

Risk of Work Injury Before and After Safe Work Practice Certification for Manual Tree Fallers in British Columbia, Canada

Dan Sarkany, Chris McLeod, Hugh Davies, Kevin Lyons, Mieke Koehoorn
University of British Columbia

Contact: cmcleod@chspr.ubc.ca
www.chspr.ubc.ca/research/worksafebc

Objectives

In 2006 all manual tree fallers in British Columbia (BC), Canada were required to obtain a safe work practices certificate either through extensive field training and examination for new workers or examination alone for experienced workers. This study examined if the risk of work injury for manual tree fallers working in BC changed after obtaining this certification.

Methods

A cohort of 3,251 manual tree fallers was identified from a mandatory faller registration database and linked to workers compensation injury records for the period of 2002 to 2008.

Injuries were defined as all accepted workers' compensation claims and categorized as acute, strain and serious injuries. All workers in the study were certified during the study period. Individual risk of injury was assessed by quarters in the year before and after certification using discrete-time survival analysis adjusting for demographic, economic and faller-specific confounders.

Results

The risk of injury throughout the study period was 5 injuries per 100 person years (PY) with the average injury rate lower in the year prior to certification (4/100 PY) than after certification (6/100 PY).

In the fully adjusted survival models the risk of injury was lowest in the quarter immediately preceding (IRR: 0.7; 95% CI: 0.4-1.2) certification and highest in the third quarter after certification (IRR: 1.8; 95% CI: 1.1-2.9). Results were consistent across all injury types

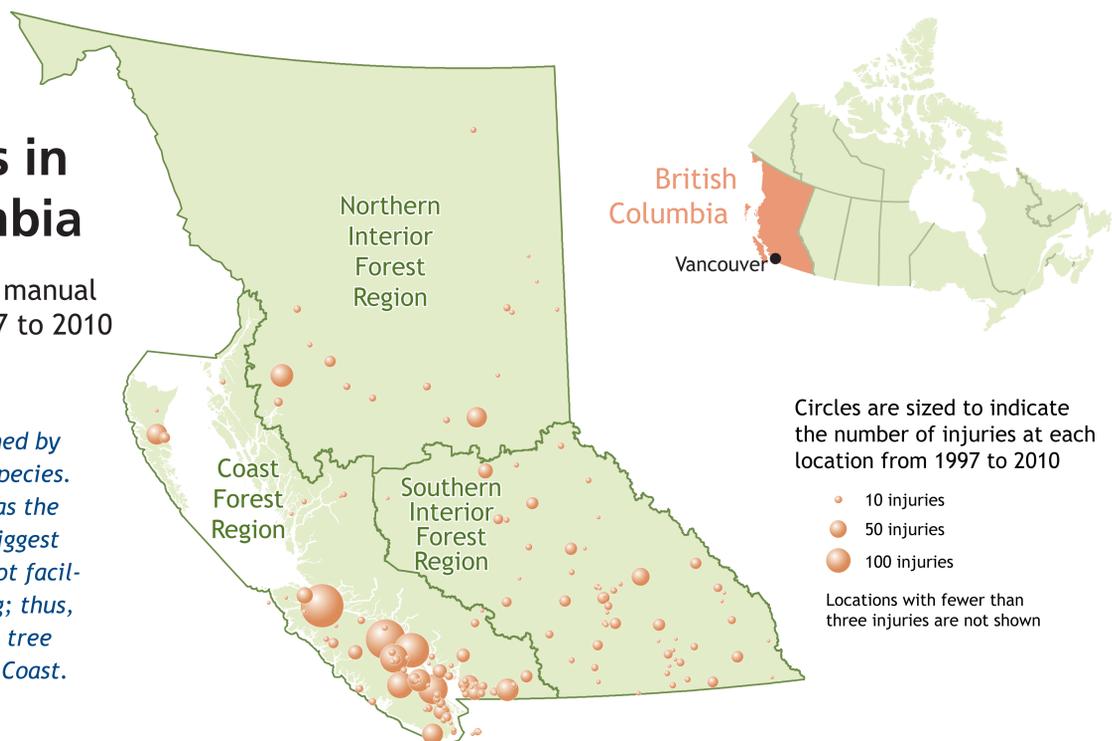
Conclusions

Obtaining a safe practices work certificate was not associated with a reduction in the injury risk for manual tree fallers. Consistent with other intervention research on safety regulation, the increase in risk following certification may be due to increased injury reporting. Moreover, almost all workers in the cohort were experienced fallers who obtained their certification through examination only, limiting the ability of the study to evaluate the effect of the full training requirements for certification on injury reduction.

Manual Tree Faller Injuries in British Columbia

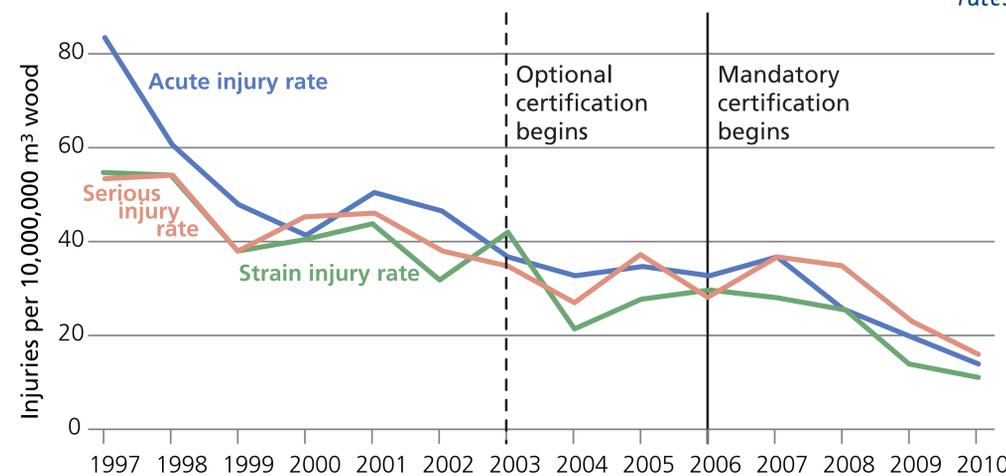
Number and location of manual tree faller injuries, 1997 to 2010

BC forest regions are defined by different terrain and tree species. The Coast Forest Region has the steepest terrain and the biggest trees. These conditions do not facilitate mechanized harvesting; thus, we find that most manual tree faller injuries occur on the Coast.



Change in Overall Injury Rates

Manual tree faller injury rates in the Coast Forest Region, by injury type, 1997 to 2010



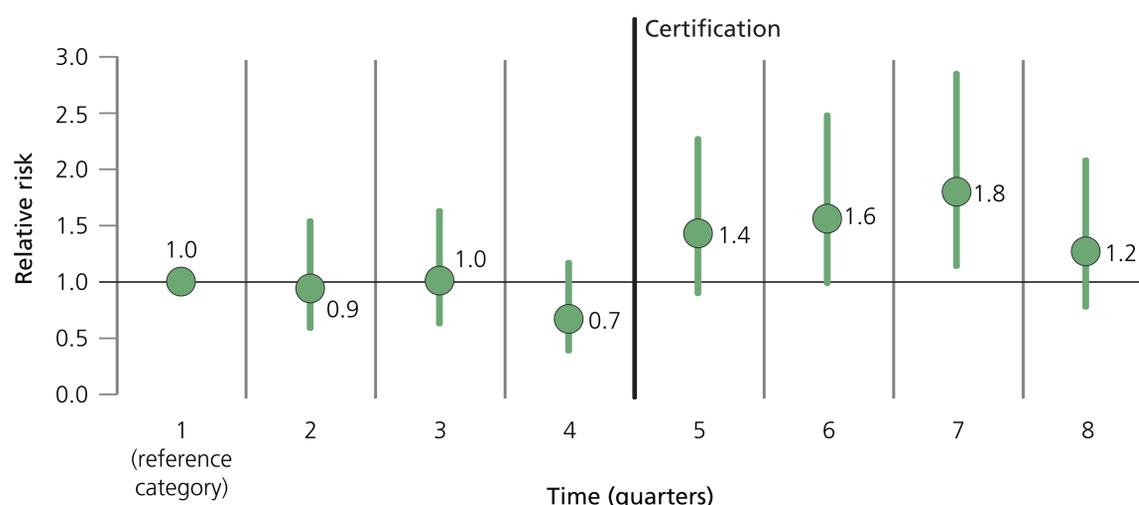
The high injury rate and the hazardous conditions and tasks of manual tree fallers led to the development of the BC Faller Training Standard. Certification was made optional in 2003 and mandatory in 2006. Injury rates declined throughout this period.

Fallers were certified either by completing 30 days of training, 180 days of supervised work, and an exam, or for experienced fallers, by challenging the exam. 98% of certifications were by challenging the exam.

Change in Individual Injury Risk

Relative risk of manual tree falling injury before and after individual certification, with 95% confidence intervals

Adjusted for age, faller type, previous claims, region, work experience, certificate grade level, and unemployment rate



In the quarter prior to certification, injury risk dropped slightly. We hypothesise that work practices may have been altered in preparation for certification. In the quarters post-certification, injury risk increased. We hypothesise that there may have been a jump in reporting.

We also found a greater risk of injury for specific groups of fallers: young workers, those with previous claims, those with advanced certification, and those who worked during periods of high unemployment (not shown).