

Declining trends in young worker injury rates, 2000 to 2007

A well-known research finding is that the rate of work-related injury is higher among young male workers — both teens and young adults — than it is among older men. As described in a recent Institute for Work & Health (IWH) Issue Briefing on “‘Newness’ and the risk of occupational injury,” (May 2009), as well as in several recent publications by IWH researchers (see references), young men have experienced a higher rate of occupational injury than other workers, largely because they are more likely to be:

- new in their jobs;
- in high-risk occupations; and/or
- in jobs involving a relatively high degree of physical effort.

In this Issue Briefing, we report recent data on workers’ compensation claims indicating that in some Canadian jurisdictions, the rate of lost-time claims — that is, claims requiring time away from work — has declined substantially for young men aged 15-24, and is now similar to the rate among older men.

Understanding trends in injury risk over time requires knowing two figures: how many injuries are occurring (the numerator), and the size of the population at risk of work injury (the denominator). These values are used to estimate claim rates, based on claims per hour worked, by age, gender or occupation. For the numerators, claim information collected by provincial workers’ compensation boards can be used. For the denominators, labour market participation can be estimated from Statistics Canada’s *Labour Force Survey*.

Using these methods, the Institute for Work & Health has assembled data describing workers’ compensation claim rates in Ontario, Quebec and British Columbia between 2000 and 2007 across different age groups and by gender. More specifically, the numerator data, or numbers of claims, were obtained from the National Work Injury Statistics Program of the Association of Workers’ Compensation Boards of Canada (AWCBC). Interpretations of the data in this note are those of IWH and do not necessarily reflect the views of the AWCBC or any of its member boards or commissions. For the denominators, the *Labour Force Survey* data were adjusted for differences in coverage of labour market participants by the three provincial workers’ compensation agencies.

KEY MESSAGES

- In both Ontario and Quebec, lost-time workers’ compensation claim rates for men and women aged 15-19 or 20-24 fell more rapidly than for other age groups. This decline may reflect active efforts in both provinces to educate young people about occupational health and safety risks.
- While young men had higher lost-time claim rates in Ontario and Quebec in 2000, the rates for men were converging by age group in both provinces by 2007.
- In British Columbia, the pattern was different. Lost-time claim rates for men and women trended downwards until 2003, but experienced little or no further decline between 2003 and 2007. This may reflect the fact that the B.C. economy grew more rapidly than Ontario’s or Quebec’s from 2003 to 2007.
- The injury rate for men aged 20-24 in British Columbia remained substantially higher than the rate for men aged 35-44 throughout the period from 2000 to 2007. This rate could reflect the rapid increase in employment in the B.C. construction industry during this period for men aged 20-24.

The level of claim rates at a point in time may differ among provinces because of differences in coverage, industrial mix, reporting of claims, etc. Our interest here is not in comparing claims rates among the three provinces, but in comparing the trends in these rates over time within each province.

The key findings are as follows. In Ontario, lost-time claim (LTC) rates for all men trended downwards over the period 2000 to 2007. However, the decline was greater for the younger age categories, so that the differences in claim rates across age groups for men narrowed substantially. Figure 1 shows the LTC rates per 1,000 full-time equivalent workers for three age categories. (The data for all age categories are in Table 1, page 3.) In 2000, the lost-time claim rates for those aged 15-19 or 20-24 were about one-third higher than for those aged 35-44. By 2007, the rate

Lost-time claims (per 1,000 full time equivalents)

Legend

- 15 - 19 years
- ◆ 20 - 24 years
- ▲ 35 - 44 years

Figure 1: Ontario males

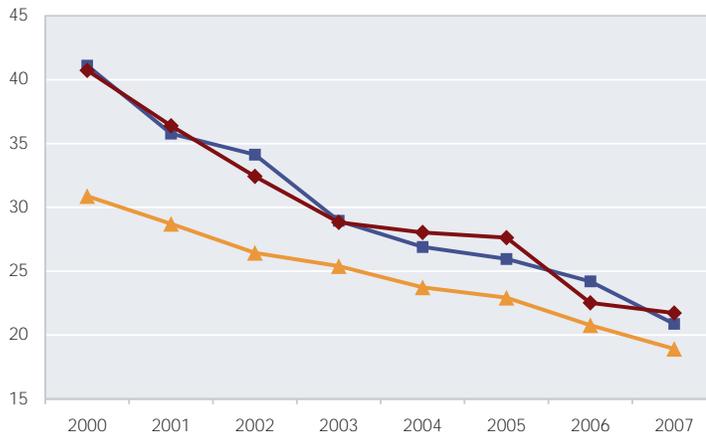


Figure 2: Quebec males

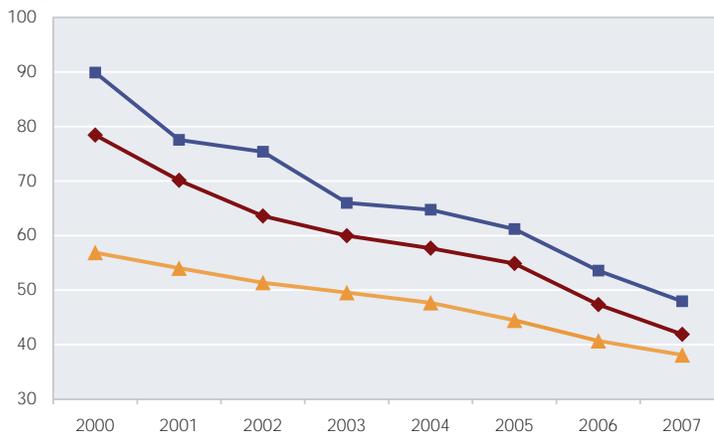
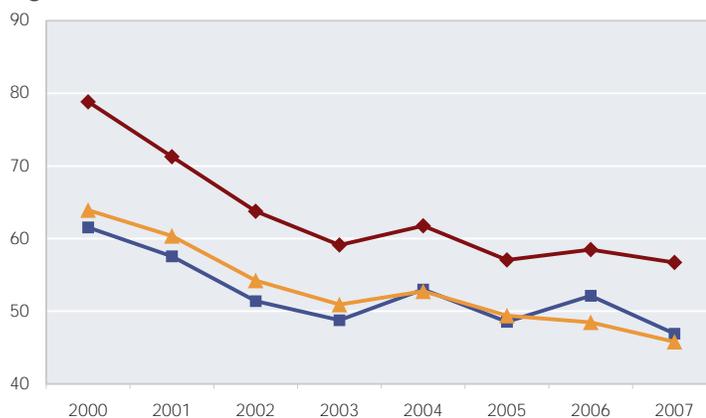


Figure 3: British Columbia males



was only 10 per cent higher for the 15-19 age group, and 15 per cent higher for the 20- to 24-year-olds.

In Quebec, similar trends can be seen by age group for men, including the general decline in LTC rates in all age categories, although the rate for 15- to 19-year-olds did not fall as sharply as in Ontario. (See Figure 2.) The LTC rates for men aged 15-19 were 58 per cent higher than the rate for those aged 35-44 in 2000. This ratio fell to 26 per cent by 2007. For those aged 20-24, the ratio fell from 38 per cent to 10 per cent from 2000 to 2007, which was an even sharper fall than in Ontario.

In British Columbia, however, the pattern was different, as shown in Figure 3. Lost-time claim rates for men trended downwards until 2003, but experienced little or no further decline between 2003 and 2007. Moreover, the injury rate for those aged 20-24 remained substantially higher than the rate for men aged 35-44. In fact, it was 23 per cent higher in 2000 and 24 per cent higher in 2007. On the other hand, British Columbia is the only province of the three where teenaged men did not have an elevated claim rate relative to older men: the injury rate for 15- to 19-year-olds in B.C. was about the same as the rate for 35- to 44-year-olds throughout the period.

The trends in lost-time claim rates over this time period have been similar for women as for men: a downward trend in claim rates for all age groups in Ontario and Quebec, and a stalling of that trend in British Columbia in the middle of the period (around 2003/2004).

However, the patterns by age group have been different for women than men. In Ontario, the lost-time claim rate for young women, aged 15 to 19, was only slightly higher than the rate for the 35- to 44-year-old group in 2000. By 2007, it was over 20 per cent lower. As Table 1 shows, LTC rates for the 20-24 and 25-34 age categories were lower than for 35- to 44-year-old women throughout the period. For the older age categories ranging from 45 to 55 and above, rates rose relative to the 35- to 44-year-olds, and were about 30 per cent higher by 2007.

The pattern was similar in Quebec, with an even sharper fall in lost-time claim rates for 15- to 19-year-old women. However, there was no rise in rates for older women relative to the 35- to 44-year-old category. In British Columbia, LTC rates for women aged 15-19 and 20-24 were lower than for 35- to 44-year-olds in 2000 and remained so throughout the period. For older women, they rose relative to the 35-44 age group.

Table 1: Lost-time claims per 1,000 full-time equivalents by age and gender, 2000-2007, Ontario, Quebec and British Columbia

Ontario									Decline	
Men	2000	2001	2002	2003	2004	2005	2006	2007	Absolute	Relative
15 - 19 years	41.10	35.77	34.13	28.95	26.90	25.96	24.21	20.88	20.22	49.2%
20 - 24 years	40.73	36.39	32.43	28.83	28.04	27.63	22.53	21.73	19.00	46.6%
25 - 34 years	31.76	29.05	27.20	25.01	24.13	22.67	20.32	19.20	12.55	39.5%
35 - 44 years	30.88	28.71	26.44	25.40	23.74	22.93	20.78	18.93	11.95	38.7%
45 - 54 years	25.97	24.82	23.29	22.33	21.89	20.96	19.16	19.44	6.53	25.1%
55+ years	27.56	24.23	24.65	23.72	21.87	20.26	18.65	18.40	9.16	33.2%
Women	2000	2001	2002	2003	2004	2005	2006	2007		
15 - 19 years	23.54	20.42	18.19	17.80	15.87	13.93	13.72	11.10	12.44	52.9%
20 - 24 years	20.26	17.08	17.41	14.87	14.06	14.17	12.29	11.58	8.68	42.9%
25 - 34 years	19.63	17.06	15.17	15.68	13.94	13.29	12.43	11.56	8.07	41.1%
35 - 44 years	22.04	21.57	20.57	19.88	18.23	17.88	16.19	14.19	7.84	35.6%
45 - 54 years	24.36	21.98	21.97	20.49	19.71	20.27	18.40	18.44	5.93	24.3%
55+ years	22.18	20.42	20.86	20.10	20.53	18.58	17.36	17.99	4.18	18.9%
Quebec									Decline	
Men	2000	2001	2002	2003	2004	2005	2006	2007	Absolute	Relative
15 - 19 years	89.92	77.56	75.38	66.01	64.75	61.21	53.59	47.96	41.96	46.7%
20 - 24 years	78.44	70.14	63.60	59.98	57.70	54.89	47.35	41.90	36.54	46.6%
25 - 34 years	61.44	54.66	51.27	50.17	47.50	43.97	38.73	35.46	25.98	42.3%
35 - 44 years	56.90	54.03	51.38	49.55	47.69	44.47	40.71	38.12	18.78	33.0%
45 - 54 years	46.79	44.16	42.59	44.20	41.54	40.88	38.61	35.87	10.92	23.3%
55+ years	47.38	46.14	40.62	42.20	39.80	38.19	39.20	38.65	8.73	18.4%
Women	2000	2001	2002	2003	2004	2005	2006	2007		
15 - 19 years	38.19	34.94	29.39	27.70	25.30	24.44	23.85	20.61	17.58	46.0%
20 - 24 years	30.90	27.86	26.66	24.54	24.64	22.55	21.87	20.22	10.68	34.6%
25 - 34 years	24.46	23.08	22.21	21.37	20.59	19.60	18.40	16.91	7.55	30.9%
35 - 44 years	26.55	25.78	26.10	25.43	24.29	23.42	22.86	21.53	5.02	18.9%
45 - 54 years	25.52	24.45	23.79	23.56	23.82	22.52	22.47	21.20	4.32	16.9%
55+ years	26.02	25.96	24.76	23.86	22.33	21.58	20.38	19.15	6.87	26.4%
British Columbia									Decline	
Men	2000	2001	2002	2003	2004	2005	2006	2007	Absolute	Relative
15 - 19 years	61.54	57.56	51.39	48.76	52.99	48.54	52.12	46.91	14.62	23.8%
20 - 24 years	78.84	71.28	63.76	59.12	61.76	57.06	58.48	56.71	22.13	28.1%
25 - 34 years	64.45	58.70	54.44	49.48	47.82	47.72	47.88	46.05	18.40	28.6%
35 - 44 years	63.93	60.37	54.23	50.91	52.74	49.39	48.47	45.79	18.15	28.4%
45 - 54 years	52.80	51.84	47.95	45.64	45.27	48.76	47.68	46.71	6.09	11.5%
55+ years	54.28	53.03	47.68	43.77	43.78	46.03	44.62	42.71	11.57	21.3%
Women	2000	2001	2002	2003	2004	2005	2006	2007		
15 - 19 years	28.23	27.90	22.04	22.03	22.50	23.53	21.63	23.60	4.64	16.4%
20 - 24 years	30.88	29.15	25.59	23.88	22.42	21.76	22.27	23.89	6.99	22.6%
25 - 34 years	28.23	25.62	22.15	20.71	19.04	19.53	20.57	20.75	7.48	26.5%
35 - 44 years	36.26	34.52	29.53	26.13	25.90	26.64	27.08	26.68	9.58	26.4%
45 - 54 years	33.98	32.04	28.87	27.75	28.05	28.32	29.70	30.54	3.44	10.1%
55+ years	33.63	34.07	29.32	29.50	29.84	29.24	31.15	30.06	3.57	10.6%

Key questions

Why have lost-time claim rates for men, across age groups, converged in Ontario and Quebec but not in British Columbia? Why does the general decline in lost-time rates stall in B.C. in 2003?

The data that we have do not provide clear answers to these questions. Among the possibilities are the following.

The social marketing campaigns by Ontario's Workplace Safety and Insurance Board that focused on youth, and/or the introduction of an occupational health and safety curriculum in Ontario high schools, may be having an impact. They may help explain why injury rates for men and women aged 15-19 or 20-24 have fallen more sharply than those for older age groups. Similar efforts by the Commission de la santé et de la sécurité du travail (CSST) in Quebec may help explain a similar pattern there. In British Columbia, a new law regarding occupational health and safety training requirements for young and new workers is being implemented, but any effects of that law would not yet show up in the data.

The stall in declining claim rates in B.C. could reflect the fact that the B.C. economy was booming in 2003 to 2007. Claim rates tend to rise in booms, relative to the general downward trend over time, because:

- there are more inexperienced workers;
- older, less safe equipment is brought back into use;
- the pace of work is faster;

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- since workers have less reason to fear job loss, they are less hesitant in filing claims; and
- employment in more hazardous industries such as construction or forestry tends to be more influenced by the business cycle, growing faster than other industries in boom times (*Issue Briefing*, March 2009).

Statistics Canada data do indicate that real gross domestic product grew more rapidly in B.C. than in Ontario or Quebec between 2003 and 2007. The boom may also have meant more young people were in dangerous jobs in British Columbia, which would have kept lost-time claim rates for young people from falling as quickly as in Ontario or Quebec.

Data from Statistics Canada's *Labour Force Survey* indicate that the youth and young adult labour force grew much more rapidly from 2000 to 2007 in B.C. than in the other two provinces. This was especially the case for young men: the male labour force aged 15-19 grew by 51.1 per cent in B.C., compared to 8.3 per cent in Ontario and 5.0 per cent in Quebec over the same period. For men aged 20-24, the figures are 35.5 per cent, 9.7 per cent, and -3.4 per cent, respectively.

Labour Force Survey data also show that the male youth labour force in British Columbia increased sharply in the construction industry, rising by 96.9 per cent for those aged 15-19, and 145.8 per cent for those aged 20-24. The particularly sharp increase in the number of 20- to 24-year-old males in construction in B.C. likely contributed to the continuation of an elevated injury risk for that group.



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