



Examining trends in no-lost-time claims in Ontario: 1991 to 2006

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Overview

- What is a no-lost-time claim and why are they important?
- Comparing factors associated with no-lost-time claims and lost-time claims (1991 to 2006)
- Trends in health care for no-lost-time claims between 1991 and 2006
- Examining changes in the types of injuries submitted as no-lost-time claims (1991, 1996, 2000 and 2006).



What is a no-lost-time claim?

“Employers **must** report a work-related accident to the WSIB if they learn that a worker requires health care and/or

- is absent from regular work
- earns less than regular pay for regular work (e.g., part-time hours)
- requires modified work at less than regular pay
- requires modified work at regular pay for **more than seven calendar** days following the date of accident.”

Injuries that require health care, but not an absence from work other than the day of injury are termed no-lost-time claims

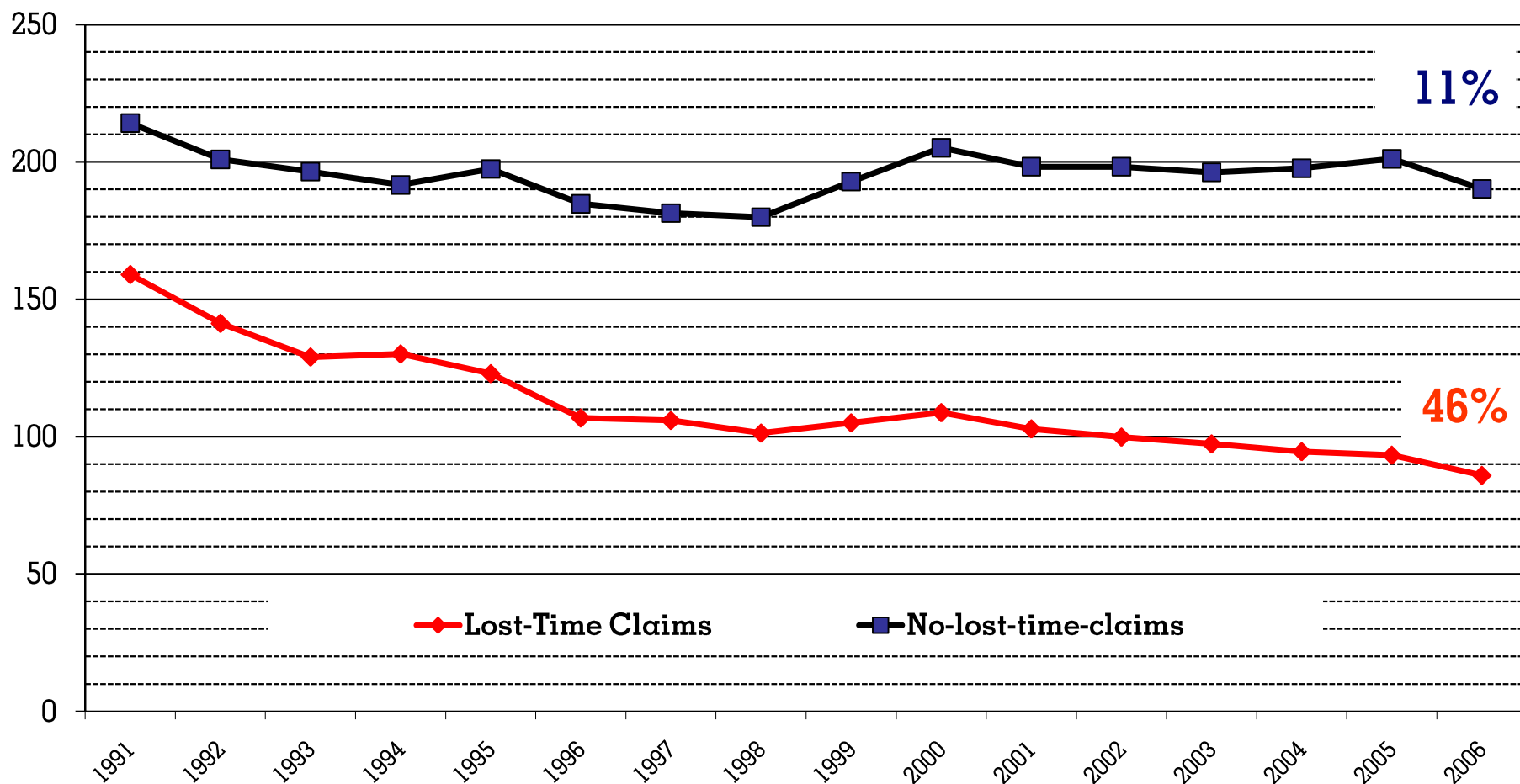


What types of injuries are likely submitted as no-lost-time claims?

1. Less severe injuries (require health care but not time off work)
2. Injuries where the worker cannot return to their normal duties the next day, but can do another (less demanding) job, or their current job with modifications.
3. Claims submitted as a result of chronic work-related diseases, after the worker has stopped participating in the labour force (i.e. retired).
4. Claims where the worker took time off, but was told to submit a no-lost-time claim
5. Claims where although the worker could not return to their job, was forced to return to the workplace the next day

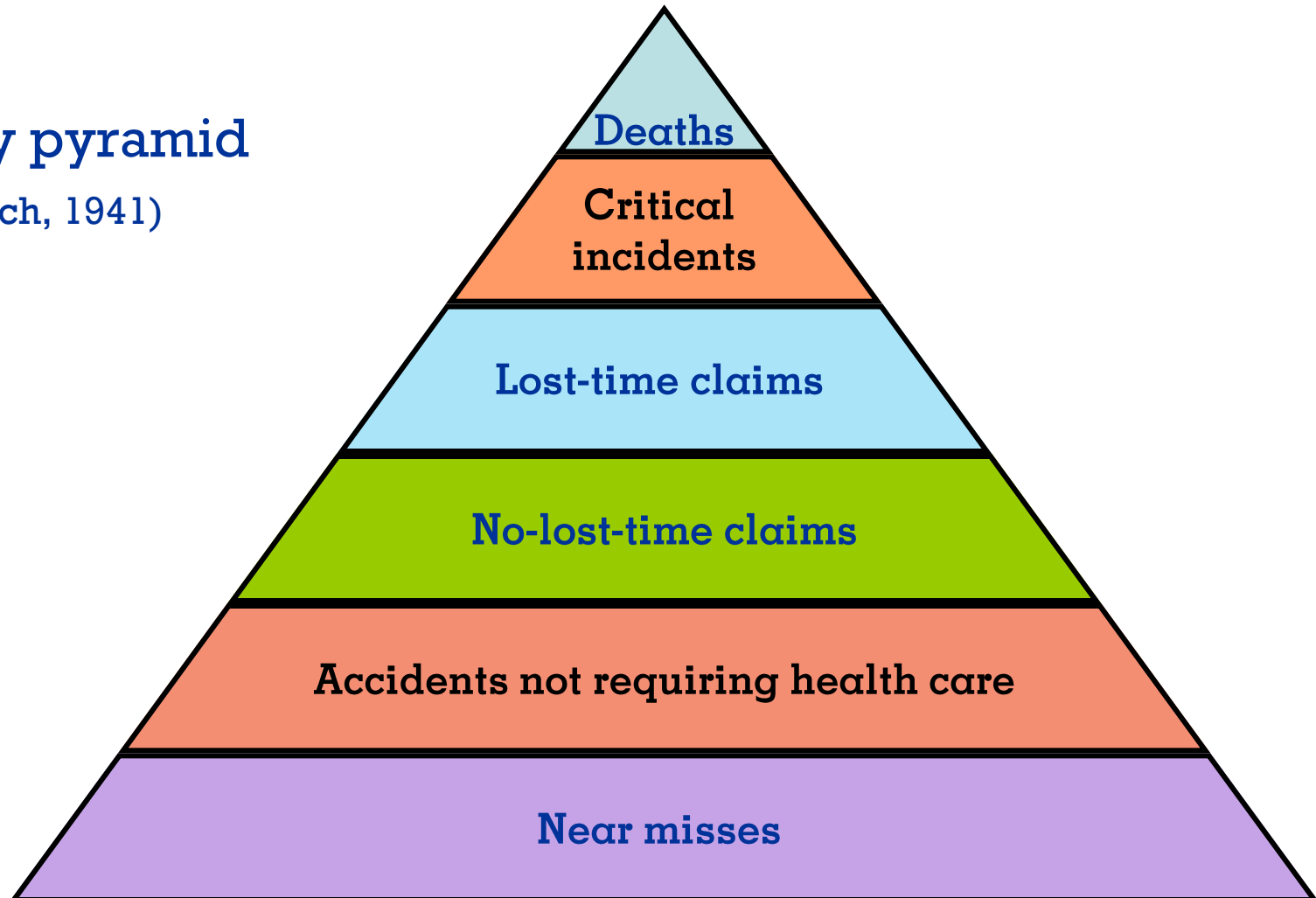


Numbers of lost-time and no-lost-time claims (1000's) reported to the Ontario WSIB. 1991 to 2006



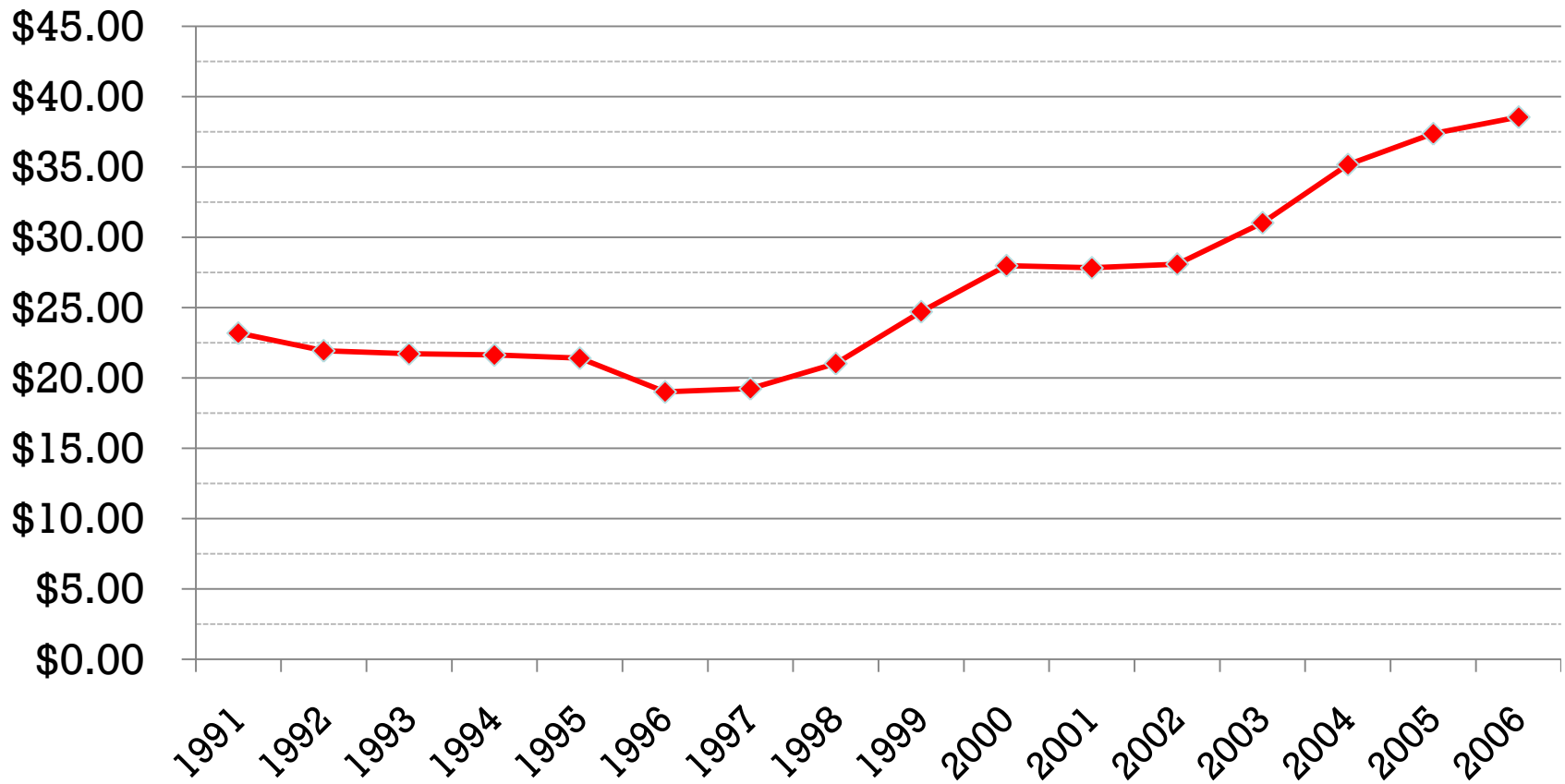


Injury pyramid (Heinrich, 1941)





Health care expenditures* (in millions) associated with no-lost-time claims. 1991 to 2006.





Incentives to report no-lost-time versus lost-time claims

“Most claims under NEER are classified as either active or inactive. **A claim is inactive in a given calendar year if the claim draws no benefits, or if the only benefits the claim draws in that year are health care benefits.** Any amount for any other type of benefit paid on a claim renders that claim active.

Because active claims are more likely to have future costs, more money is set aside for the projected future costs of these claims than for inactive claims. **Employers can usually expect a higher surcharge or lower refund amount because of these active claims.’’**

(WSIB Operation Policy Manual)



It is important to understand the relationship between no-lost-time claims and primary and secondary prevention activities.

Are no lost-time claims stable because:

- a greater proportion of injuries in Ontario are less severe? (primary prevention)
- more work injuries are being accommodated or managed? (secondary prevention and unintended consequences)

Unfortunately, other than information on industry, age, gender, health care billings and employer payroll reports, no other information is electronically stored with no-lost-time claims



Before we start

- Distinguishing claim management from workplace accommodation is not possible using administrative data
- While information on the type of injury can help, we can still not distinguish between
 - Workers who take time off, but have been told to report a no-lost-time claim
 - Workers who are forced to return to a menial job the next day
 - Workers who have been effectively accommodated
- Compensation data will not include injuries that should have been reported, but have not been



Research questions

- Are the factors associated with no-lost-time claims and lost-time claims similar? [\(click\)](#)
 - Using WSIB administrative data and Statistics Canada labour force survey data from 1991 through 2006
- What are the trends in health care expenditures for no-lost-time claims across labour market sub-groups? [\(click\)](#)
 - Using WSIB administrative data from 1991 to 2006
- Has the nature and event leading to injuries reported for no-lost-time claims changed between 1991, 1996, 2000 and 2006? [\(click\)](#)
 - Using a sample of 9,250 no-lost-time claims manually coded



Are the factors associated with no-lost-time claims and lost-time claims similar?





Objective

- To examine the associations between worker and labour market factors and the rate of no-lost-time and lost-time claims in Ontario between 1991 and 2006
- Are similar factors are associated with an increased risk of both types of claims?



Data

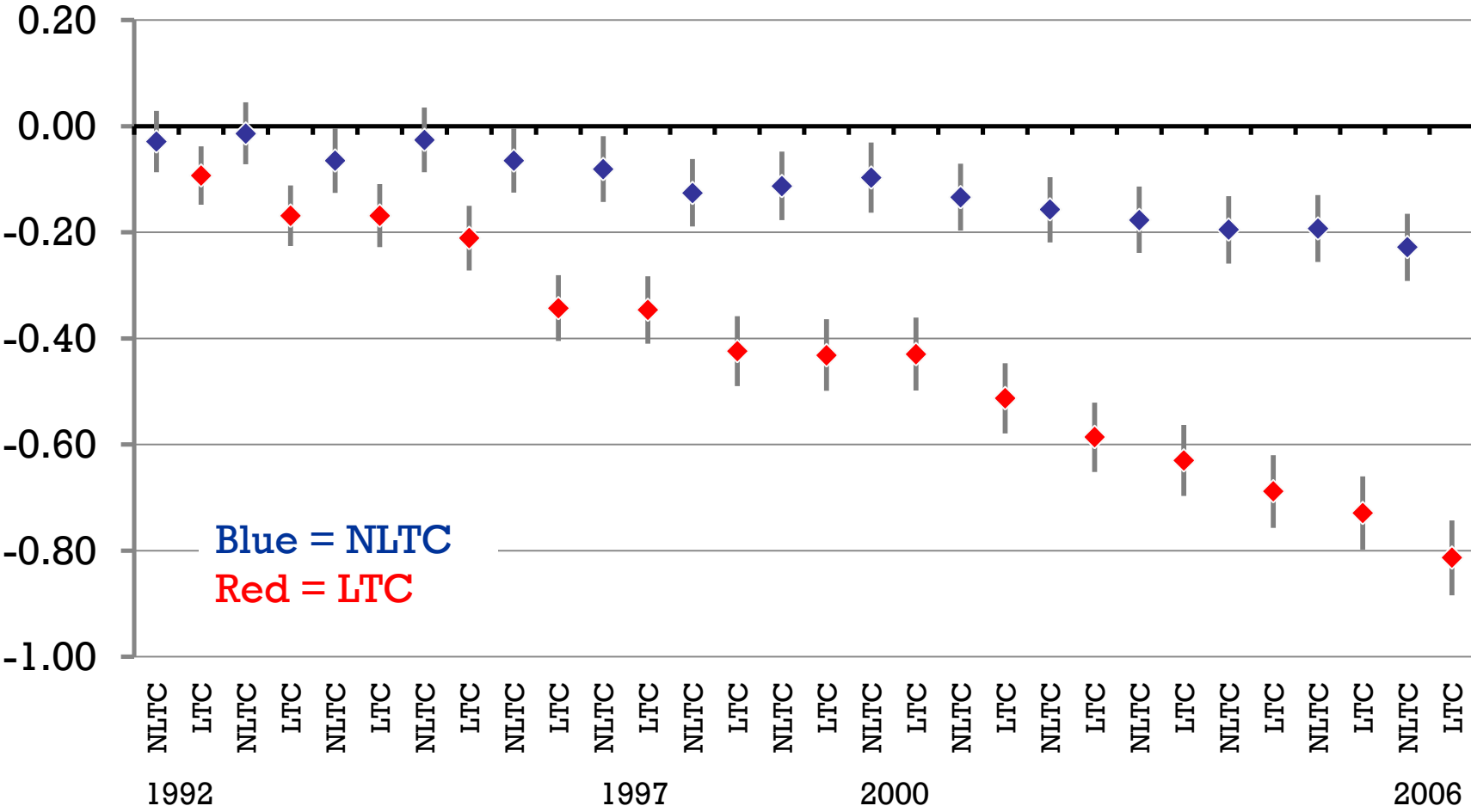
- We combined all claims from workplaces with mandatory coverage (N = 2,365,514 NLTC and 1,186,503 LTCs) with information on work hours from the labour force survey for the period 1991 to 2006
- Of this sample 21,491 NLTCs (0.9 %) and 4,103 LTCs (0.3%) were missing information on age or gender. These claims were more likely to be from earlier years and claimants in primary industries, and information, arts, entertainment, recreation, accommodation and food industries (compared to retail trade)
- The final sample of claims totalled 2,344,023 NLTCs and 1,182,400 LTCs



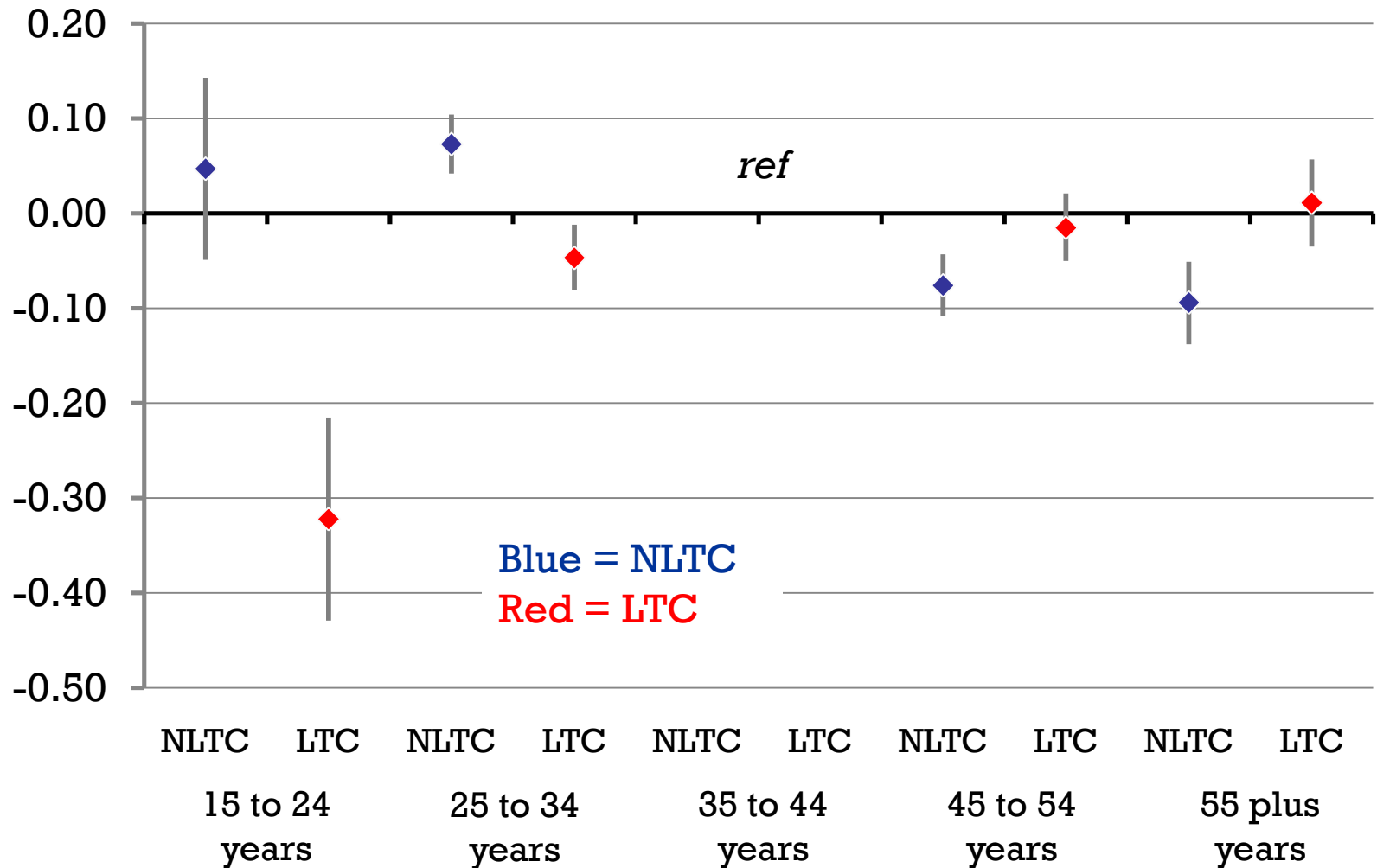
Analysis

- Separate regression models (Poisson) modeled the probability of no-lost-time claims and lost-time claims.
- Models included
 - age, gender, industry (individual level); and
 - short tenure rate and unemployment rate (group level)
 - full-time-equivalent hours was used as an offset
- A final model examined differences in the association between independent variables and no-lost-time and lost-time claims outcomes

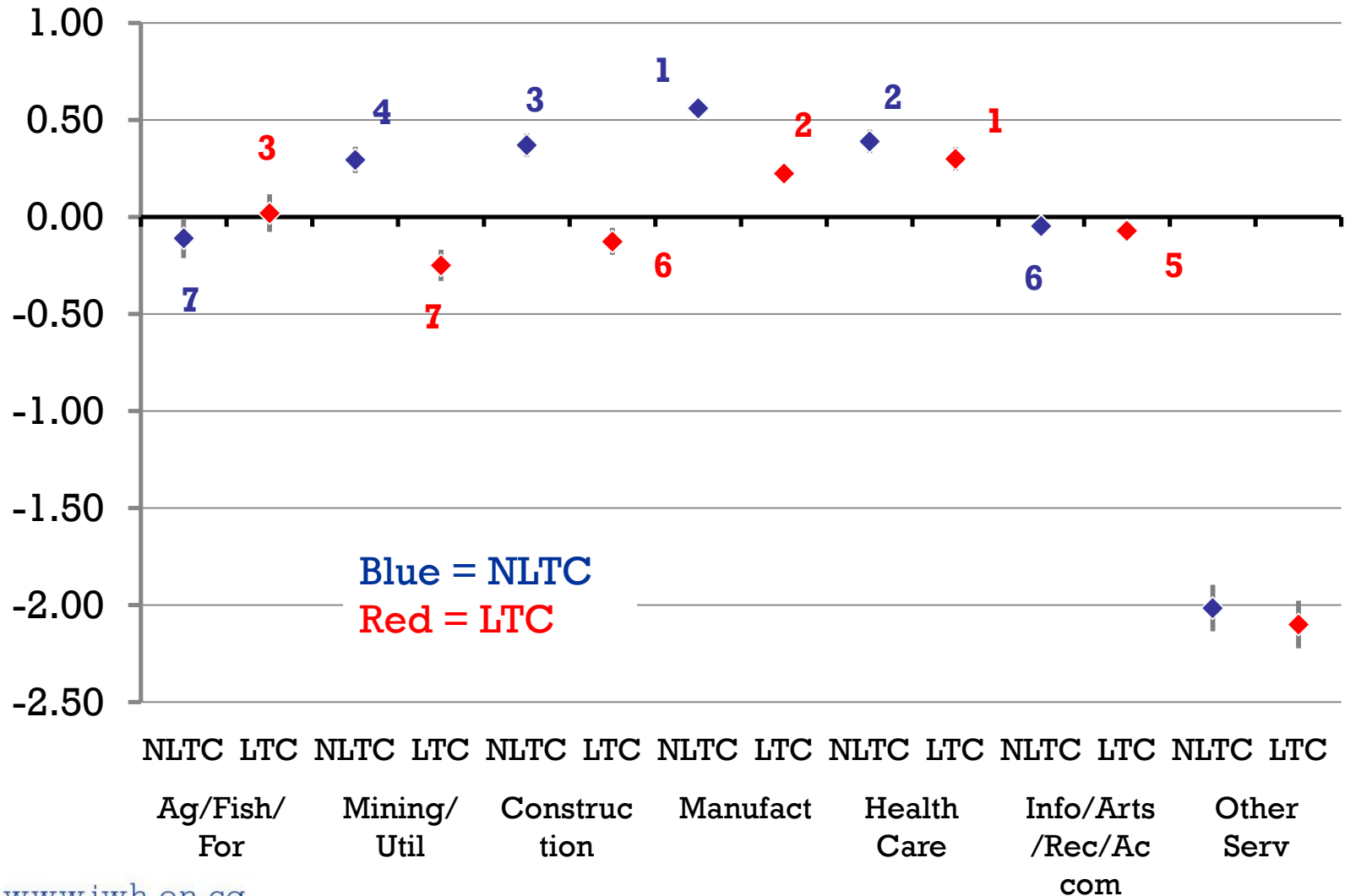
Adjusted* beta estimates for year and probability of no-lost-time and lost-time claims. Ontario 1991 to 2006 (ref = 1991)



Adjusted beta estimates for age groups and probability of no-lost-time and lost-time claims. Ontario 1991 to 2006



Adjusted beta estimates for industry groups and probability of no-lost-time and lost-time claims. Ontario 1991 to 2006 (ref = retail trade)





Discussion and conclusions

- Different labour market factors are associated with higher risk of no-lost-time claims and lost-time claims
- Preferential use of one type of claims to target workplaces may overlook other important injury risks
- Given different labour market factors are associated with no-lost-time claims and lost-time claims we recommend that both types of claims be included in assessing trends in occupational health and safety outcomes, and targeting particular groups for more intensive work injury prevention, when using compensation data.



What are the trends in health care expenditures for no-lost-time claims across labour market sub-groups?





Objective

- To examine trends in health care expenditures associated with no-lost-time claims, as well as the demographic and labour market characteristics associated with differences in health care expenditures, between 1991 and 2006.



Primary Hypotheses

- If NLTC represent similar types of injuries over time (in terms of severity and health care needs), we should see stable health care expenditures over this time period (supporting for effective primary prevention efforts).
- Increases in health care spending supports the hypothesis that the stable trend in no-lost-time claims is driven by claimants with more severe injuries being returned to work the day after their injury, thus shifting the administrative designation of these injuries from lost-time claims to no-lost-time claims.



Health care expenditures

- Total health care expenditures for the treatment of NLTCs was obtained for the two year period after the reported injury date.
- All health care expenditures were adjusted to Year 2002 dollars using the Health Care Consumer Price Index for Ontario
- Although all NLTC receive health care, not all claims have health care expenditures associated with them (approximately 19% of claims in our sample)



Health care expenditures do not include

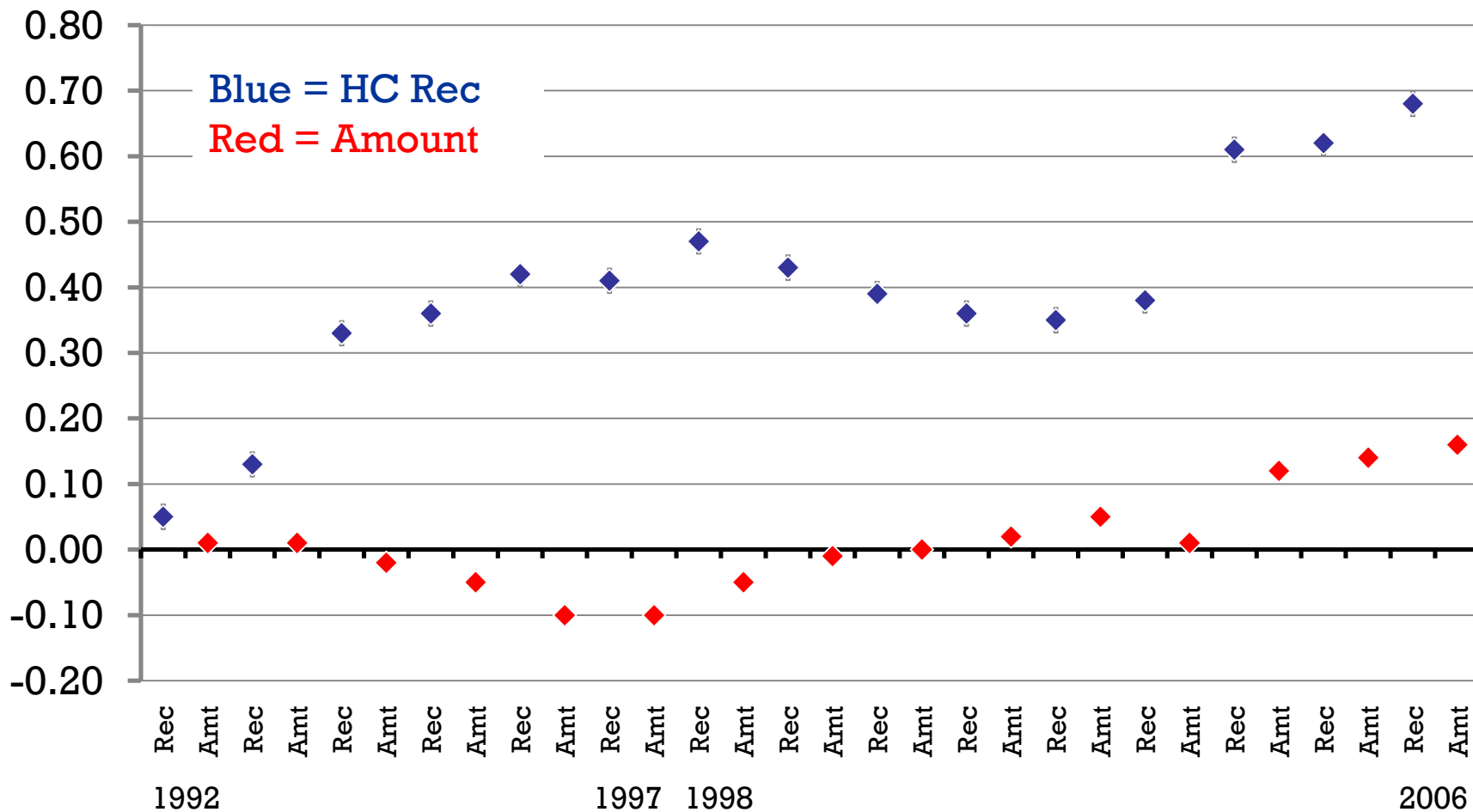
- One-time health care that is provided in an emergency department ;
- Health care administered by practitioners who are employed by the workplace where the claimant was injured;
- Health care provided by practitioners who are not registered with the WSIB; and
- Most general services provided in a doctor's office.



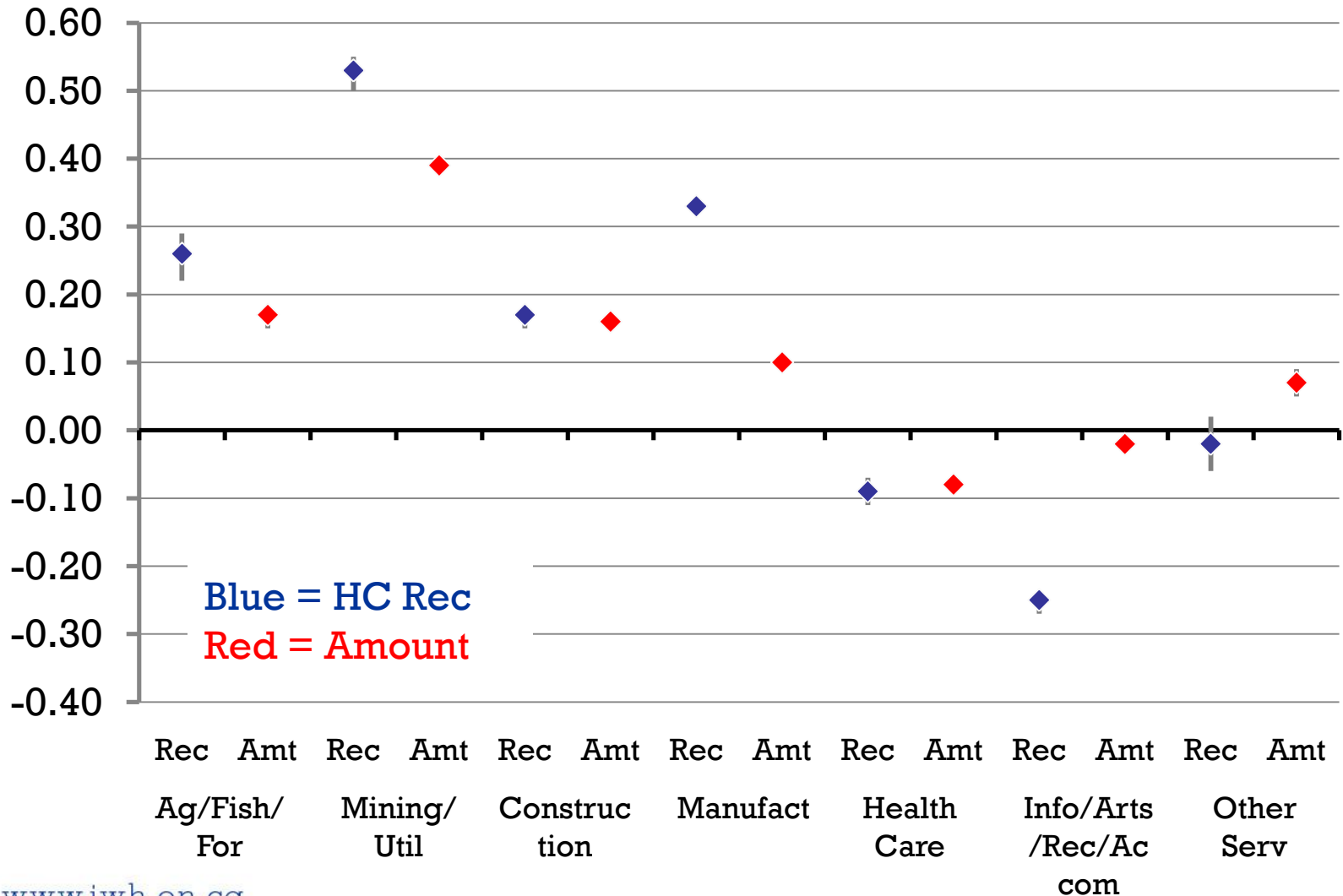
Analyses

- Regression models estimated the probability of both receiving health care, and amount of health care, using a zero-inflated linear regression model.
- Independent variables included age, gender, industry or workplace and estimated payroll reported to the WSIB
- A small number of claims had very small values for health care expenditures (less than \$20). Given the fee schedule for health care does not involve services for less than this amount we treated values less than \$20 as zero. This adjustment was made for a total of 18,633 claims (0.8%) of our sample.
- We also examined differences in health care in the period 1991 to 1997, and 1998 to 2006, given changes in legislation around return to work at this time period

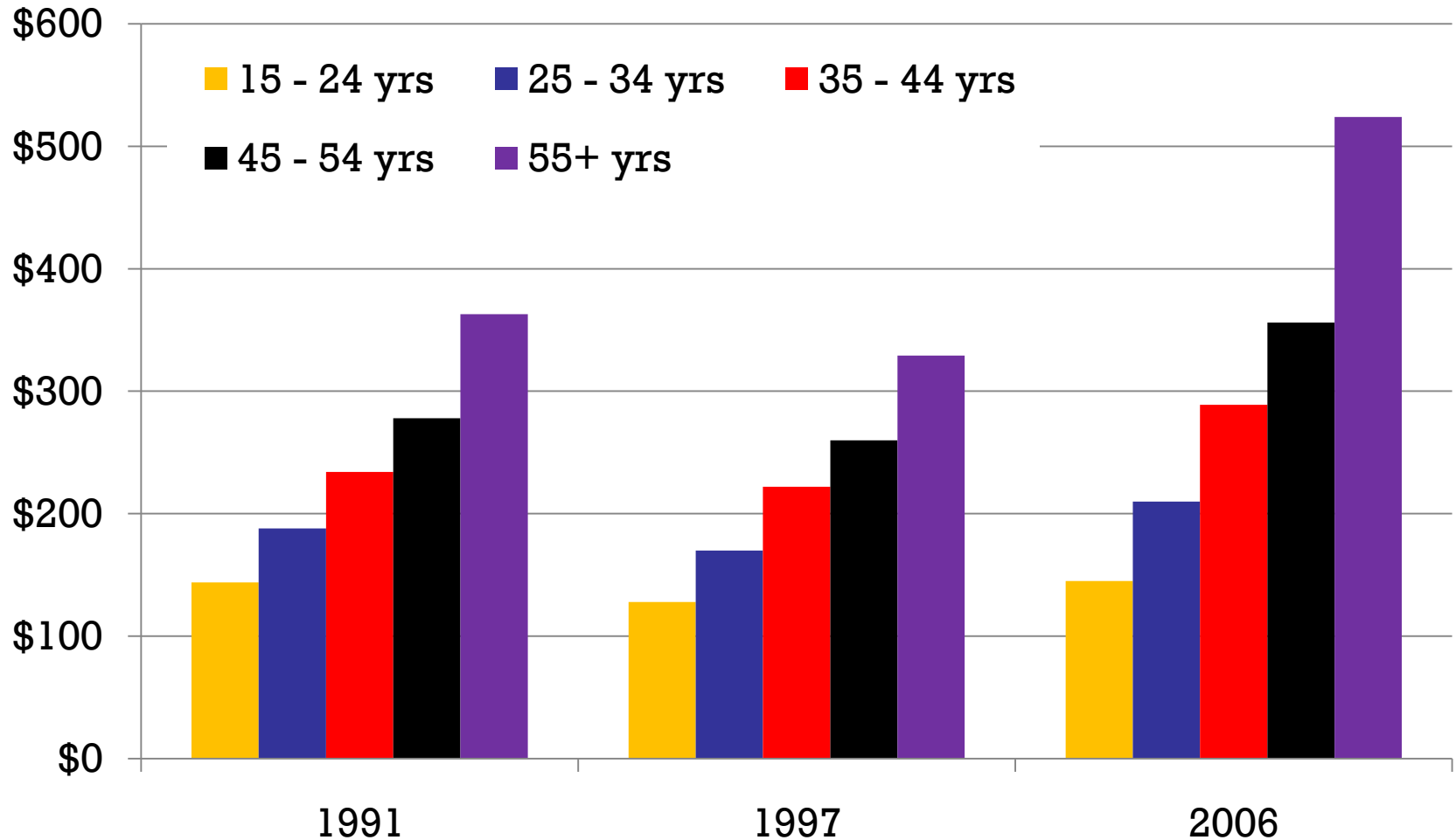
Adjusted beta estimates for year and probability of health care receipt and amount. Ontario 1991 to 2006 (ref = 1991)



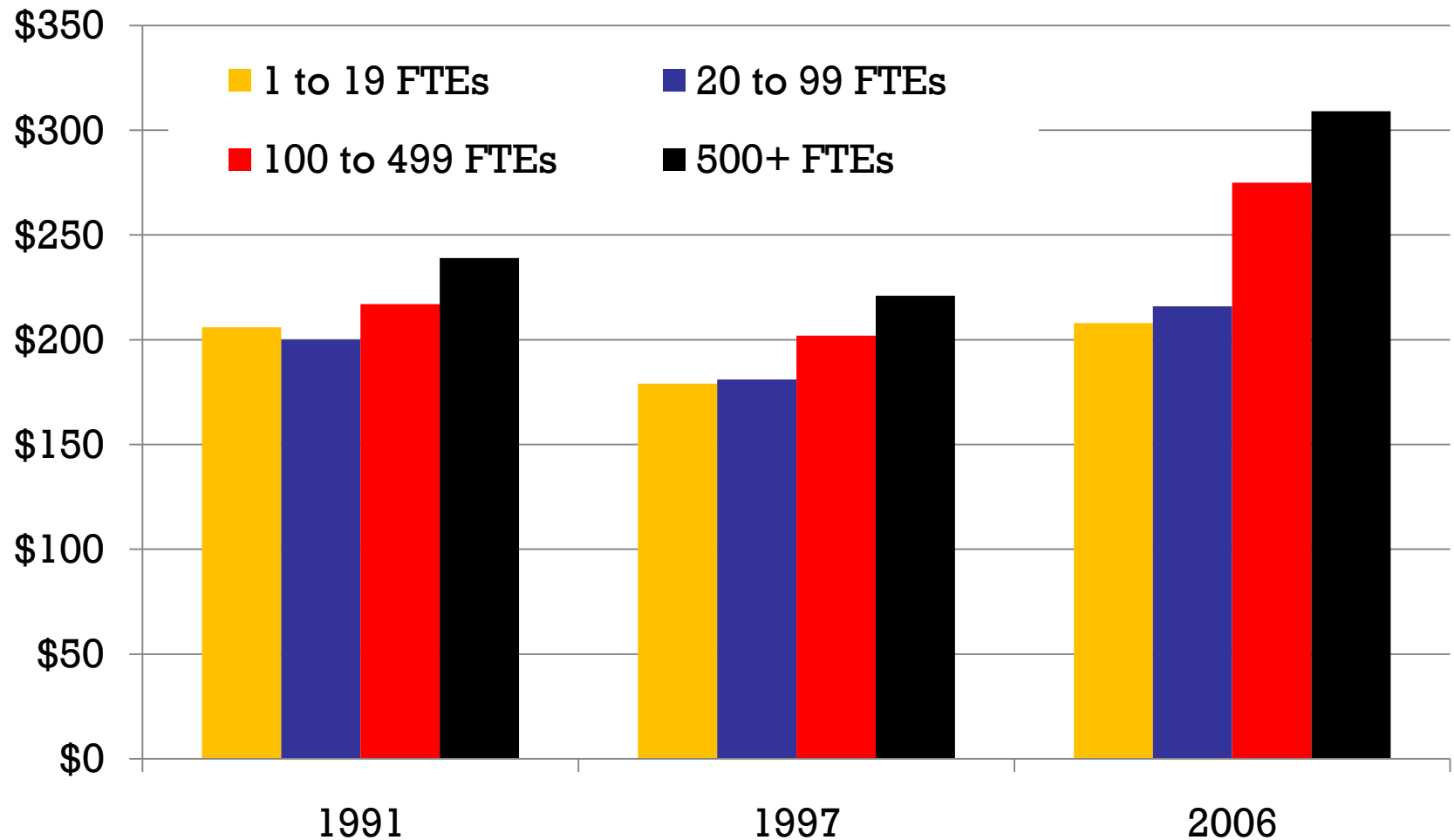
Adjusted beta estimates for industry groups and probability of HC receipt and amount. Ontario 1991 to 2006 (ref = retail trade)



Adjusted mean dollar costs per claim receiving health care by age group: 1991, 1997, 2006



Adjusted mean dollar costs per claim receiving health care by age group: 1991, 1997, 2006





Summary

- Two trends in health care were observed between 1991 and 2006: a decrease in health care expenditures between 1991 and 1997, followed by an increase between 1998 and 2006.
- Health care receipt and cost differ across industry groups (highest in primary industry)
- Trends in health care expenditures between 1991 and 2006 differ across age-group and firm size
- Results offer preliminary support for workplace accommodation being an important factor in the stable trend in no-lost-time claims



Has the nature and event leading to injuries reported for no-lost-time claims changed between 1991, 1996, 2000 and 2006?

Note: paper still in preparation





Objective

To examine

- Have the types of injuries submitted as no-lost-time claims have changed between 1991 and 2006
- Have these changes been more pronounced amount particular labour force sub-groups (e.g. larger workplaces, firms who have higher premium payment rates)



Selection of claims to extract information from

Equal stratified sampling across

- Four claim years: 1991, 1996, 2000 and 2006
- Low (25 to 99), medium (100 to 500) and large (500+) firm sizes
- Low and high premium payment rates and from schedule two
- Only claims from the firms in rate groups from the NEER program (from 1993 onwards) were sampled
- Total of 9,246 claims sampled (approx 2,300 per claim year)
- Information on injury extracted by one coder



Injury coding in workers' compensation data

Nature of injury: the principal physical characteristics of the injury
(e.g. fracture, open wound)

Event: describes the manner in which the injury or disease was
produced (e.g. fall, contact with equipment)

Source: the object, substance, exposure or bodily motion that directly
produced/inflicted the injury (e.g. chemicals, machinery, person)

(Canadian Standards Association, Z795, 2003)

Grouping no-lost-time claims using nature and event

Contact with objects and equipment leading to:

1. Traumatic injuries to bones/nerves/spinal cord or intracranial injuries
2. Open wounds
3. Surface wounds and bruising or inj to muscles/tendons/ligaments/joints
4. Bodily reaction, overexertion resulting in injuries to musc/tend/lig/joints
5. Exposure to fires/explosions resulting in burns or other injuries and disorders

Falls resulting in:

6. Traumatic injuries to bones/nerves/spinal cord or intracranial injuries or open wounds
7. Surface wounds and bruising or inj to muscles/tendons/ligaments/joints

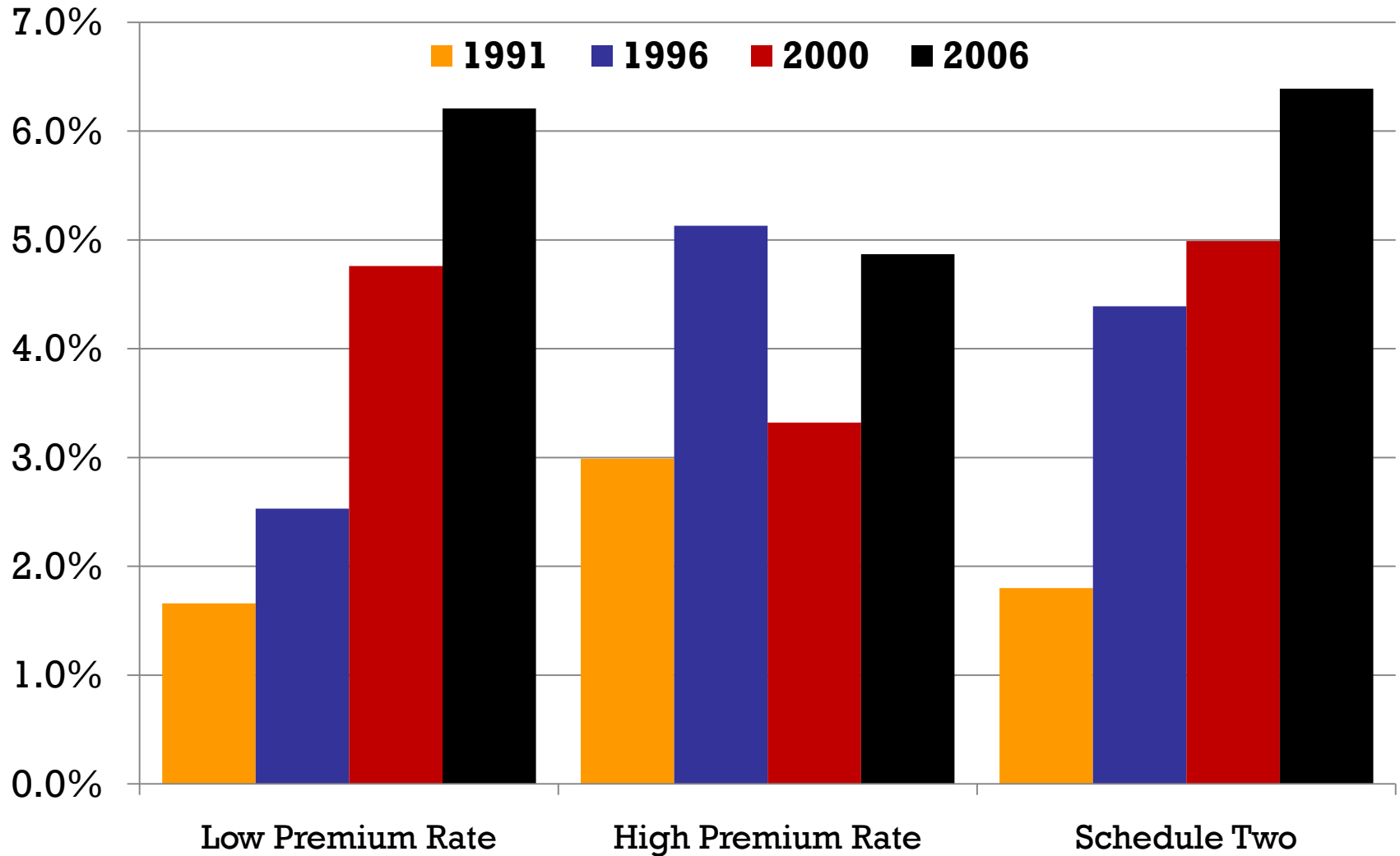
Grouping NLTCS using nature and event (cont)

8. Rep motion and static postures resulting in systemic disease and disorders or inj to muscles/tendons/ligaments/joints
9. Assaults (event only)
10. Transport injuries (event only)
11. All other combinations of nature and event

Distribution of injury type by claim year

	1991	1996	2000	2006	Rel Inc
Contact/traumatic	2.6%	3.7%	4.0%	3.1%	19%
Contact/open wounds	22.0%	21.4%	22.5%	20.3%	-8%
Contact/surf w & muscular	20.2%	20.1%	19.6%	19.6%	-3%
Overexertion	22.2%	21.4%	21.2%	20.2%	-9%
Fires and explosions	4.7%	4.3%	4.0%	4.1%	-13%
Falls/trauma & open wounds	2.1%	2.1%	3.1%	2.2%	5%
Falls/muscular	9.3%	9.1%	9.4%	10.9%	17%
Repetitive motion	2.2%	4.0%	4.3%	5.7%	159%
Assaults	3.9%	4.2%	1.9%	2.9%	-26%
Transport	1.8%	1.6%	1.5%	2.4%	33%
All other	9.0%	8.3%	8.6%	8.7%	-3%

Increases in the proportion of repetitive strain injuries was not consistent across premium payment groups

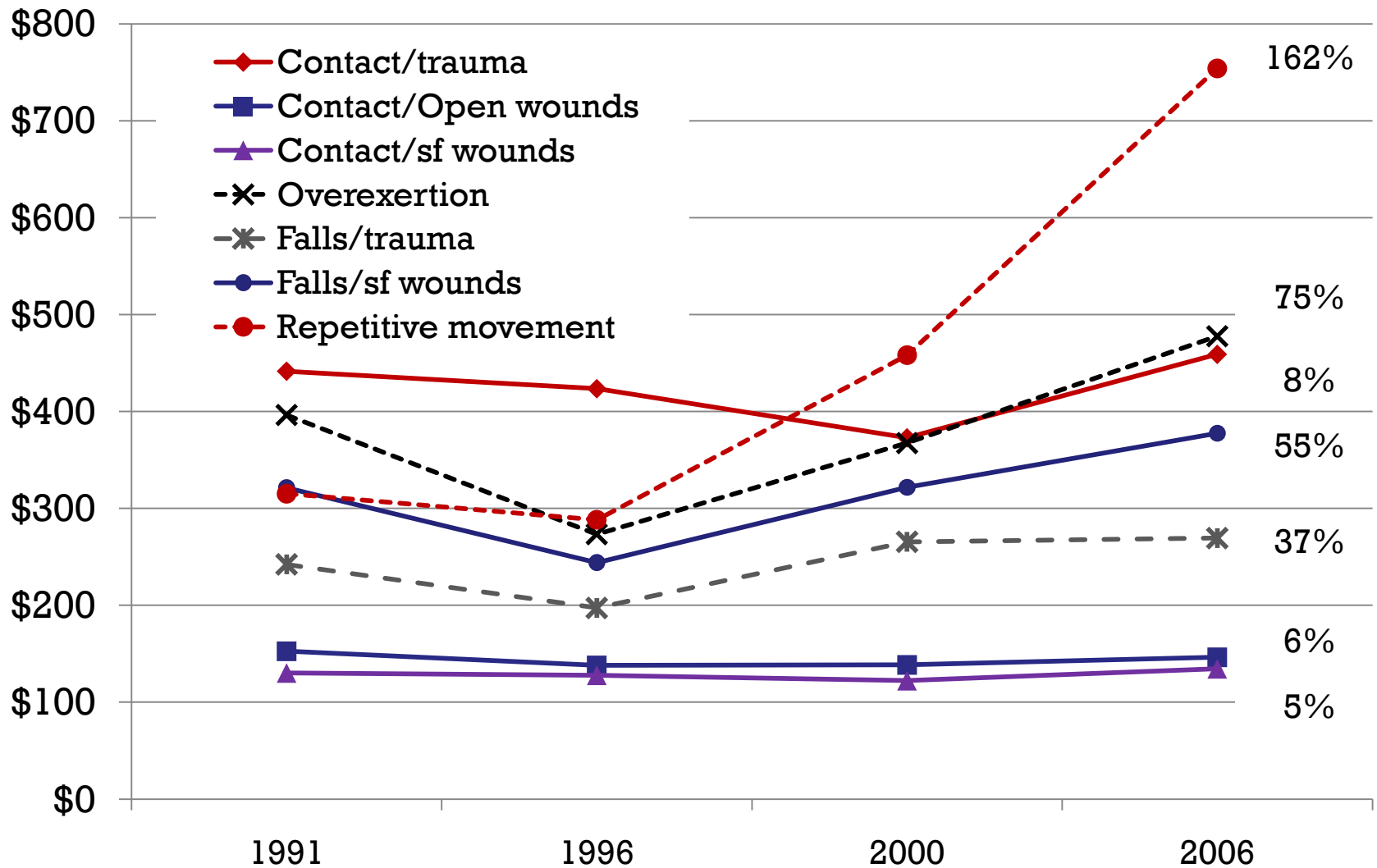




Summary (distribution of injuries)

- With the exception of increases in repetitive movement injuries, the distribution of nature of injury and event groups were relatively stable across the four time periods examined
- Limited differences were found across premium payment rates or firm size (excluding changes in repetitive movement injuries)
- No trends were observed across source of injury
- 3% to 4% of claims were for quite severe injuries (e.g. fractures, intracranial injuries).
- Increases in repetitive movement injuries may reflect
 - Changing nature of work
 - Greater acceptance of these types of injuries

Increases in health care costs differed across injury types





Summary (health care costs)

- Between 1996 and 2006 health care costs increased for some types of injuries (repetitive movement, overexertion), but not for others (contact injuries)
- Increases in health care costs may reflect
 - Increasing severity (threshold for reporting)
 - Better accommodation/management (no longer require time off)



Ongoing work

- Revisit classification of no-lost-time claims
- Compare trends in health care costs with similar types of lost-time claims (e.g. repetitive movement injuries within age and tenure groups)

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