



Department of Justice  
Canada

Ministère de la Justice  
Canada

**FIREARMS RESEARCH:  
ANNOTATED BIBLIOGRAPHY  
ON SELECTED ISSUES  
(1990-1998)**

**Melissa O'Leary  
Firearms Research Unit**

**January 1999**

**FRU1999-1e**

**Canadian Firearms Centre/  
Centre canadien des armes à feu**

**Policy Sector/  
Secteur des politiques**

**Canada**



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*This present study was funded by the Canadian Firearms Centre,  
Department of Justice Canada. The views expressed herein are  
solely those of the author and do not necessarily  
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For more information on firearms research and statistics please visit our World Wide Web site at - [http://www.cfc-ccaf.gc.ca/Research/firea\\_research.htm](http://www.cfc-ccaf.gc.ca/Research/firea_research.htm).

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## **ACKNOWLEDGEMENTS**

The author wishes to thank Ms. Christina Kucharski for her contributions in updating the Firearms Research Unit (FRU) bibliographic database, and for her work in obtaining the relevant materials. In addition, the suggestions and guidance of fellow colleagues in the FRU are greatly appreciated.




## 1.0 INTRODUCTION

Interest surrounding the area of firearms has increased substantially in the last decade. Due to the vast amount of literature available to the researcher, the volume of firearms-related research may at first appear overwhelming. Not only is the quantity of literature abundant, but it emerges from a number of varied disciplines, ones which at first glance may appear divergent. Indeed, a cross-section of disciplines are evident in firearms research; criminology, sociology, public policy, psychology, and public health are among the most prominent, although not exclusive, fields.

Since most of the firearms-related research seems to emanate from the United States, identifying Canadian research can prove to be a further challenge. This annotated bibliography is designed to provide readers with a general overview of the research in specific areas, with an emphasis on Canadian research. It is intended to highlight a few of the resources available to the practitioner, to be utilized as a tool for the general public, and to provide a useful starting point for the international research audience.

This bibliography is comprised of a selection of literature from 1990 to 1998 that falls within the following categories: comparative international studies, crime/violent crime, homicide, suicide, and unintentional harms and firearm injuries. Although the focus is on Canadian research, the abundance of research from the United States prompted us to widen the scope to a slightly more North American perspective. Sources were selected from refereed journal articles, research reports, books, and papers presented at symposiums/conferences that were published at a later date.

It is also important to note that some of the articles in this collection have prompted critiques and subsequent rebuttals. Where this has been the case, we have chosen not to delineate prolonged debates. With the understanding that social science research is rarely definitive, we invite the reader to further explore the multiple facets and debates within firearms research, and to consider this bibliography a point of departure for further examinations.

As the scope of firearms research is vast, it is essential to note that none of the categories are comprehensive, but rather include a sample of articles from the various disciplines which highlight or help to inform the Canadian context. In addition, one must bear in mind that this is a *selected bibliography*, meaning that only articles within the predetermined subject categories and time-frame have been included. The chapters are organized according to subject headings, and Canadian content articles are marked with a Canadian flag . For further information, research and bibliographies, please see the Appendix which lists a number of other useful Internet sources.

In addition, there are three recommended readings for those who are interested in familiarizing themselves with firearms research and literature, particularly within the Canadian context. These are: Thomas Gabor's *The Impact of the Availability of Firearms on Violent Crime, Suicide, and Accidental Death: A Review of the Literature with Special Reference to the*

*Canadian Situation* (1994); *Firearms, Accidental Deaths, Suicides and Violent Crime: An Updated Review of the Literature with Special Reference to the Canadian Situation*, by Yvon Dandurand; and *Firearm Statistics*, by Kwing Hung (1998).

These reports, those referred to in the bibliography, as well as other departmental firearms research reports, summaries and statistics not included in this bibliography, are available for download from our Internet site. The Firearms Research Unit homepage is located at: [http://www.cfc-caf.gc.ca/Research/firea\\_research.htm](http://www.cfc-caf.gc.ca/Research/firea_research.htm).

We are continually updating our bibliographic database, and would be pleased to receive any firearms-related research. If you wish to send a submission, please mail it to: **Firearms Research Unit, Department of Justice, Canadian Firearms Centre, 284 Wellington Street, Ottawa, Ontario, K1A 0H8.**

If you would like to be added to our electronic mailing list please contact us at: [canadian.firearms@justice.x400.gc.ca](mailto:canadian.firearms@justice.x400.gc.ca), with the subject line: Research Mailing List. You can also call the toll free number at 1-800-731-4000 to provide us with your e-mail address. By doing so, you will be promptly notified of the release of new departmental firearms research reports. For more general information on Canada's gun control legislation, visit the Canadian Firearms Centre web site at: <http://www.cfc-ccaf.gc.ca/>.

## 2.0 COMPARATIVE INTERNATIONAL RESEARCH



**BARTLETT, William C. (1990).** *Gun Control Legislation in Canada, the United Kingdom and the United States.* Ottawa: Library of Parliament (Background paper, BP-233E).

Extensive gun control was adopted in Canada in 1977, and since then, advocates have been calling for greater restrictions. This paper summarizes and provides an analysis of the gun control laws in Canada, the United Kingdom, and the U.S. Where appropriate, it contrasts the provisions in the other countries with those of Canada.



**BLOCK, Richard (1997).** *Firearms in Canada and Eight Other Western Countries: Selected Findings of the 1996 International Crime (Victim) Survey.* Department of Justice Canada, Canadian Firearms Centre (WD1997-4e).

This report offers an analysis of the Canadian situation with respect to firearms ownership and victimization in comparison to eight other Western industrialized societies, using the measurements as provided by the International Crime (Victim) Survey 1996 (IC(V)S). The countries examined in this report include: England and Wales, Scotland, The Netherlands, Switzerland, France, Sweden, Austria, and the United States. Analysis of the results of the IC(V)S showed that comparatively within an international context, Canada was in the mid-range of firearms ownership. It was found that 22% of Canadian households own a firearm and nearly all of them possess at least one long gun. The most common reason given for ownership of a firearm was for hunting purposes. The author concludes by emphasizing the importance of firearms research, statistics and information gathering on an international comparative basis.



**CENTERS FOR DISEASE CONTROL (February 1997).** Rates of Homicide, Suicide, and Firearm-Related Death Among Children - 26 Industrialized Countries. *Morbidity and Mortality Weekly Report*, 46, no. 5: 101-6.

The purpose of this study was to examine the causes of death among children (0-14 years of age) in 26 developed countries, according to national health statistics. It aimed to compare patterns of violent death in the United States with that of other countries. It was found that, since 1950, the overall death rate for children in the U.S. has undergone a substantial decline, mostly due to a reduction in deaths related to unintentional injuries and physical illness. Simultaneously, childhood homicide rates tripled and suicide rates quadrupled. Internationally, the rate of childhood homicide was five times higher in the United States than all the other countries combined. In addition, gun-related homicide of children was 16 times higher than the total of all

the other countries studied; firearm suicides were 11 times more prominent; and, unintentional deaths were 9 times higher. Overall firearms deaths were 12 times greater in the United States than the combined rate of the 25 other countries.



**CUKIER, Wendy (1998). *Firearms Regulation: Canada in the International Context. Chronic Diseases in Canada, 19, no. 1: 23-5.***

The author analyses the regulation of firearms with a particular focus on Canada in the international context. It is noted that injuries and death sustained from firearms in Canada total more than 1,200 lives each year with over 1,000 hospitalizations. The author explores the relationship between access to firearms and deaths and injuries caused by firearms. Moreover, the author discusses the legislative reforms and initiatives in Canada within an international context. As well, various intervention strategies are discussed, including: reducing access to firearms, regulation, education, and engineering. Cooperation on an international and interjurisdictional basis is necessary in order to decrease the trafficking of illegal firearms.



**GABOR, Thomas (July 1997). *Firearms and Self-Defence: A Comparison of Canada and the United States. Department of Justice Canada, Canadian Firearms Centre (WD1997-3e).***

The purpose of this study was to present a comparison of Canada and the United States regarding the use of firearms for self-defence. The report includes a number of comparisons, such as the levels of ownership in the two countries, the extent of self-protective uses of firearms, misuse of firearms, and public attitudes. In addition, this analysis examines the constitutional, legislative, political and historical differences pertaining to firearms and self-defence.



**JACOBS, Scott (1995). *Toward a More Reasonable Approach to Gun Control: Canada as a Model. New York Law School Journal of International and Comparative Law, 15, no. 2&3: 315-43.***

This article offers an historical analysis of the evolution of both Canadian and American firearms legislation. The author explores the early historical roots, constitutional development, gun regulations and relative case law of both countries. The author also engages in a comparative analysis of statistics concerning gun ownership, homicides, suicides, accidental deaths, and self-protection. Furthermore, the author offers several proposals that American legislators could adopt, based upon the Canadian model of gun control.



**KILLIAS, Martin (May 1993). International Correlations Between Gun Ownership and Rates of Homicide and Suicide. *Canadian Medical Association Journal*, 148, no. 10: 1721-5.**

This article offers an analysis of data on firearms availability collected by the International Crime Victim Survey (IC(V)S) in 1989. In total, 11 countries including Canada, Australia and the United States participated. With respect to gun ownership, it was found that Canada's rate was 29%, third only to the U.S. and Norway. As well, results showed strong correlations between the rate of household gun ownership and both the rates of homicide and suicide committed with a gun. In the relative absence of guns in the low-ownership countries, it was also found that there was no apparent substitution to other types of weapons. The author concludes by suggesting areas of future examination and stressing the importance of timely research.



**KOPEL, David (1992). *The Samurai, the Mountie and the Cowboy: Should America Adopt the Gun Controls of Other Countries?* Buffalo: Prometheus Books.**

In this book, Kopel examines the gun control policies of eight foreign countries that are frequently discussed as possible role models for the United States. The countries examined include: Japan, Great Britain, Canada, Australia, New Zealand, Jamaica, and Switzerland, with a chapter being devoted to each country. The laws are examined within a historical, legal and cultural context. In addition, the author addresses the evidence regarding the efficacy of firearm regulations, and the role of the nation's firearm laws in defining the relationship between the citizens and their government. It is concluded that firearm control policies are developed within a distinct context and cannot work in other countries. Finally, in analyzing the firearm policies in the United States in comparison foreign firearm regulations, the author puts forth proposals for an American firearms policy.



**KRUG, EG., KE POWELL and LL DAHLBERG (April 1998). Firearm-Related Deaths in the United States and 35 Other High-and Upper-Middle-Income Countries. *International Journal of Epidemiology*, 27, no. 2: 214-21.**

This article offers an analysis of occurrences of firearm-related deaths utilizing a cross-national study of 36 countries. The authors devised a methodology that separated the countries into high-income (HI) and upper-middle-income (UMI) with populations over one million. The authors found that during the one-year period studied, 88,649 firearm deaths were recorded. Moreover, the incidence of firearms-related deaths in the Americas was significantly higher than any other geographic region; for example, the firearm death rate was 95 percent higher in the Americas than in Asia. Furthermore, they also found that a majority of firearm deaths were suicides at 71% in HI countries, and homicides at 72% in UMI countries. The authors conclude that there is a great

deal of variance amongst the nations studied, and that further research is required to investigate risk factors which may aid in developing prevention techniques.



**LESTER, David (1990). The Availability of Firearms and the Use of Firearms for Suicide : A Study of 20 Countries. *Acta Psychiatrica Scandinavica*, 81, no. 2: 146-7.**

The author used an indirect measure of gun availability (the percentage of firearm homicides) in 20 countries to determine the relationship between gun availability and the rates of both overall suicide and firearm suicide. Data were collected for the year 1980 from such countries as Australia, Austria, Belgium, Canada, Finland, France, Hungary, Israel, Italy, Japan, Norway, Scotland, U.S., and Venezuela. The results showed there was a positive association with the suicide rate using firearms, and a negative association with suicide by other means. Where guns were less available, however, and if one does not choose another means, or switches to a less lethal means, restrictions on the availability of firearms may have some effect on reducing the rate of suicide.



**MAUSER, G. and M. MARGOLIS (1992). The Politics of Gun Control: Comparing Canadian and American Patterns. *Government and Policy*, 10: 189-209.**

The purpose of the article is to explore the extent to which public opinion regarding firearms control differs between Canadians and Americans; and relatedly, the extent to which this difference may explain the development of more stringent firearm control laws in Canada. It is stated that public opinion pertaining to gun control and firearms is quite similar in the two countries. The authors analyze factors underlying support and opposition towards more stringent gun control. The results of the analysis indicate that cultural differences between the two countries are outweighed by socio-economic factors (i.e., gun ownership and gender). Since there is little difference in public opinion between the two countries, it is suggested that stringent Canadian gun control has more likely been a product of institutions and political elites rather than public attitudes. Therefore, public opinion itself cannot explain the clearly contrasting legislation in these two countries.



**NAY, Robert L. ed. (1994). *Report for Congress- Firearms Regulation: A Comparative Study of Selected Foreign Nations*. Law Library - United States Library of Congress.**

This study examined firearm regulations in the following countries: Australia, Canada, China, the Czech Republic, the Federal Republic of Germany, France, Great Britain, Greece, India, Israel, Japan, Malaysia, Mexico, the Netherlands, Poland, South Africa, Sweden and Switzerland. The study found that eight of these countries have a federal form of government and four of these regulate firearms at this level (Canada, India, Mexico and South Africa). Among other indicators, this study includes a comprehensive review of firearm laws in each country (including licensing obligations), statistics on misuse, an overview of prohibited weapons, and penalties for firearm offences. A summary of the current status of firearm regulations or laws is also presented for each country.



**RAM, Christopher (1995). *Living Next to the United States: Recent Developments in Canadian Gun Control Policy, Politics, and Law*. *New York Law School Journal of International and Comparative Law*, 15, no. 2&3: 279-313.**

This article offers a comparative analysis of Canadian and American gun control policy, politics, and law. The author examines the historical roots of Canadian gun control legislation, specific Canadian policy requirements such as the Firearms Acquisition Certificate (FAC), and the role of the Constitution in terms of gun control policy. Furthermore, the various cultural and political differences between the United States and Canada are reviewed. The author also evaluates the possible impact that American legislation may have upon Canadian gun policy.



**RESEARCH, STATISTICS AND EVALUATION DIRECTORATE (April 25, 1995). *A Review of Firearm Statistics and Regulations in Selected Countries*. Department of Justice Canada.**

The Research and Statistics Section undertook this study in early 1995 to provide a brief overview of firearm statistics and regulations in seven selected countries (Australia, New Zealand, Japan, Switzerland, Britain, France, and the United States). The report includes statistics on firearm suicide, homicide, accidents and levels of firearm ownership. In addition, an overview of firearm regulations and recent developments in the countries are provided.



**UNITED NATIONS, Publisher (1998). *United Nations International Study on Firearm Regulation*. New York: United Nations Publication.**

This study was conducted following the recommendation of the Commission on Crime Prevention and Criminal Justice and on request from the Economic and Social Council. The study covers four topic areas including: firstly, criminal cases, accidents and suicides in which firearms are involved, including the number of such cases and number of victims involved; secondly, the situation with regard to intercontinental illicit trafficking in firearms; thirdly, national legislation and regulations relevant to firearm regulation; and finally, relevant initiatives for firearm regulation at regional and other levels. A total of sixty-nine Member States responded to the in-depth questionnaire, comprising 74% of the world's population (4.2 billion people), representing a cross-section of industrialized and developing countries and countries in transition. The study found that many countries have taken similar approaches to the regulation of firearms. For example, the majority of countries regulate firearms in some manner through restrictions and prohibitions on specific types of firearms. In addition, more than half of the countries had recently amended their legislation or administration regarding civilian firearms ownership.

### 3.0 CRIME AND VIOLENT CRIME

**ALPERS, Philip and Reece WALTERS (April 1998). Firearms Theft in New Zealand - Lessons for Crime and Injury Prevention. *The Australian and New Zealand Journal of Criminology*, 31, no. 1: 85-95.**

Approximately 1 million firearms are owned by 200,000 licensed shooters in New Zealand, representing about 5.5% of the population. The number of guns in New Zealand is 9 times higher per capita than in England and Wales and 20% higher than in Australia. This three year study of firearm theft in New Zealand found that unsafe storage of firearms by licensed owners is a predominate problem and that it is a public health risk. The authors conclude that the unsafe storage of firearms, and resulting thefts, is exacerbated by a lack of police enforcement and insufficient government involvement in developing firearm education policies.

**ASH, Peter, Arthur L. KELLERMANN, Dawna FUQUA-WHITLEY and Amri JOHNSON (June 1996). Gun Acquisition and Use by Juvenile Offenders. *Journal of the American Medical Association*, 275, no. 22: 1754-1758.**

The purpose of this study was to examine specific characteristics regarding gun acquisition by youth, including how, when, where and for what purposes juveniles acquire firearms. This was facilitated through interviews with incarcerated juvenile offenders aged 13 to 18 years. The results indicated that the average age of these American offenders was 15.7 years. Out of 63 respondents, 41 male and 12 females had owned a gun. Of these, eighty-four percent of gun carriers had obtained their gun before they were 15 years old, and more than half had passively received the firearm, without having any specific plan to do so. Those who had purposefully acquired their firearm were more likely to be habitual carriers. According to the youths, they feel safer, excited, energized or powerful when carrying a gun; although, about a third of the respondents reported being anxious about being caught. The youths widely reported that firearms are easily available through a number of sources. The authors concluded that further knowledge about the patterns and reasons for gun carrying among juvenile offenders could be beneficial in designing programs to reduce firearms misuse.



**AXON, Lee and Sharon MOYER (December 1994). *An Exploratory Study on the Use of Firearms in Criminal Incidents in Toronto*. Department of Justice Canada (WD1994-19e).**

This descriptive study focused on firearm-related homicide and robbery in Metro Toronto. It also examined other incidents which led to police seizures of firearms. Through an analysis of the investigative files of police, where possible, information was collected regarding the circumstances of the incident, such as the type of firearm involved, whether it was legally possessed, background of the offender, and the charges laid. It was noted that this study was the first of its kind, and was

an important step in ascertaining the types of information that could be gathered retrospectively from police records, thereby informing future research pertaining to firearm-related crimes.

**LOTT, John R. Jr. (1998). *More Guns, Less Crime: Understanding Crime and Gun Control Laws*. Chicago: University of Chicago Press.**

The purpose of this study was to determine whether laws allowing people to carry guns deters violent crime, or whether it causes citizens to harm themselves and/or others. Specifically, the author aimed to explore the relationship between different rates of property and violent crime with gun regulations, arrest and conviction rates, and the demographic and socio-economic characteristics of counties and states. The study examined all 3,054 counties in the United States, utilizing crime statistics from the Federal Bureau of Investigation. At the time of the study, 31 states granted their citizens the right to carry concealed handguns on a “shall-issue” basis. The results indicate that allowing citizens to carry concealed weapons deters violent crime. States which adopted shall-issue laws reduced murder by 8.5%, rape by 5%, aggravated assault by 7% and robbery by 3%. Although rates of violent crime seemed to decrease in states with “right to carry” laws, rates of property offences appeared to increase. This book is partially based on an earlier study that was co-authored by David Mustard.

**CUMMINGS, Peter, Thomas D. KOEPESELL, David C. GROSSMAN, James SAVARINO and Robert S. THOMPSON (June 1997). *The Association Between the Purchase of a Handgun and Homicide or Suicide*. *American Journal of Public Health*, 87, no. 6: 974-8.**

This study aimed to assess whether or not the purchase of a handgun from a licensed dealer is correlated with an increased risk of homicide or suicide and if the association is related to the interval since purchase. The risk for suicide was 1.9 times higher for individuals with a history of family handgun purchase from a registered dealer; for homicide the risk was 2.2 times greater. The elevated risk levels for both suicide and homicide persisted for more than five years after the purchase of a handgun. It is suggested that the purchasing of a legal handgun is related to a long term elevated risk of violent death.



**DANDURAND, Yvon (September 1998). *Firearms, Accidental Deaths, Suicides and Violent Crime: An Updated Review of the Literature with Special Reference to the Canadian Situation*. Department of Justice Canada (WD1998-4e).**

The purpose of this report was to conduct a review of the literature pertaining to issues related to civilian firearm ownership, with particular respect to the Canadian situation. The review included an examination of the extent and purpose of firearm ownership in Canada, firearm deaths and injuries, firearm suicides, violent crime, accidents, self-protection, and the manners in which firearm regulation may reduce firearm misuse. In addition, the author identifies gaps in knowledge, in order to suggest areas of future research. This report follows a similar review

conducted for the Department by Thomas Gabor (1994) which covered the period up to 1993; the updated review focuses on studies published from 1990 to 1997.



**DANIEL ANTONOWICZ CONSULTING (July 1997).** *Firearms Recovered by Police: A Multi-Site Study.* Department of Justice Canada, Canadian Firearms Centre (TR1997-6e).

This study examined the number and types of firearms recovered in five police jurisdictions in 1995 involving both non-criminal and criminal incidents. Particularly, incident-file reviews were conducted in order to determine the types of firearms recovered, circumstances surrounding the incident and other pertinent information. The investigation was conducted as a joint research project with the Department of Justice Canada, and police services in Saint John (New Brunswick), Hull (Quebec), Thunder Bay and Windsor (Ontario), and Regina (Saskatchewan).



**GABOR, Thomas (1994).** *The Impact of the Availability of Firearms on Violent Crime, Suicide and Accidental Death : A Review of the Literature with Special Reference to the Canadian Situation.* Department of Justice Canada (WD1994-15e).

This report was designed to provide policy-makers and the interested public with a comprehensive review of the firearms research literature. The report includes research studies that have arisen from various countries and different professional disciplines. Studies were organized in the report according to the major forms of firearms misuse that have been addressed by researchers, including violent crime, suicide, and accidents. Additional categories of research included the preventive effects of gun ownership, and the impact of firearm misuse



**HUNG, Kwing (1999).** *Firearm Statistics.* Department of Justice Canada, Research, Statistics and Evaluation Directorate.

This report contains a series of updated firearm statistics from the 1970's to present, including the most recent data available as of January 1999. Sources include the RCMP, the Canadian Centre for Justice Statistics, and other divisions within Statistics Canada. The report is updated annually and includes statistics pertaining to the following categories: import and export of firearms; firearm permits (business, restricted weapon and minor's); restricted weapons; firearms missing/lost/stolen; firearm acquisition certificates; firearm prohibitions; firearm deaths; firearm homicides (including gender, age, and firearm-type break-downs); firearm robberies; firearm suicide and accidents; hospitalization due to firearm injuries; and, offensive weapon offences.

**KELLERMANN, Arthur, Lori WESTPHAL, Laurie FISCHER and Beverly HARVARD (June 1995). *Weapon Involvement in Home Invasion Crimes. Journal of the American Medical Association, 273, no. 22: 1759-62.***

This study aimed to examine the nature of home invasion crimes and to assess the frequency of the self-defensive use of firearms by victims. A total of 195 cases were examined for this study. It was found that intruders gained forced entry in half of the cases and that the victim and offender knew each other in a third of the cases. The offender fled before confronting the victim in 42% of the cases. Victims who did not confront the offender were less likely to be injured but more likely to lose property. Of the reported weapons involved, 17% of offenders carried a firearm, and 3.5% carried knives. Victims were injured in 40% of the cases, and firearms were involved in 3% of these; however, no deaths resulted from these crimes. It was found that three victims (1.5%) used a firearm for self-defence - none of these victims were injured, although one lost property. It is concluded that injury only results from a small proportion of home invasion crimes. As well, it is indicated that prevention programs should attempt to make entry more difficult and to increase the chance of detection. Although self protection is often cited as a reason for firearm ownership, firearms are not often used for this purpose.

**KLECK, Gary (1997). *Targeting Guns: Firearms and Their Control*. New York: Aldine de Gruyter.**

This book assesses, through a comprehensive research review, the evidence of a relationship between firearms, violence, and gun control. The author reviews the literature, as well as offers his own analyses of the issues and research. He examines original research, along with reviews, within a number of academic disciplines. Topics covered in the book include: illegitimate research practices, firearm ownership and acquisition, special gun types, self-defensive use of firearms, gun carrying, violent crime, suicide, accidents, public opinion and the impact of firearm regulations. This work updates the author's earlier publication, *Point Blank: Guns and Violence in America* (1991).

**KLECK, Gary and Miriam DE LONE (1993). *Victim Resistance and Offender Weapon Effects in Robbery. Journal of Quantitative Criminology, 9, no.1: 55-81.***

This article aimed to examine the impact of victim resistance in robberies. National Crime Surveys from 1979 to 1985, including 4500 sample robberies were analysed in order to ascertain various types of victim resistance. The likelihood of a robbery being completed is reduced when any form of self protection is utilized. Resistance with a firearm is the most effective type of armed resistance, although all types of armed resistance are more effective than resistance without a weapon. The least likely scenario of victim injury occurs where the victim resists with a firearm, although resistance is more likely to lead to injury where the victim resists without a weapon, or uses attention-getting techniques (i.e., attempting to call attention to the situation, or scaring the offender away). In turn, the possession of a firearm by the offender seems to lower the likelihood of victim resistance, and therefore is less likely to result in victim injury. Unarmed robbers are least likely to complete robberies, those who are armed are more likely to complete the crime, and robbers armed with handguns are the most successful.

**KLECK, Gary and E. Britt PATTERSON (1993). The Impact of Gun Control and Gun Ownership Levels on Violence Rates. *Journal of Quantitative Criminology* 9, no. 3: 249-87.**

In order to study the effects of gun control restrictions and gun prevalence on rates of violence and crime, data were gathered for all U.S. cities with a population of at least 100,000 in 1980. The 170 cities were coded based on the presence of 19 major categories of firearm restrictions, including state and city regulations. It was found that: the prevalence of firearms has no general bearing on overall rates of violence, possibly excepting suicide; the self-defensive ownership of firearms seems to be a reaction to higher rates of homicide, gun assault and rape; firearm control laws do not reduce the prevalence of guns in U.S. cities; and finally, that violence rates do not appear to be affected by most gun control restrictions. However, some components of gun control do appear to be effective - all of them moderate, popular, and inexpensive. There is support, for example, for a gun control policy organized around gun owner licensing and purchase permits, more stringent dealer licensing, ownership restrictions on mentally ill people and criminals, illegal carrying, and additional penalties for gun crimes. However, restrictions such as waiting periods and gun registration do not seem to impact violence rates.

**O'DONNELL, Ian and Shona MORRISON (August 1997). Armed and Dangerous? The Use of Firearms in Robbery. *The Howard Journal*, 36, no.3: 305-319.**

The rates of armed robbery have risen dramatically in England and Wales in recent years. This study aims to examine the characteristics associated with such crimes, such as the type of firearms involved and whether or not it was real and loaded, along with the potential lethality of firearms in such instances. Interviews with convicted robbers and police records are the main sources of information. The authors hope to contribute to a greater understanding of firearm use in crimes and to further the range of possible prevention responses.



**PROACTIVE INFORMATION SERVICES (February 1997). *Firearms Homicide, Robbery and Suicide Incidents Investigated by the Winnipeg Police Service (1995)*. Department of Justice Canada, Canadian Firearms Centre (WD1997-1e).**

This study was designed to inform policy makers and law-enforcement personnel of the type of firearms and firearm incidents that are encountered by police in Winnipeg. It included a review of the Winnipeg Police Service's firearm incident files and property room files, with a focus on firearm-related homicides, robberies and suicides. The study found that in 1995, the Winnipeg Police Service responded to 1,692 incidents which were identified to be firearm related. A random sample revealed that the most common types of firearms encountered by police were non-restricted rifles and shotguns. In criminal incidents, 51% of the firearms seized or recovered were non-restricted rifles and shotguns, while only 12% were handguns. Sixty percent of the firearms recovered in non-criminal incidents were rifles and shotguns. In cases of suicide and attempted suicide, 82% of the firearms recovered were non-restricted rifles and shotguns.

**SALTZMAN, Linda E., James A. MERCY, Patrick W. O'CARROL, Mark L. ROSENBERG and Philip H. RHODES (June 1992). *Weapon Involvement and Injury Outcomes in Family and Intimate Assaults. Journal of the American Medical Association, 267, no. 22: 3043-7.***

The purpose of this study was to compare the risk of death and the risk of nonfatal injury during firearm-associated family and intimate assaults (FIAs) with the risks during non-firearm-associated FIAs. Incident reports from the Bureau of Police Services for the city of Atlanta, for 1984, were reviewed to identify fatal and non-fatal FIAs. Victim outcomes (death, nonfatal injury, no injury) and weapon involvement were examined for incidents involving one perpetrator. The authors found that firearm-associated FIAs were 3 times more likely to result in death than FIAs involving knives or other cutting instruments, and 23.4 times more likely to result in death than FIAs involving other weapons or bodily force. Overall, firearm-associated FIAs were 12 times more likely to result in death than non-firearm-associated FIAs. Since many investigators believe that family and intimate assaults (FIAs) are often the impulsive results of violent arguments rather than premeditated acts, the authors conclude that for such FIAs, access to lethal weapons may be an important determinant of the incident's outcome. Thus, reducing firearm access of potential FIA assailants to firearms and reducing firearm lethality through redesign represent potentially effective prevention strategies. Simultaneously, efforts to reduce the overall incidence of FIAs through primary prevention must be expanded.

**ZIMRING, Franklin E. (November 1991). *Firearms, Violence and Public Policy. Scientific American, 48-54.***

This article offers an analysis of the debate surrounding firearms, violence, and public policy as it pertains to gun control. The author states that the key issue concerning the control of firearms is whether the death rate from violence would diminish if firearms were not an available weapons option. The author found that death from criminal violence is strongly associated with the dangerousness of the weapon. Furthermore, concerning the misuse of firearms it was found that the percentage of firearm-related crimes is related to the number of gun owners in that particular area. In addition, a 1970's study by the Bureau of Alcohol, Tobacco and Firearms on handguns confiscated on the streets, found that handguns have a higher probability of misuse during the first few years after the gun enters the civilian market. The author concludes by stating that although a great deal of Americans believe that the costs outweigh the benefits of gun control, many also see the easy availability of handguns as a threat to the perceived peace of urban life.

#### 4.0 HOMICIDE

**ALPERS, Philip and Barbara MORGAN (1995). *Firearm Homicide in New Zealand : Victims, Perpetrators and their Weapons - 1992-1994*. Presented at the National Conference of the Public Health Association of New Zealand, Knox College, Dunelin, June 28, 1995.**

The objective of this study was to test the hypotheses that firearm homicide in New Zealand is most commonly committed: (1) by individuals without firearms licences; (2) by violent criminals and the mentally ill; and (3) with illegal weapons. The authors examined the firearms license status and mental and criminal history of all perpetrators involved in a firearm homicide between 1992 and 1994, as well as the legal status of the firearms they used. The location of the shooting, its motivation and the relationship between perpetrator and victim were also examined, as well as the type and origin of the firearms involved, and the method of storage used by the owner. The results of the study revealed that most victims were killed by a licensed gun-owner, while 62.5% (and ten out eleven female victims) were killed with a legal firearm from the collection of a licensed gun-owner. Almost all victims (95%) were killed by an acquaintance; half were shot by their partner or a family member. Of all the victims, 63% were shot during family violence, 91% of these with a legal firearm. Of the perpetrators, 82% had no predictive history of violent crime, while none had a history of mental illness. According to the authors, these results contradict the suggestion that efforts to reduce firearm violence should be directed only at "criminals and the mentally ill", rather than "law-abiding gun-owners".

**BLACKMAN, Paul H. (May 1997). *A Critique of the Epistemologic Study of Firearms and Homicide. Homicide Studies 1, no. 2: 169-89.***

Firearm violence, especially homicide, has been a growing focus of epidemiological research among public health officials. This study aims to examine the extent to which epidemiological research has utilized proper epidemiology methods, primarily relying upon two of leading medical journals which publish most extensively in this area. It was found that most of the studies did not conform to the basic methodological standards in at least one manner.

**CENTERS FOR DISEASE CONTROL AND PREVENTION (August 1994). *Firearm-Related Years of Potential Life Lost Before Age 65 Years - United States, 1980-1991. Morbidity and Mortality Weekly Report, 43, no. 33: 609-16.***

In the United States, suicide and homicide combined represented the third leading cause of years of potential life lost before age 65 in 1991. Sixty percent of suicides, and 67.8% of homicides were due to firearms, compared to less than 2% of unintentional injury deaths. During the late 1980's, among adolescents and young adults, firearm-related death rates increased. In order to analyze trends in premature firearm-related mortality, yearly mortality data were analyzed for the years 1980-1991. This study outlines the findings of the analysis.



**CENTERWALL, Brandon S. (1991). Homicide and the Prevalence of Handguns: Canada and the United States, 1976 to 1980. *American Journal of Epidemiology*, 134, no. 11: 1245-1260.**

This study attempts to determine whether major differences in the prevalence of handguns are associated with differences in the criminal homicide rate. The prevalence of handguns and the rate of criminal homicide and aggravated assault are measured in Canadian provinces and adjoining U.S. states for the years 1976 to 1980. Estimates for both countries of privately owned handguns are based on national household surveys. For those states and provinces along the Canada-U.S. border, estimates for the late 1970's indicate there were 4 to 10 times as many handguns per 1,000 population and 3 to 10 times more handguns per 100 households in the United States. Prevalence of rifles and shotguns, in contrast, are approximately equal. It was found that adjoining U.S. states and Canadian provinces have similar rates of criminal homicide, even though the prevalence of handguns is greater in U.S. border states. Alternative explanations are considered; however, it is concluded that each society shares equal rates of aggravated assault, and therefore have similar propensities for violence. Even though handguns are less prevalent, Canadians will commit their assaults using other means that are generally as lethal as handguns.



**DANSYS CONSULTANTS INC. (March 1992). *Domestic Homicides Involving the Use of Firearms*. Department of Justice Canada (WD1992-20e).**

This study had two main objectives: to identify common factors in cases of firearm-related domestic homicide, and to examine the manner in which this information might be applied in order to help prevent such incidents. The study includes a brief literature review, an examination of historical trends since 1975 and a survey of police officers involved in the investigation of all domestic homicides involving a firearm during 1989 and 1990. The study indicated that factors associated with firearm-related domestic homicide include: a history of violent disputes (however, in the majority of these disputes the police do not have previous knowledge); a history of substance abuse; drunkenness; an existing criminal record; separation or pending separation; and, employment and financial problems. Likewise, firearm-related domestic homicides may be targeted through provisions regarding the issuance of firearms acquisition certificates, search and seizure powers, and prohibition orders.

**KELLERMANN, Arthur L., Frederick P. RIVARA, Norman B. RUSHFORTH, J.G. BANTON, D.T. REAY, J.T. FRANCISCO, A.B. LOCCI, J. PRODZINSKI, B.B. HACKMAN and G. SOMES (October 1993). Gun Ownership As A Risk Factor For Homicide In The Home. *The New England Journal of Medicine* , 329, no. 15:1084-1091.**

This study examines the relationship between homicide in the home and gun ownership, using the case-control method. The authors reviewed all homicides which occurred in the home from 1987 to 1992, in three counties of three states: Tennessee, Washington and Ohio. The study population included victims of homicides within a given time frame, and excluded those cases involving children 12 years of age and younger. Reports made at the crime scene by medical examiners or the police were reviewed in order to describe the case subjects. Interviews were held with a case proxy to validate information concerning the victim. Controls were then matched to case subjects, according to sex, race, age and neighborhood of residence. When possible, proxies were interviewed in addition to the control subjects. Control subjects varied in the degree to which they matched case subjects. Interview data were used for risk assessment and included items drawn from the Short Michigan Alcoholism Screening Test, the Hollingshead-Wilson two-factor index of social position and a 1978 poll of gun ownership. Although several threats to validity are pointed out, it was concluded that keeping a firearm in the home is independently associated with homicide. Most of the homicides in the home involved a family member or intimate acquaintance. The data indicated that the use of illicit drugs and history of physical fights in the home increased the risk of homicide. Evidence of a protective effect of keeping a gun in the home was not supported.



**LEENAARS, Antoon, and David LESTER (1996). Gender and the Impact of Gun Control on Suicide and Homicide. *Archives of Suicide Research*, 2, 223-234.**

There is a hypothesis that restricting the availability of various methods of suicide may control lethal violence, including both suicide and homicide. It was found that guns are a preferred method of violence in a number of countries. The author examines the impact of gun control laws on the use of firearms for suicide and homicide by referring to *Canada's Criminal Law Amendment Act of 1977 (Bill C-51)*, given royal assent in 1978. Utilizing official mortality statistics it was found that after the enactment of Bill C-51, there was an overall decrease in the usage of firearms for suicide and homicide; in turn, there was an increase in the use of other methods for the purpose of homicide and suicide. Furthermore, it was also found that the bill had an effect solely on female suicide and homicide without displacement. Methods and strategies for prevention are also discussed in the article.



## 5.0 SUICIDE

**ADAMEK, M.E. and M.S. KAPLAN (1996). The Growing Use of Firearms by Suicidal Older Women, 1979-1992: A research note. *Suicide and Life Threatening Behavior*, 26, no. 1: 71-78.**

Using national mortality data from 1979 to 1992, this study found an increase in the rates of suicide amongst older women, aged 65 years and older. Rates for women under this age group displayed a declining trend. During the period covered in this study, firearms displaced poisoning as the most frequent method of suicide by women in this range. These findings point to the importance of familiarity, cultural acceptability, and availability in the choice of suicide method. Although firearms are most often perceived as a problem affecting young men in the United States, these findings suggest that increased vigilance of the role of firearms in suicides among older women might be appropriate.



**ALDRIDGE, David and Kimberly ST-JOHN (1991). Adolescent and Pre-Adolescent Suicide in Newfoundland and Labrador. *Canadian Journal of Psychiatry*, 36, no. 6: 432-436.**

This study examined suicide rates for victims aged 10 to 19 in Newfoundland and Labrador from 1977 to 1988. It is the first study of suicide in the province to use the records of death from all eight hospital pathology departments and the office of the Chief Forensic Pathologist. Sixty-three deaths were classified as suicide, producing a suicide rate for the entire province of 4.37 per 100,000. This rate was lower than the official figures for Canada but higher than those reported in earlier Newfoundland studies. The rate for males was nearly five times the female rate, and the rate for 15 to 19 year olds was nearly six times that of those aged 10 to 14. Suicide rates for Native and non-Native adolescents were higher in Labrador than in the Island of Newfoundland. Extremely high rates of suicide were found among the Native population living in Northern Labrador, while none were recorded for Native people elsewhere. Firearms accounted for 54% and hanging for 33% of all suicides; overdose, falls and drowning accounted for the remainder. Hanging and firearms were used more often by males than females. Only 36 of the 63 deaths included in this study were identified as suicide on the death certificate. The reasons for under-reporting are discussed. Among other things, the authors believed that underestimates of suicide rates might result from the lack of a standardized definition of suicide.



**AVIS, S.P. (1996). Suicide in Metropolitan St. John's: 1988-1994. *Canadian Society of Forensic Scientists Journal*, 29, no. 3: 119-125.**

This study examines the suicide rate in the Metropolitan St. John's area between the years 1988-1994. For each of the suicides examined, the age, sex, method of suicide, alcohol and drug abuse, presence of a suicide note, location of the suicide, and the month of the year the suicide occurred was noted. The study found that of the 117 suicides, a majority were male, commonly between the ages of 31-40. The most popular method of suicide for males was a firearm, while the most common for females was drug overdose and hanging.

**BRENT, David A., Joshua A. PERPER, Grace MORITZ, Marianne BAUGHER, Joy SCHEERS and Claudia ROTH (October 1993). Firearms and Adolescent Suicide. *American Journal of Diseases of Children*, 147, 1066-1071.**

This article examines firearms and adolescent suicide. The researchers conducted a comparative analysis between the presence, type of gun (long gun vs. handgun), number, method of storage (locked vs. unlocked, loaded vs. unloaded), and the suicide victims and controls. The researchers found that the relationship between suicide and both types of gun, were high and significant. Furthermore, long guns in the home tended to be only associated with suicide in rural areas; whereas, handguns were predominantly associated with suicide in urban areas. The authors concluded that pediatricians who encounter a suicidal adolescent should request that firearms be removed from the youth's home.



**CARRINGTON, Peter J. and Sharon MOYER (1994). Gun Availability and Suicide in Canada: Testing the Displacement Hypothesis. *Studies on Crime and Crime Prevention*, 3, 168-178.**

The opportunity theory underlying situational crime prevention suggests that the availability of guns affects the frequency of their use in suicide. However, the displacement hypothesis predicts that reductions in the availability of one means of suicide simply results in displacement of suicidal intent to other means - with no overall reduction in the suicide rates. This research examines the displacement hypothesis using Canadian data and two designs: regression analysis of regional variations in gun ownership and suicide rates. Furthermore, it examines an interrupted time series analysis of suicide rates before and after the 1977 amendments to the federal gun control law. This law introduced major new restrictions on the purchase, ownership, storage, and use of guns. Both tests found positive associations between gun availability and gun suicide rates, and no evidence of displacement to other methods. This suggests that a decreased availability of guns may lead to reductions in overall suicide rates.



**GILLESPIE, Michael, Valerie HEARN, and Robert A. SILVERMAN (1998). Suicide Following Homicide in Canada. *Homicide Studies*, 2, no. 1: 46-63.**

This document offers an analysis of suicide following homicide in Canada, utilizing national data where homicide offenders committed suicide. It was found that the homicide offenders committed suicide in about 10% of the cases. The data in this particular study was based on homicides committed by Canadian males between the years 1961 and 1983. The researchers found that the closer the connection between the offender and victim, the more likely it is that the offender will commit suicide. Moreover, the likelihood of suicide rises with the offenders's age and level of education, the use of a firearm, and gender (female).

**HINTIKKA, Jukka, Johannes LEHTONEN and Heimo VIINAMAKI (1997). Hunting Guns in Homes and Suicides in 15-24-year-old Males in Eastern Finland. *Australian and New Zealand Journal of Psychiatry*, 31, no. 60: 858-861.**

This article offers an analysis of the relationship between firearm ownership, the presence of guns in the home, use of psychiatric services and suicides of 15-24 year old males in Eastern Finland. The authors found that the suicide rate for males within the age category of 15-24 was 51 per 100 000. Of these, 62% were committed using a firearm. Moreover, it was found that 72% of the firearm suicides were committed with a licensed hunting gun. The authors also offer various other statistical findings on suicides with respect to the location and registration status of the firearm. The authors conclude that the availability of hunting guns in homes allows for easy access to a highly lethal method of suicide; this likely accounts for the high suicide rate of 15-24 year old males in Eastern Finland.

**KAPLAN, Mark S. and Olga GELING (1998). Firearm Suicides and Homicides in the United States: Regional Variations and Patterns of Gun Ownership. *Social Science and Medicine*, 46, no. 9: 1227-33.**

The United States is first amongst industrialised countries in terms of rates of firearm suicide, homicide and ownership. The purpose of this study was to compare rates of firearm availability with firearm homicide and suicides for four gender-race groups residing in nine geographic areas in the United States. The geographic divisions were analysed using data from the National Center for Health Statistics Mortality Details Files (1989-1991), the 1990 census population estimates and General Social Surveys (1989-1991). In order to test for method substitution, similar examinations were conducted on non-firearm suicide and homicide. The authors conclude that a reduction in the overall level of gun availability may lower the risk of firearm-related injuries and deaths.

**KELLERMANN, Arthur L., Frederick P. RIVARA, Grant SOMES, Donald T. REAY, Jerry FRANCISCO, Joyce GILLENINE BANTON, Janice PRODZINSKI, Corinne FLIGNER and Bela HACKMAN (August 1992). Suicide in the Home in Relation to Gun Ownership. *The New England Journal of Medicine*, 327, no. 7: 467-72.**

To determine whether access to firearms increases the risk of suicide, a population-based, case-control study in two metropolitan counties (in Tennessee and Washington) which differed in geography and demographics was conducted. Any death ruled as a suicide that occurred in the home between August 23, 1987 and April 30, 1990 was included in the study. Data were collected from reports made at the scene of death and from interviews with proxies for the victims. According to the analysis, firearms were found to be the most common method of suicide. Slightly more than half (51%) of all suicides in the home in King County involved a firearm, as did 73 percent of those in Shelby County. Handguns were used in 72 percent of firearm suicides. In four out of every five such suicides, the gun had been kept in the victim's home. Results supported the hypothesis that the ready availability of guns increases the risk of suicide in the home. Homes with handguns and guns that were not locked or were kept loaded were at greater risk than homes in which the firearm was securely stored.



**LEENAARS, Antoon A. and David LESTER (1998). The Impact of Gun Control on Suicide: Studies from Canada. *Archives of Suicide Research*, 4, 25-40.**

There has been a hypothesis put forth that the method of reducing and preventing suicide is through tougher restrictions on the available methods for committing suicide. This paper examines the effect that Canada's Bill C-51 (1977 legislative amendment to the gun control law) had upon the rate of suicide using firearms. The authors examine such factors as age and sex while exploring the effects of the legislation. The authors conclude that despite the fact that gun control may have an effect, further examination is justified.



**MOYER, Sharon and J. CARRINGTON (July 1992). *Gun Availability and Firearms Suicide*. Department of Justice Canada (WD1993-3e).**

This report was designed to examine the factors related to firearm suicides and suicides using alternate methods. In addition, it analysed the relationship between firearms ownership and firearm suicide rates in each province, and also examined the effects of the 1977 gun control amendments (Bill C-51) on suicide rates. Three research strategies were employed, including a literature review, a secondary analysis of vital statistics and coroners data, and an examination of primary data (from a random sample of suicides in Ontario).



**SAKINOFFSKY, Isaac and Antoon A. LEENAARS (Spring 1997). Suicide in Canada with Special Reference to the Difference Between Canada and the United States. *Suicide and Life-Threatening Behavior*, 27, no. 1: 112-26.**

This paper reviews studies of suicide in Canada and compares the incidence of suicide between the United States and Canada. In particular, it is stated that the rate of suicide in Canada closely paralleled that of the U.S. from the time when statistics were first collected until the 1970's. At this point, Canadian rates in a number of age categories exceeded those of the United States for over a decade. This paper further examines the differences between the suicide rates in order to highlight the unique characteristics of both countries, and the distinctions between them. Certain subpopulations, including youth and aboriginals, as well as methods of suicide and nonfatal attempts are examined in an effort to understand the national variations. Prominence is given to a number of different factors in attempting to compare the countries, including knowledge of suicide, psychological factors, domestic and economic correlates and attitudes. The authors close by reiterating the seriousness of suicide rates in both countries and the probable lack of research funding that this issue is likely to receive in the near future.



**SLOAN, John Henry, Arthur L. KELLERMANN, Donald T. REAY, James A. FERRIS and Frederick P. RIVARA (February 1990). Firearm Regulations and Rates of Suicide: A Comparison of Two Metropolitan Areas. *New England Journal of Medicine*, 322, no. 6: 369-73.**

To investigate a possible association between firearm regulations and suicide, the authors compared the incidence of suicide from 1985 through 1987 in King County (Washington), with that in the Vancouver (British Columbia) metropolitan area, where firearm regulations are more restrictive. The risk of death from suicide was not found to differ significantly between King County and the Vancouver area. The rate of suicide by firearms, however, was higher in King County, because the rate of suicide by handguns was 5.7 times higher there. The difference in the rates of suicide by firearms was offset by a 1.5-fold higher rate of suicide by other means in the Vancouver area. Persons 15 to 24 years old had a higher suicide rate in King County than in the Vancouver area. Virtually all the difference was due to an almost 10-fold higher rate of suicide by handguns in King County. The authors conclude that restricting access to handguns might be expected to reduce the suicide rate in persons 15 to 24 years old, but that it probably would not reduce the overall suicide rate.



## 6.0 UNINTENTIONAL HARMS AND FIREARM INJURIES

**ANNEST, Joseph L., James A. MERCY, Delinda R. GIBSON and George RYAN (June 1995). National Estimates of Nonfatal Firearm-Related Injuries; Beyond the Tip of the Iceberg. *Journal of the American Medical Association*, 273, no. 22: 1749-54.**

The purpose of this study was to examine the characteristics of nonfatal firearm injuries in emergency departments and to compare these to firearm-related fatalities. Medical records for the period from June 1, 1992 to May 31, 1993 were examined from the National Electronic Injury Surveillance System (NEISS). The results indicated that approximately 99,025 patients were admitted for nonfatal firearm-related injuries in American hospitals during the study period. There were 2.6 more nonfatal firearm-related injuries than fatal injuries treated. The authors conclude that nonfatal firearms injuries can pose a serious strain on the resources of the public health system. Although the NEISS is a useful tool in measuring the number of nonfatal injuries, information regarding firearm related injury and death could be further highlighted through the design of a uniform national surveillance system.



**CHAPDELAIN, Antoine and Pierre MAURICE (November 1996). Firearms Injury Prevention and Gun Control in Canada. *Canadian Medical Association Journal*, 155, no. 9: 1285-9.**

In Canada, more than three deaths occur each day as a result of firearms; the rate of gunshot wounds varies from 5.7 to 21.2 per 100,000 in the provinces and territories. Most of these deaths are inflicted with legally acquired hunting guns, in rural areas and in the home. In addition, the cost of these deaths and injuries has been estimated at \$6.6 billion per year. This article further examines the correlation between access to guns and the risk of death, stating that the risk of suicide, homicide and accidental death increases with the presence of a firearm in the home. Approximately one third of the owners in firearm-owning households in Quebec do not safely or legally store their firearms. The article further elaborates the position of the Quebec Public Health Network and its support for more stringent gun control regulations.

**CINA, Stephen J. et al. (April 1996). Firearm-Related Hunting Fatalities in North Carolina: Impact of the 'Hunter Orange' Law. *Southern Medical Journal*, 89, no. 4: 395-6.**

In North Carolina, 68 people have been killed by firearms while hunting, in the decade between 1983 and 1992. Two parties (a shooter and a victim) were involved in 58 of these incidents; 22% of the shooters mistook the victim for game. A "Hunter Orange" law was passed during the 1987-1988 hunting season, requiring hunters to wear bright orange clothing. Pursuant to the enactment of the law, there was a statistically significant reduction in the number of hunters accidentally mistaken for game. The authors state that this study demonstrates that legally

enforcing bright orange clothing reduces the number of firearm-related hunting fatalities. Therefore, the North Carolina experience should be taken as an example of how legal regulations can impact deaths during recreational hunting.

**GARDINER, James, Robyn NORTON and Philip ALPERS (1996). Nonfatal Firearm Misuse: Licence Status of Perpetrators and Legality of the Firearms. *Australian and New Zealand Journal of Public Health*, 20, no. 5: 479-82.**

This study aimed to explore the license status of individuals involved in nonfatal firearm injuries and misuse and to determine the extent to which legal firearms are involved in such incidents, as well as types of firearms involved in misuse. Suicides were not covered in this study. The study examined newspaper clippings over a three month period in 1994 in New Zealand, and specific details were obtained from a standardized police questionnaire under the Official Information Act (1982). During this period, 78 incidents involving 97 perpetrators and 100 firearms were identified. Of the offenders, 20% were licensed, while 66% did not possess a licence; 7% of these involved an air gun which does not require a licence. Fifty percent of those involved in domestic violence were licensed. Legal firearms were involved in 44% of the cases, while 56% were illegal firearms. The authors conclude that preventative strategies must be aimed at both the legal and illegal ownership of firearms.



**INJURY PREVENTION CENTRE (April 1996). *Medical Costs of Firearm-Related Injuries: A Pilot Project in Alberta*. Department of Justice Canada, Canadian Firearms Centre (TR1996-1e).**

The Canadian Firearms Centre commissioned this project in order to determine the direct medical costs of firearm injuries in Alberta during the 1993/1994 fiscal year. This study provided a unique opportunity to examine the types of firearm injuries that are treated in hospitals. In addition to a comprehensive literature review, this study examined the number of injuries treated at various points in the health care system, the costs according to both the intent and type of firearm, and the feasibility of conducting similar studies in other provinces.

**KELLERMANN, Arthur L., Frederick P. RIVERA, Roberta K. LEE, Joyce G. BANTON, Peter CUMMINGS, Bela B. HACKMAN and Grant SOMES (November 1996). Injuries Due to Firearms in Three Cities. *The New England Journal of Medicine*, 335, no. 19: 1438-44.**

This study aimed to explore both fatal and nonfatal injuries resulting from firearms in three American cities (Memphis, Tennessee; Seattle, Washington; and Galveston, Texas). Emergency room cases were identified through police records, ambulance crews, hospital emergency and admissions departments, and medical examiners. Cases were linked through these sources in order to provide a full account of the incident. Between November 16, 1992 and May 15, 1994, 1,915 cases of firearm-related injury were identified. The crude rate, per 100,000 person-years, of firearm injury was highest in Memphis, followed by Galveston and Seattle. The most common

reasons for injury were: assaults (88%), suicide/attempted suicide (7%), and unintentional injuries (4%). Where a weapon was identified, a handgun was used in 88% of the cases. Of the patients brought to the emergency room, 5% could not be resuscitated, 53% were admitted to the hospital and 42% were released after treatment. Nearly all (97%) of the deaths occurred within a day of the injury. Charges for emergency department and inpatient costs were greater than \$16.5 million dollars. It is concluded that firearms, particularly handguns, are a serious cause of injury and death in American urban areas, although the incidence varies amongst cities.

**LANGLEY, John D., Stephen W. MARSHALL and Robyn N. NORTON (August 1996). Nonfatal Firearm Injuries in New Zealand 1979-1992. *Annals of Emergency Medicine*, 28, no. 2: 170-5.**

The purpose of this study was to examine the epidemiology of nonfatal firearm injury in New Zealand. Data from the New Zealand Health Information Service were extracted from 1979 to 1992 inclusive. It was found that, per year, there were 2.7 injuries per 100,000 population. Higher rates of injury were found amongst younger people (15 to 24 years), males, particular job categories, and rural residents. Sixty-four percent of the injuries were unintentional. Shotguns were involved in 25% of the incidents, whereas 20% involved rifles. The authors assert that these findings highlight the continuing necessity of firearm injury prevention in New Zealand. In addition, they recommend that further research could benefit from the establishment of a uniform data surveillance system capable of tracking firearm-related injuries and death.



**LEENAARS, Antoon A. and David LESTER (Fall 1997). The Effects of Gun Control on the Accidental Death Rate from Firearms in Canada. *Journal of Safety Research*, 28, no. 3: 119-22.**

This article offers an examination of the hypothesis that the accidental death rate is affected by the availability of a fatal weapon within the proximal surroundings. In particular, it explores the link between the availability of firearms and the accidental death rate from firearms. It was found that as a result of Bill C-51 (*Canada's Criminal Law Amendment Act of 1977*), there was a lower accidental death rate from firearms; and, specifically in the case of females, it was seen as an effective prevention technique.



**LEONARD, Katherine A. (March/April 1994). Firearm Deaths in Canadian Adolescents and Young Adults. *Canadian Journal of Public Health*, 85, no. 2: 128-31.**

This article, written from the medical perspective, examines firearm deaths among those 15-24 years of age. Utilizing data from Statistics Canada, the Department of Justice, and the Metropolitan Toronto police, the author found that Canadians owned an estimated 5.9 million firearms. In 1990, there were 276 firearm deaths among those aged 15-24 in Canada, making firearm deaths the third leading cause of death amongst individuals in this age group. The article concludes with various recommendations for interventions that public health care specialists and

physicians can employ in order to effectively reduce firearm injuries and deaths. In particular, physicians and public health officials can educate the public about the harms of firearms, lobby for tougher legislation, and advocate tougher engineering designs for firearms in order to make access impossible for children.



**LI, Guohua, Susan P. BAKER, Carla DI SCALA, Carolyn FOWLER, Jean LING and Gabor D. KELEN (November 1996). Factors Associated With the Intent of Firearm-Related Injuries in Pediatric Trauma Patients. *Archives of Pediatric and Adolescent Medicine*, 150: 1160-5.**

The purpose of this study was to determine the characteristics of assaultive and unintentional pediatric injuries. The study was undertaken during a four year period in 68 children's hospitals and trauma centres in the United States and Canada that report to the National Pediatric Trauma Registry. The comparative analysis studied children 14 years of age or younger admitted to the hospitals due to firearm-related assaultive injuries (n=457) in relation to those admitted for unintentional injuries (n=292). It was found that there are significant differences in terms of injury circumstances between unintentional and assaultive firearm injuries. The highest frequency of unintentional injuries tended to occur in late afternoon hours - the time when children are most likely to be at home alone. In contrast, assaultive injuries are most likely to occur in the evening and may be related to drugs and gang activity. In conclusion, the authors state that although reducing access to firearms is important, intervention should also include school and community-based programs.

**MAX, Wendy and Dorothy P. RICE (Winter 1993). Shooting in the Dark : Estimating the Cost of Firearm Injuries. *Health Affairs*: 171-85.**

In the United States, firearm injuries were estimated to cost \$20.4 billion in 1990. This figure represents \$1.6 billion in injury-related lost productivity, \$17.4 billion from lost productivity due to premature death, and \$1.4 billion in direct health care and related goods expenses. Although these are the most accurate national estimates, they likely represent an underestimate of the actual economic impact since they rely on dated numbers and necessary assumptions due to missing data. Finally, the authors discuss the need for more accurate data, along with policy implications.



**MILLER, Ted R (1995). *Costs Associated With Gunshot Wounds in Canada in 1991*.  
National Public Services Research Institute, Landover, MD.**

The purpose of this study was to estimate the costs (in 1993 dollars) of gunshot wounds in Canada in 1991. Various U.S. studies have documented the medical costs of firearm injuries in that country. However, prior to this research, cost estimates for firearm related injuries have not been documented in Canada. Incidence data on firearm-related deaths and hospital admissions were obtained from Statistics Canada and adjustments were made for non-reporting provinces. To estimate the number of gunshot victims treated and released from emergency departments, Canadian hospital discharge counts were adjusted using the U.S. ratios of released to admitted gunshot survivors by cause (assault, suicide attempt, unintentional). The total estimated cost associated with gunshot wounds was \$6.6 billion which included approximately \$63 million in medical and mental health care spending, \$4.3 million for funeral costs, \$10 million for other public services, \$1.55 billion in wage and household work loss, and the remaining cost (\$4.9 billion) was the value of pain, suffering, and lost quality of life. When cost by intent of firearm injury was examined, the bulk of the cost, \$4.7 billion, resulted from suicides and attempted suicides, followed by homicides and assaults at \$1.1 billion. Per capita, the estimated cost associated with gunshot wounds in Canada in 1991 was \$235, as compared with \$595 in the United States in 1992. According to the author, this difference may be due to the difference in gun availability in the two countries. He concludes that increased gun control may reduce the costs associated with gunshot wounds in Canada, especially those related to suicide.

**PEPE, Paul E. et al. (March/April 1994). *The Effect of a Municipal Gun Responsibility Ordinance on Firearm Injury Deaths in Minors. Academic Emergency Medicine.***

There is strong indication that unintentional and suicidal shootings are often associated with easy access to poorly stored, unsecured guns. The aim of this study was to identify the effect of a municipal ordinance enacted to hold gun owners accountable for injuries and deaths to children who gain access to unsecured firearms. A population-based comparison of all “firearm injury deaths in minors” (FIDM) was done within an urban municipality in the two years before and after introduction of the proposed regulation at City Council. By law, all FIDM were recorded prospectively and classified by the municipal police as follows: intentional injury; unintentional injury; and suicide. Although the number of intentional FIDM remained almost the same (29 before; 34 after), both the number of accidental and suicide FIDM fell by more than 50%, from 34 to 16. Suicides fell from 13 to 3. The authors conclude that there was a positive relationship between the municipal gun responsibility ordinance and a significant decrease in the overall number of unintentional, and suicide deaths by firearms in children.

**SINAUER, Nancy, Joseph L. ANNEST, and James A. MERCY (June 1996). Unintentional, Nonfatal Firearm-Related Injuries. *Journal of the American Medical Association*, 275, no. 22: 1740-3.**

The purpose of this study was to examine the characteristics and seriousness of unintentional nonfatal firearm injuries in American hospital emergency departments. Medical records for all pertinent cases were identified through the National Electronic Surveillance System (NEISS) from June 1, 1992 to May 31, 1994. It was estimated that 34,485 people received emergency room medical attention for nonfatal unintentional injuries during the two year period. Eighty-seven percent of the patients were male and 61% were aged 15 to 34 years of age; 38% required hospitalization. Extremities were the most frequent wound location, 70% were self-inflicted and 57% involved a handgun. The authors conclude that further strategies should be developed in order to reduce the risk of injury from accidental discharges during common gun-handling. Injuries such as these most often occur while the owner is engaging in routine practices such as cleaning, loading/unloading, hunting, target-shooting or handling the firearm. It is important that future research addresses the efficacy of current gun safety courses and determines the potential of other gun safety mechanisms to reduce unintentional injuries.

**APPENDIX:**  
**SELECTED INTERNET SITES**



The following web sites may be of interest to those conducting research on gun control and criminal justice issues. They are provided as reference only; we take no responsibility for the quality or maintenance of these web sites.

## **Selected Canadian Firearms, Justice and Government Internet Sites**

### **Access to Justice Network**

<http://www.acjnet.org/>

### **Association of Women Shooters of Canada**

<http://fox.nstn.ca/~dvc14/awsc.html>

### **British Columbia - Ministry of Attorney General**

<http://www.ag.gov.bc.ca/>

### **Canadian Association of Elizabeth Fry Societies**

<http://www.web.apc.org/~kpate/>

### **Canadian Bar Association**

<http://www.cba.org/Gate.asp>

### **Canadian Criminal Justice Association**

<http://home.istar.ca/~ccja/angl/>

### **Canadian Firearms Centre**

<http://www.cfc-ccaf.gc.ca/>

### **The Canadian Firearms Home Page**

<http://teapot.usask.ca/cdn-firearms/homepage.html>

### **Canadian Security Intelligence Service**

<http://www.csis-scrs.gc.ca/>

### **CAVEAT: Canadians Against Violence Everywhere Advocating it's Termination**

<http://www.caveat.org/>

### **Correctional Service Canada**

<http://www.csc-scc.gc.ca/>

### **The Canadian Sporting Arms and Ammunition Association**

<http://marlo.eagle.ca/showgun/>

### **Criminal Code of Canada**

<http://insight.mcmaster.ca:80/org/efc/pages/law/cc/cc.html>

**Department of Foreign Affairs and International Trade**  
<http://www.dfait-maeci.gc.ca/>

**Department of Justice Canada**  
<http://canada.justice.gc.ca/>

**Government of Alberta - Department of Justice**  
<http://www.gov.ab.ca/just/>

**Government of Canada Primary Internet Site (Canada Site)**  
<http://canada.gc.ca/>

**Government of Manitoba**  
<http://www.gov.mb.ca/>

**Government of the Northwest Territories- Department of Justice**  
<http://199.247.97.2:80/main.htm>

**Government of Saskatchewan - Saskatchewan Justice**  
<http://www.gov.sk.ca/govt/justice/>

**Government of Yukon**  
<http://www.gov.yk.ca/>

**International Police Association - Canadian Section**  
[http://www.superiway.net/Police\\_pinsandpatches/albertaipa/](http://www.superiway.net/Police_pinsandpatches/albertaipa/)

**National Crime Prevention Council**  
<http://www.crime-prevention.org/ncpc/>

**National Firearms Association**  
<http://www.nfa.ca/>

**National Library**  
<http://www.nlc-bnc.ca/>

**New Brunswick Department of Justice**  
<http://www.gov.nb.ca/justice/index.htm>

**Newfoundland Department of Justice**  
<http://www.gov.nf.ca/just/>

**Nova Scotia Department of Justice**  
<http://www.gov.ns.ca/just/>

**Parliament of Canada**  
<http://www.parl.gc.ca/>

**Prince Edward Island - Community Services and Attorney General**  
<http://www.gov.pe.ca/caag/index.asp>

**Québec - Ministère de la Justice**  
<http://www.gouv.qc.ca/minorg/indexa.htm>

**RCMP - Firearms Registration and Administration Section (FRAS)**  
<http://www.rcmp-grc.gc.ca/html/fras.htm>

**Solicitor General Canada**  
<http://www.sgc.gc.ca/>

**Statistics Canada**  
<http://www.statcan.ca/>

**The Ministry of the Attorney General -Ontario**  
<http://www.attorneygeneral.jus.gov.on.ca/>

**Victims of Violence International**  
<http://www.victimsofviolence.on.ca/>

## **American Internet Sites**

**American Society of Criminology**  
<http://www.asc41.com/>

**Bureau of Alcohol, Tobacco and Firearms**  
<http://www.atf.treas.gov/>

**Bureau of Justice Statistics**  
<http://www.ojp.usdoj.gov/bjs/>

**Center for Disease Control and Prevention**  
<http://www.cdc.gov/>

**Cease Fire**  
<http://www.ceasefire.org/welcome.html>

**Coalition to Stop Gun Violence**  
<http://www.gunfree.org/>

**Federal Bureau of Investigation**  
<http://www.fbi.gov/>

**Handgun Control Inc.**  
<http://www.handguncontrol.org/>

**Join Together Online**  
<http://www.jointogether.org/gv/>

**National Archive of Criminal Justice Data**  
<http://www.icpsr.umich.edu/NACJD/home.html>

**National Center for Health Statistics**  
<http://www.cdc.gov/nchswww/default.htm>

**National Criminal Justice Reference Service (NCJRS)**  
<http://www.ncjrs.org/>

**National Rifle Association**  
<http://www.nra.org/>

**Partnerships Against Violence Network**  
<http://www.pavnet.org/>

**United States Department of Justice**  
<http://www.usdoj.gov/>

**Violence Policy Center**  
<http://www.vpc.org/>

## **Other International Sites**

**Attorney General's Department - Australia**  
<http://law.gov.au/>

**Australian Institute of Criminology**  
<http://www.aic.gov.au/>

**British Society of Criminology**  
<http://www.lboro.ac.uk/departments/ss/BSC/homepage/HOMEPAGE.HTM>

**Coalition for Gun Control - Australia**  
<http://www.health.su.oz.au/cgc/>

**Court of Justice and Court of First Instance- European Union**  
<http://europa.eu.int/index-en.htm>

**Home Office - United Kingdom**  
<http://www.homeoffice.gov.uk/index.htm>

**International Centre for the Prevention of Crime**  
<http://www.crime-prevention-intl.org/>

**INTERPOL**  
<http://193.123.144.14/interpol.com/>

**International Practical Shooting Confederation**  
<http://www.ipsc.org/>

**New Zealand Ministry of Justice**  
<http://www.justice.govt.nz/>

**Office of International Criminal Justice**  
<http://oicj.acsp.uic.edu/spearmint/>

**Sporting Shooters of Australia Inc.**  
<http://www.ssaa.org.au/>

**United Nations Crime and Justice Information Network**  
<http://www.ifs.univie.ac.at/~uncjin/uncjin.html>

**Western Society of Criminology**  
<http://www.sonoma.edu/cja/wsc/wscmain.html>