

1 Supplementary Material

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Supplemental Table 2. Effect of legislation on firearm suicides in Canada				
Study (Year)	Bill	Reported beneficial effect?	Effect of legislation ¹	Evidence of method substitution?
Mundt (1990)	C-51	No	• No perceptible effect on suicides	None reported
Rich (1990)	C-51	Yes	• No change in total suicide rate • % of male suicides by firearm decreased from mean±SE of 23.2%±1.3% to 16.2%±1.1% (difference of 7%±1.7%, $p < 0.001$)	% of male suicides by leaping increased
Carrington (1994a)	C-51	Yes	• Age-standardized total suicide rate decreased • Firearm suicide rate had a slight nonsignificant downward trend • T-test for change in slope from pre- to post-legislation was significant for firearm suicides, non-firearm suicides, and total suicides	No evidence of method substitution
Carrington (1994b)	C-51	Yes	• 9 of 10 provinces had increasing trends in total & firearm suicide rates pre-Bill C-51 • All provinces had stable or decreasing total & firearm suicide rates post-Bill C-51 • Young male firearm suicide rate decreased post-Bill C-51	No evidence of method substitution
Leenaars (1993, 1996, 1997, 2003)	C-51	Yes	• Use of firearms for suicide was decreased for those 15-65 years Interrupted time-series analysis: • Total, male, & female overall suicide rate trends decreased • Total, male, & female firearm suicide rate trends decreased Multiple regression analysis: • Firearm suicide rate and % of suicides by firearm decreased Covariates: Bill C-51, % young males, birth rate, marriage rate, divorce rate, unemployment, median family income	Non-firearm methods increased in 15-24 yr olds Non-firearm methods increased in men only Nonsignificant increasing trend for use of other methods for suicide
Bridges (2004)	C-17	Yes	• Mean firearm suicide rate decreased from 4.09 per 100,000 (SE 0.09) to 3.17 per 100,000 (SE 0.16) • Rates of firearm suicide and % of suicides using firearms decreased	Raw rate of suicide by all other methods increased. Linear regression showed nonsignificant increase in suicide rate by other methods
Caron (2004)	C-17	Yes	• Firearm suicide rate decreased significantly from 12.7 to 10.0 per 100,000 • Overall suicide rate showed a slight nonsignificant increase from 24.5 to 26.8 per 100,000 • Decreasing trend in total, male, and female suicide rates	Suicide rate by all other methods increased significantly from 11.8 to 16.8 per 100,000

Cheung (2005)	C-17	Yes	<ul style="list-style-type: none"> • No change in total suicide rate • Time series models showed significant decrease in rate of suicide by firearms 	Time series models showed significant increase in rate of suicide by hanging
Caron (2008)	C-17	No	<ul style="list-style-type: none"> • Firearm suicide rates decreased by 17% (16.8% decrease in males, 42.6% decrease in females), but downward trend was not significant when analysis included the trend in firearm suicide rate in 5 years preceding Bill-C17 • Decline in suicide rates involving firearms did not result in a parallel decline in total suicide rates 	Correlation analysis suggested replacement of firearm suicide by hanging suicide (more significant among males than females)
Gagne (2010)	C-17	Yes	<ul style="list-style-type: none"> • In males 15-34 yrs, firearm suicide rate decreased (APC -11.1) from 1996-2006 • In males 35-64 yrs, firearm suicide rate decreased (APC -5.6) from 1997-2006 • Pre/post firearm regulation Poisson regression analysis failed to detect specific point in time when significant changes in trends occurred 	Between 1981-2006, male hangings increased, replacing firearms as main method of suicide. Rates of hanging increased until late 1990s and subsequently declined
Langmann (2020)	C-17	Yes	<ul style="list-style-type: none"> • Decrease in the trend of suicide by firearm compared to hanging in males 45-59 yrs and >60 yrs • Decrease in trend of female firearm suicide rates 	Increasing trend in suicide by hanging for males 45-59 yrs and >60 yrs, and in females. Findings supported by sensitivity tests
	C-68	No	<ul style="list-style-type: none"> • After 2001, there was an increase in firearms suicide compared to hanging for males (aggregate) and specifically for males 15-29 yrs and 30-44 yrs <p>Covariates: province/territory, year, % license holders, alcohol consumption, unemployment rates, % aboriginal population, % low income persons</p>	Increasing trend in suicide by hanging for males >60 yrs. Findings supported by sensitivity tests. Sensitivity tests supported substitution effect from suicide by firearm to hanging, and not a switch to hanging from other methods of suicide
SE, standard error; ARIMA, autoregressive integrated moving average; ZA, Zivot-Andrews; APC, annual percent change.				
¹ Significance of results are reported verbatim from the original article.				