

Erratum: Economic analysis of health effects from forest fires

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A computational error has been discovered in the way that threshold levels were incorporated in the calculation of the health impacts and the associated calculation of conservative levels of health and monetary impacts. This resulted in an overestimate of the effects; the corrected effects are approximately 25% of the original estimates. Table 3 presents the results with the correct incorporation of the 30 $\mu\text{g}/\text{m}^3$ threshold (no health effects below this level) and is the set of mean estimates from the simulation with only acute (particularly minimum mortality risk) levels of health impacts and the distribution of monetary value estimates as described in the paper.

The range of these estimates for the monitoring station results are (\$5.1 million 10th percentile) to (\$1.7 million 90th percentile), while the range for the smoke dispersion models are (\$3.8 million 10th percentile) to (\$1.2 million 90th percentile). These values represent the most conservative estimates on thresholds and health risks. In comparison, if a typical ambient baseline level of $\text{PM}_{2.5}$ of 12 $\mu\text{g}/\text{m}^3$ were used in the calculation, then total impacts would be estimated at \$4 421 703 for the smoke dispersion model and \$5 064 438 for the monitoring station model.

The results place the impact of air quality changes at approximately the same level as the lost homes and buildings and damages to bridges (Table 4 in the paper), but much lower than the loss in timber supply. Qualitatively, the conclusion that air quality impacts can be potentially significant as a portion of impacts from fire remains.

The authors express regret for any inconvenience caused by this error and apologize for any difficulties this has caused. The first two authors accept full responsibility for the error.

Table 3. Mean values of health impacts related to increased $\text{PM}_{2.5}$ levels from the Chisholm Fire on 24 May 2001.

Health outcome	Mean 1996 \$CAN	
	Smoke dispersion model ^a	Monitoring station ^b
Premature mortality risk	1 794 333	2 378 813
Respiratory hospital admissions	1 488	1 973
Cardiac hospital admissions	1 596	2 116
Emergency room visits	596	790
Restricted activity days	138 982	300 235
Asthma symptom days	13 575	17 997
Bronchitis admissions	3 733	9 942
Acute respiratory symptom day	73 292	97 167
Total	2 027 596	2 809 031

^aPopulation exposed: 1.1 million. Minimum exposure level 30 $\mu\text{g}/\text{m}^3$.

^bPopulation exposed 670 000. Exposure levels: Edmonton, 55 $\mu\text{g}/\text{m}^3$; Red Deer, 35 $\mu\text{g}/\text{m}^3$.

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