial information and/or why they may be misclassified. Possible reasons include: (1) supervisors/managers not conscientiously investigating employees' claims; (2) supervisors or managers failing to understand and/or determine root causes; and/or (3) claims database inaccuracies and idiosyncrasies. Failing to report important claims information distorts claims statistics, impedes efforts to implement corrective actions, increases the risk of recurrences, and can lead to substantial waste, misappropriation, and/or inefficiencies. Reviewing the claims data entry process would: (1) identify operational features that pose a high risk of data loss or data entry error; (2) lead to the correction of procedural deficiencies that can distort or lose data; and (3) develop a system that ensures entry of accurate and complete claims information.

7) Departments should encourage employees who have been exposed to potentially traumatizing incidents to seek EAP services.

This recommendation supports the mental health of the workforce and recognizes that public safety, healthcare, and skilled labor workers incur an elevated exposure risk to potentially traumatizing incidents at work.

8) DHR should follow up on Cal/OSHA inspections, when departments fail to notify DHR of such inspections within 24 hours.

DHR distributed an Injury and Illness Prevention Program (IIPP) to City departments in FY 02/03, to facilitate citywide compliance with Cal/OSHA's standard, T 8 CCR 3203. Section 13 of the IIPP contains verbiage that obligates departments to notify DHR, whenever Cal/OSHA visits their work sites to conduct investigations, inspections, or other regulatory actions. Few departments have complied with this directive for various reasons; as a result, DHR rarely finds out about Cal/OSHA visits in a timely manner. This breakdown in communication: (1) hampers

DHRs' efforts to coordinate, centralize, and improve health and safety compliance; and (2) leads to lapses in management accountability, especially when departments choose to pay fines, instead of abating hazardous conditions. To assist City departments in remediating hazardous conditions, and to assure health and safety compliance, DHR should be informed of Cal/OSHA site visits and regulatory actions in order to advise departments of appropriate and necessary responses.

9) The City should earmark funds to purchase ergonomic equipment and accessories.

Many departments have been reactively managing Computer-related claims because the system provides a disincentive for proactively managing them. When departments buy ergonomic equipment to reduce an employee's risk of sustaining an RMI or mitigate symptoms, the funding comes out of their own budgets – adversely impacting their fiscal status.. Because the City has been operating in a fiscally austere environment since FY 00/01, this has resulted in a de facto policy of: (1) encouraging potentially injured employees to let their conditions worsen, until they can no longer work and have to file a workers' compensation claim; and (2) departments evading the costs – as funding for workers' compensation claims comes out of another *pot* – and avoiding fallout in the office from not providing the same ergonomic accessories for all of their employees. This reactive approach generates unnecessary claims, costs (e.g., administrative and healthcare), and productivity losses. Since 2002, DHR has been evaluating employees' computer workstations upon request, excepting employees with open claims for Computer-related RMI symptoms or conditions. DHR has provided this service free in support of its effort to control run-a-way repeated motion claims and costs that spiraled between FY 00/01 and FY 03/04. The City should allocate funds for purchasing ergonomic equipment and/or accessories that are recommended by DHR. This would: (1) cut down on unnecessary RMI claims and probably show a measurable cost-savings; (2) encourage managements to be proactive about controlling RMIs in their departments; and (3) improve employee relations. DHR would apply guidelines and criteria to its decision-making.

10) DHR should assemble a citywide safety committee to investigate and resolve health and safety issues.

DHR is aware that some health and safety issues are not addressed in a timely fashion. This follows from the checkered compliance revealed in the previous citywide survey findings, and employee complaints and accidents that trigger Cal/OSHA inspections. One way to facilitate controlling workplace hazards is by implementing a committee to exclusively address health and safety issues. Multiple bargaining agreements already require joint labor-management safety committees, and such a committee would constitute "substantial compliance" with T 8 CCR 3203 (a)(3) of Cal/OSHA's Injury and Illness Prevention Standard, which mandates a system of communication with employees. A citywide health and safety committee could serve as a forum for both labor and management to air their views regarding health and safety issues and to synergize on resolving those issues. This would likely result in enhanced compliance, improved labor-management relations, and cost savings from averting Cal/OSHA penalties and potential workers' compensation claims. DHR should assemble and empower a citywide safety committee.

11) Departments should be allowed to apply cost savings that they incur from reductions in workers' compensation claims.

New workers' compensation legislation (SB 899) enacted in April 2004, is a major reason behind FY 04/05 and FY 05/06 reductions in claims and expenditures. This meant that some

departments were under-budget for those fiscal years. Ordinarily, such cost savings are passed on to the City's general fund, where the money is applied to countless needs. If departments were allowed to retain the cost savings (or a predetermined percentage) that they experienced on workers' compensation claims and apply them to health and safety issues, they could purchase needed health and safety equipment, supplies, and training. This is a way to fund the mitigation or elimination of workplace hazards, without having to tap unbudgeted funds. Moreover, money spent on corrective actions or engineering and administrative controls is an investment that yields further returns such as improved morale, and greater employee satisfaction. DHR should seek approval of this recommendation from the Mayor and/or Board of Supervisors.

APPENDIX A

Top-10 Workers' Compensation Claims Statistics

Appendix A . Global Top-10 Claims Statistics

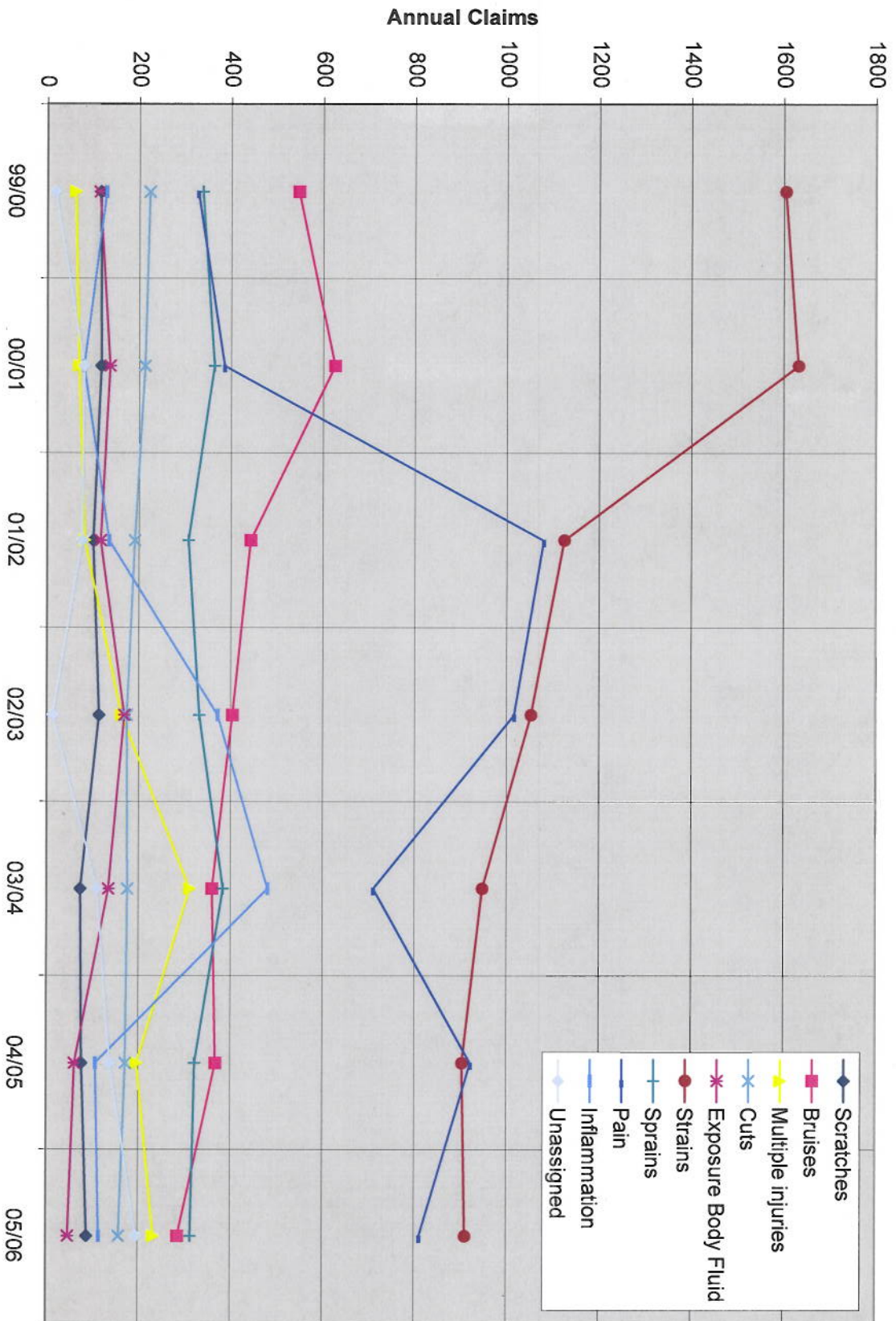
Citywide								
	Nature of Injury	% [€]	Body Part	%	Cause	%	Source [§]	%
1	Strains	26	Back – lumbar	12	Repeated Motion	12	Bodily Motion	20
2	Pain	17	Multiple parts	11	Lifting	10	Unknown	12
3	Bruises	10	Knee	7	Bodily reaction	7	Person-Client/Patient	10
4	Sprains	8	Hand	6	Slip/Trip	7	Person-Public	5
5	Inflammation/Irritation	4	Finger	6	Assault – Physical	5	Vehicle	3
6	Cuts	4	Shoulder	5	Push/Pull	5	Walk Surf – Out, Dry	3
7	Multiple Injuries	4	Face/Head	4	Personal Injury/Illness	4	Equip – Fix/Furniture	3
8	Exposure Body Fluid	2	Eye	3	Caught-IUB	4	Bldg/Structure – Door	2
9	Scratches	2	Upper Extremity	3	Unassigned	4	Equipment – Heavy	2
10	Unassigned	2	Ankle	3	Run/Walk	4	Metal Item	2
11	Other	21	Other	40	Other	38	Other	38

€ Percentage of claims added to the system 7/1/99 – 6/30/06

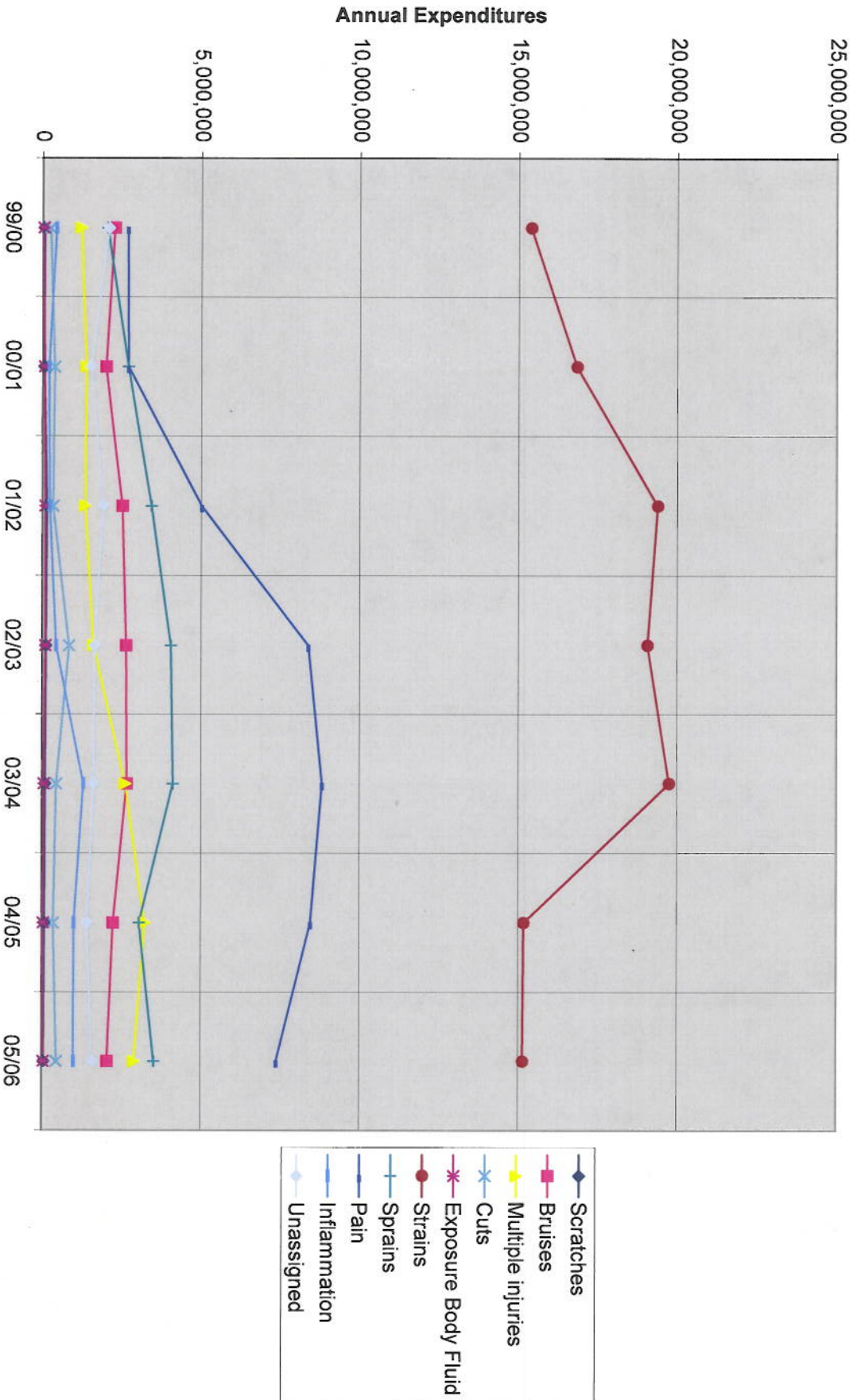
APPENDIX B

Claims and Expenditure Trends for Top-10 Natures of Injury

Annual Claims by Nature of Injury - FY 99/00 thru FY 05/06



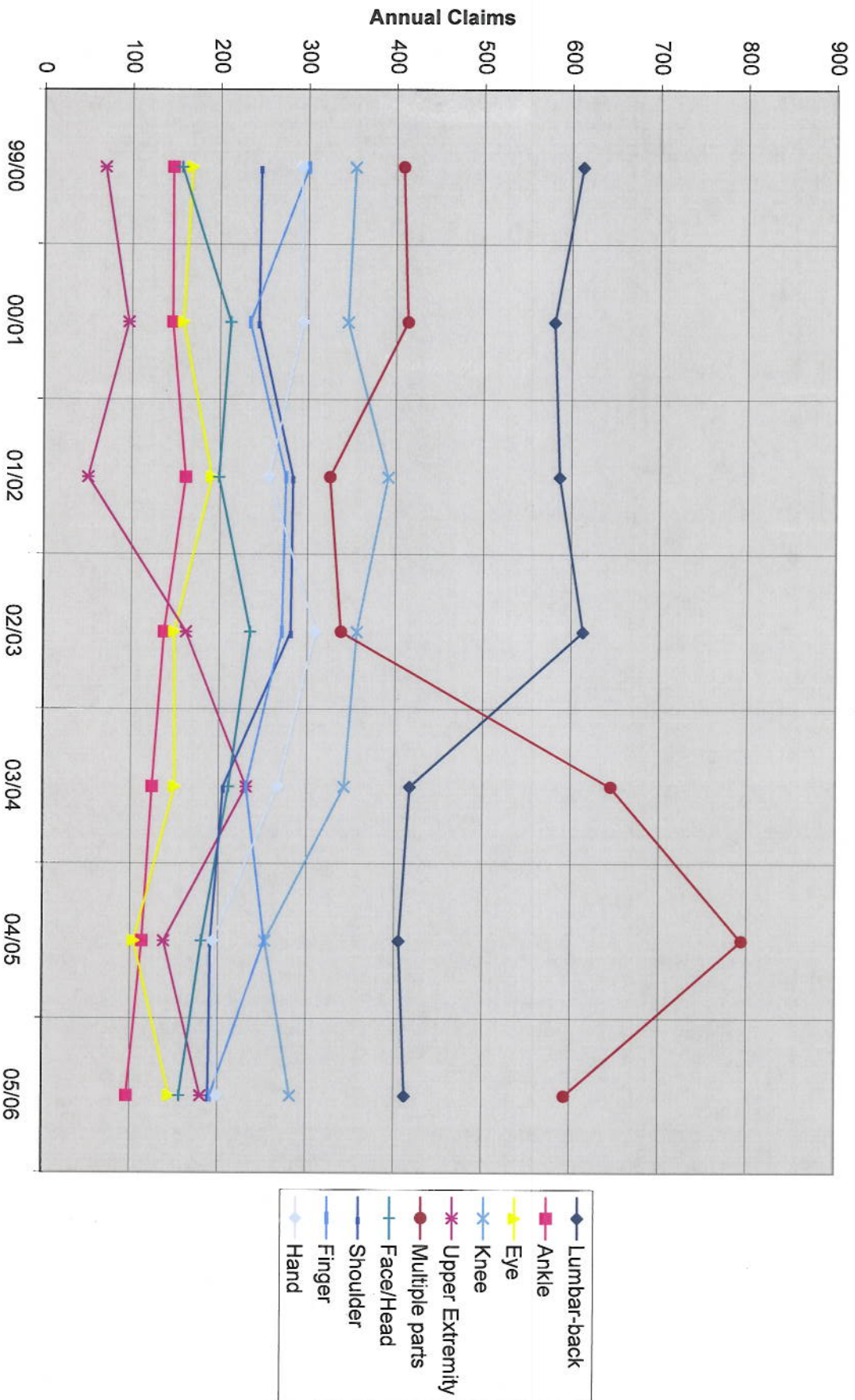
Annual Claims Expenditures by Nature of Injury - FY 99/00 thru FY 05/06



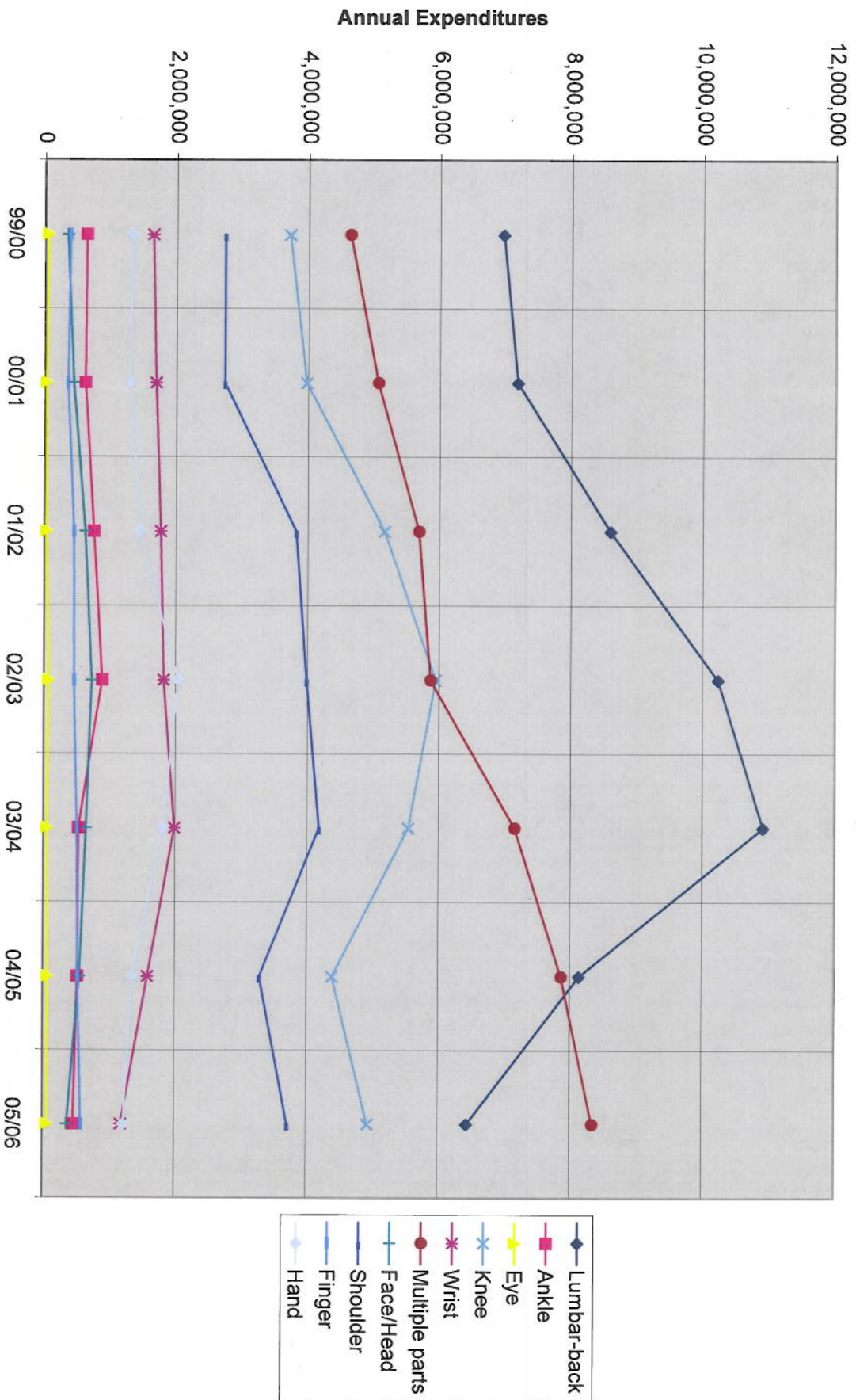
APPENDIX C

Claims and Expenditure Trends for Top-10 Body Parts

Annual Claims by Body Part - FY 99/00 thru FY 05/06



Annual Claims Expenditures by Body Part - FY 99/00 thru FY 05/06



APPENDIX D

Annual Claims and Aggregate Expenditures for all Categories

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
1																				
2																				
3																				
4																				
5	Body Part	612	580	586	613	417	405	412	3625											
6	Lumbar-back	146	146	161	137	124	113	96	923											
7	Ankle	168	158	191	149	150	104	145	1065											
8	Eye	353	345	391	356	342	253	282	2322											
9	Knee	69	96	50	162	231	138	180	926											
10	Upper Extremity	408	413	325	338	645	794	593	3516											
11	Multiple parts	156	212	199	235	211	181	156	1330											
12	Face/Head	246	244	283	281	205	191	189	1639											
13	Shoulder	300	234	275	271	231	252	191	1754											
14	Finger	292	295	256	309	267	194	199	1812											
15	Hand																			
16																				
17																				
18	Nature	99/00	00/01	01/02	02/03	03/04	04/05	05/06	Sum											
19	Scratches	116	117	100	113	73	76	88	683											
20	Bruises	546	625	442	403	359	367	285	3027											
21	Multiple injuries	61	69	82	162	311	196	233	1114											
22	Cuts	222	212	190	173	175	171	157	1300											
23	Exposure Body Fluid	114	136	116	168	134	61	47	776											
24	Strains	1604	1632	1124	1052	947	903	910	8172											
25	Sprains	337	363	307	331	383	322	313	2356											
26	Pain	327	385	1079	1015	710	921	810	5247											
27	Inflammation	128	79	134	371	480	106	114	1412											
28	Unassigned	18	80	76	13	109	138	195	629											
29																				
30																				
31																				
32	Source	99/00	00/01	01/02	02/03	03/04	04/05	05/06	Sum											
33	Walk Surf-Out, Dry	142	186	128	114	110	108	109	887											
34	Bldg./Struc-Door	101	106	102	92	78	78	66	623											
35	Equip-Heavy	68	87	123	83	113	81	67	622											
36	Vehicle	151	207	135	157	155	113	123	1041											
37	Equip-Fix/Furn	134	161	157	137	91	69	46	785											
38	Person-Public	297	243	179	173	163	178	206	1439											
39	Person-Client/Patient	423	499	460	466	433	359	358	2998											
40	Bodily Motion	667	626	764	1233	1219	1103	687	6299											
41	Metal Item	111	99	85	96	68	72	67	598											
42	Unknown	233	345	597	471	616	495	1013	3770											
43																				
44																				
45																				
46	Cause	99/00	00/01	01/02	02/03	03/04	04/05	05/06	Sum											
47	Unassigned	28	89	230	81	151	192	412	1183											
48	Personal Injury/III	174	194	171	144	261	211	213	1368											
49	Caught-In/UB	167	149	228	374	243	104	106	1371											
50	Push/Pull	263	245	275	206	193	234	155	1571											
51	Run/Walk	132	125	220	208	170	118	1107	1107											
52	Physical Assault	247	285	217	263	252	213	234	1711											
53	Slip/Trip	339	301	354	307	249	294	264	2108											
54	Bodily Reaction	137	178	550	734	332	201	18	2150											
55	Lifting	535	565	489	394	406	475	373	3237											
56	Repeated Motion	474	464	414	648	779	446	569	3784											
57																				
58																				
59	Summing annual claims expenditures will yield approximate totals for the six-year period.																			

Aggregate Expenditures

APPENDIX E

Tabulated Data for CA Public Entities

	A	B	C	D	E
1	San Diego Stats	01/02	02/03	03/04	04/05
2	FTEs	11,000	11,236	11,269	11,076
3	Claims	2093	2025	1976	2033
4	Claims Exp	22,788,518	25,185,681	26,243,021	23,768,715
5	Total Payroll	782,441,968	813,853,103	878,804,892	968,736,806
6	Claims/100 FTEs	19.03	18.02	17.53	18.36
7	Claims/\$M payroll	2.675	2.490	2.249	2.099
8	Claims Exp/\$100 payroll	2.912	3.095	2.986	2.454
9	Mean Payout/Claim	10,888	12,437	13,281	11,691
10					
11					
12	San Jose Stats	01/02	02/03	03/04	04/05
13	FTEs	8,675	7,852	7,585	7,616
14	Claims	1578	1414	1356	1298
15	Claims Exp	17,762,045	22,054,448	22,579,251	21,250,122
16	Total Payroll	474,436,749	470,152,985	466,502,831	454,046,815
17	Claims/100 FTEs	18.19	18.01	17.88	17.04
18	Claims/\$M payroll	3.326	3.008	2.907	2.859
19	Claims Exp/\$100 payroll	3.744	4.691	4.840	4.682
20	Mean Payout/Claim	11,256	15,597	16,651	16,371
21					
22					
23	Sacramento Stats	01/02	02/03	03/04	04/05
24	FTEs	5,546	5,676	5,648	5,970
25	Claims	926	849	766	795
26	Claims Exp	8,959,692	9,215,175	5,479,372	7,300,865
27	Total Payroll	213,024,999	222,368,694	235,458,998	241,770,114
28	Claims/100 FTEs	16.70	14.96	13.56	13.32
29	Claims/\$M payroll	4.347	3.818	3.253	3.288
30	Claims Exp/\$100 payroll	4.206	4.144	2.327	3.020
31	Mean Payout/Claim	9,676	10,854	7,153	9,183
32					
33					
34	San Francisco Stats	01/02	02/03	03/04	04/05
35	FTEs	20,077	19,818	19,675	19,018
36	Claims	4,622	4,862	4,617	4,009
37	Claims Exp	43,856,274	49,436,298	54,111,020	45,256,870
38	Total Payroll	1,465,256,369	1,581,960,206	1,587,576,222	1,572,584,804
39	Claims/100 FTEs	23.02	24.53	23.47	21.08
40	Claims/\$M payroll	3.154	3.073	2.908	2.549
41	Claims Exp/\$100 payroll	2.993	3.125	3.408	2.878
42	Mean Payout/Claim	9,489	10,168	11,720	11,289