## Fire statistics in Canada, Selected Observations from the National Fire Information Database 2005 to 2014



Prepared by the Canadian Centre for Justice Statistics for the Canadian Association of Fire Chiefs

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Canada

## Note of appreciation

The Canadian Centre for Justice Statistics (*CCJS*), a Division of Statistics Canada, wishes to express gratitude to the provincial contacts and the Canadian Armed Forces staff listed below who were key to the preparation of their fire data files, which served as the basis for information contained in this report. Statistical information could not have been produced without their co-operation and in-kind effort.

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Guidance and direction in regards to the data content for the NFID has been provided by members of the CCFMFC and the CAFC headed by Chief Len Garis, Surrey Fire Department and University of Fraser Valley, Chief Ken Stuebing, Chatham Kent Emergency Services, Mr. Howard Pothier, Canadian Council of Fire Marshalls and Fire Commissioners, Dr. Paul Maxim, Vice President of Research at Wilfred Laurier University and Mr. Trefor Munn Venn, Rhapsody Strategies. These individuals provided immediate direction and oversight for the collection, analysis, and dissemination of information relating to fire incidents in Canada, primarily through its oversight of the NFID. Sincere thanks also to the teams at Public Safety and DRDC who supported this initiative.

Collection and standardization of data, along with the development of the central database was the responsibility of the Canadian Centre of Justice Statistics (*CCJS*), a division of Statistics Canada. The CCJS has significant experience and a long history in the collection and dissemination of national level policing, courts, correctional services and other justice and public safety-related data. The CCJS worked with the CAFC and the CCFMFC to develop the capacity to collect, standardize, compile and analyze fire incident information on a national basis. These activities are requisite first steps towards addressing an important gap in existing knowledge and gaining a greater understanding of the nature and extent of fire incidents across the country.

The NFID will serve to improve analytical capacities for evidence-based research related to fire incidents, public safety and security that can be used by Fire Marshals, Fire Commissioners and Chief Fire Officers and academic researchers to provide policy and operational guidance that respond to trends that are currently unable to be adequately identified. Furthermore, these data will assist fire services in making operational decisions, improving policy and prevention measures in the development of appropriate and efficient methods of fire response, and to help promote public awareness about the dangers of fire.

## **Purpose of Report**

The purpose of this report is to present a summary of preliminary observations derived from the newly developed National Fire Information Database (*NFID*). The selection of data presented focusses on fire incidents (e.g., property types and causes of fire) and fire-related casualties (i.e., deaths and persons injured as a result of fire incidents) for the ten-year period covering 2005 to 2014.

## **National Fire Information Database**

Prior to the formation of this database, the capacity to present fire incident data in a uniform manner across Canada was limited due to the variation in the types and levels of data collected by provincial/ territorial Fire Marshals and Fire Commissioners Offices across Canada, as well as the non-standardized coding of data.

The NFID is a pilot project with the objective of gathering ten years of data on fire incidents and fire losses from provincial/territorial Fire Marshals and Fire Commissioners Offices across Canada, standardizing the data, and creating a centralized national system for the collection of fire statistics. This allows for a variety of analysis to inform the field on issues related to the seventy-three data elements that the NFID contains.

#### Text box

### **Data from Fire Marshals and Fire Commissioners**

Although their specific roles and responsibilities vary somewhat across the country, provincial/territorial Fire Marshals and Fire Commissioners offices are typically responsible for: advising on and promoting legislation, policies and procedures related to fire protection; participating in the development of codes and standards relating to fire safety, promoting fire safety awareness; and supporting the professional development of the Canadian fire service. (see Council of Canadian Fire Marshals and Fire Commissioners, <a href="http://www.ccfmfc.ca/">http://www.ccfmfc.ca/</a>)

In support of these responsibilities, the majority collect data on fire incidents that come to the attention of fire services in their respective jurisdictions and provide policy and operational guidance. Although there is variation in the information in the provincial/territorial databases and the level of detail captured, many capture information related to: the date and location of fire incidents; the type of property and its characteristics; fire protection features; circumstances contributing to the outbreak; origin and spread of fire; the discovery of fire and actions taken.

Both the NFID and this report, represent fundamental steps and an important starting point in addressing an important gap in the existing knowledge of fire incidents and understanding their nature and extent across the country. While this is a significant advance, it is important particularly given the current context, to note that the NFID covers only certain types of fires. It focusses on those fires that affect residential and commercial buildings, vehicles, and outdoor fires. It does not cover forest fires, collision related fires or other fire incidents such as train wrecks, although some impacts may be captured in some data elements.

To see a full listing of what the NFID covers and excludes, readers can access the "data dictionary" that accompanies this report at www.cafc.ca

Seven jurisdictions, representing 74% of the Canadian population, provided data for the pilot project to varying degrees of detail and annual coverage. These seven jurisdictions are New Brunswick, Ontario, Manitoba, Saskatchewan, Alberta, British Columbia and the Canadian Armed Forces. For further information on years of coverage by jurisdiction, refer to "Table B-1: Years of data reported to the NFID by jurisdiction, by type of information". The remaining

Provinces/Territories were unable to take part in the pilot project due to system challenges and/or operational constraints making the extraction of data, within project timelines, unachievable.

Table A illustrates coverage of the NFID relative to the Canadian population. In total, the six provinces reporting to the NFID represented almost three-quarters (72%) of the Canadian population as of July 1, 2014 (see table below).

Table A	
NFID coverage (6 provinces	) as a percentage of the Canadian population, July 1, 2014

	Population,	July 1, 2014	NFID populat	tion coverage
Jurisdiction	number	percent	number	percent
Newfoundland and Labrador	528,333	1.5	0	0.0
Prince Edward Island	145,832	0.4	0	0.0
Nova Scotia	943,294	2.7	0	0.0
New Brunswick	754,865	2.1	754,865	2.1
Quebec	8,214,503	23.1	0	0.0
Ontario	13,685,171	38.5	13,685,171	38.5
Manitoba	1,280,953	3.6	1,280,953	3.6
Saskatchewan	1,121,285	3.2	1,121,285	3.2
Alberta	4,108,283	11.6	4,108,283	11.6
British Columbia	4,645,261	13.1	4,645,261	13.1
Yukon	36,872	0.1	0	0.0
Northwest Territories	43,889	0.1	0	0.0
Nunavut	36,023	0.1	0	0.0
Canada/NFID Total	35,544,564	100.0	25,595,818	72.0

## Highlights

- In general the total number of fires reported to the National Fire Incident Database (*NFID*) showed a downward trend, declining 25% between 2005 and 2014. Over the 10-year period, the database showed a total of 439,256 fire incidents, 1,733 fire-related deaths, and 12,503 persons injured.
- In 2014, there was a total of 38,844 fires in the seven jurisdictions reporting to the NFID.
- Fire incidents, in the NFID database, can be broadly classified into three types structural (primarily buildings), vehicle or outdoor fires.<sup>1</sup> Of these categories, structural fires comprised 5 out of every 10 fire incidents in 2005 and have risen steadily to account for more than 6 in 10 fire incidents in more recent years.
- Consistent with the overall trend, the number of structural fires declined by 26% between 2005 and 2014.
- Of the 19,062 structural fires reported in 2014, three quarters (74%) were residential fires. Over the 10-year period, residential fires<sup>2</sup> consistently accounted for 6 out of every 10 structural fires, ranging from 69% in 2005 and 2006 to 75% in 2013.
- Among structural residential fire incidents, cooking equipment and smoker's equipment/open flame were the two leading sources of ignition in residential fires over the 2005 to 2014 period. These two categories combined consistently accounted for about 6 in 10 of all of the residential fires.
- Heating equipment as the source of ignition in residential fires declined consistently over the ten-year period, dropping 43%.
- The number of fire-related deaths reported over the ten-year period varied annually. The data show the total number of fire-related deaths<sup>3</sup> rising between 2004 and 2008, and then subsequently declining by 32% between 2008 and 2014.
- In 2014, there were 170 deaths and 1,297 persons injured as a result of fire incidents in the six jurisdictions who reported these data. Over the 2005 to 2014 period, civilians consistently represented 98% to 100% of all deaths occurring as a result of fire-related incidents.
- There were 9 reported firefighter deaths<sup>4</sup> experienced as a result of firefighting activities related to fire incidents between 2005 and 2014. In addition, there were 3,102 firefighters who were injured in the line of duty.
- The majority of fire-related deaths occur in structural fires. For example, in 2014, 87% of the reported fire deaths occurred as a result of structural fires. Vehicle fires accounted for 11% of reported deaths, while outdoor fires accounted for 4%.

<sup>&</sup>lt;sup>1</sup> It should be noted that outdoor fires do not include forest fires and vehicle fires do not include collision-related fires or trains destroyed by fire. Wildfires, forest fires, collision related fires and other fires such as train wrecks are beyond the scope of the NFID. However, some of their impacts may be captured in some data elements. <sup>2</sup> Residential structures refers to structures where persons commonly reside for living purposes, either on a permanent or temporary basis, including but not limited to, single detached homes, duplexes, semi-detached

homes, row/garden/town housing, apartments, tenements, hotels/motels, hostels/boarding houses, dormitories, etc. For further details, refer to "<u>Residential structures</u>" in Appendix A. <sup>3</sup> Information on deaths was only available for four provinces. For a definition of fire related deaths, please see

<sup>&</sup>lt;sup>3</sup> Information on deaths was only available for four provinces. For a definition of fire related deaths, please see <u>Fire-related deaths</u> in Appendix A: Key terminology and definitions.

<sup>&</sup>lt;sup>4</sup> This number does not include firefighter deaths that may be associated with the effects of continued exposure to fire and smoke over time.

- Of the deaths occurring as a result of structural fires over the 2005 to 2014 period, the majority occurred as a result of fires in the home, ranging from 87% in 2009 to 95% in 2008 and 2010.
- Over the 2005 to 2014 period, the leading reason for non-evacuation in structural fires where deaths occurred as a result of a fire incident was persons being trapped by spreading fire or smoke, ranging from 56% to 87% of non-evacuation deaths.

## Fire statistics in Canada, 2005 to 2014

### Fire incidents on downward trend

In general, the number of fire incidents has been on a downward trend, declining 25% over the ten year period between 2005 and 2014 (Table 1).

Fire incidents can be broadly classified into three types – structural (primarily, but not limited to buildings), vehicle or outdoor fires. Of these categories, structural fires were the most prevalent across the ten year period, consistently accounting for the largest proportion of all fires. Structural fires comprised 5 out of every 10 fire incidents in 2005 and have risen steadily to account for more than 6 in 10 fire incidents in more recent years.

#### Table 1

## Number and proportion of reported structural, vehicle and outdoor fire incidents, 6 jurisdictions, 2005 to 2014<sup>1</sup>

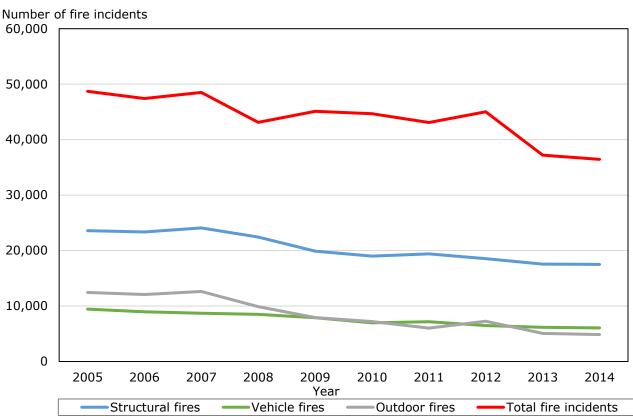
	Structural fires		Vehicl	e fires	Outdoo	or fires	Unknown <sup>2</sup>	Total fire incidents
Year	number	percent	number	percent	number	percent	number	number
2005	23,580	52	9,445	21	12,457	26	3,226	48,708
2006	23,367	53	8,960	20	12,070	25	3,018	47,415
2007	24,082	53	8,715	19	12,625	26	3,083	48,505
2008	22,418	55	8,511	21	9,894	23	2,291	43,114
2009	19,896	56	7,896	22	7,914	18	9,396	45,102
2010	18,996	57	6,979	21	7,195	16	11,508	44,678
2011	19,412	60	7,173	22	6,005	14	10,500	43,090
2012	18,528	57	6,485	20	7,261	16	12,731	45,005
2013	17,546	61	6,151	21	5,075	14	8,422	37,194
2014	17,507	62	6,054	21	4,858	13	8,026	36,445
Total	205,332	56	76,369	21	85,354	19	72,201	439,256

1. Six jurisdictions in Canada provided ten years of fire incident data to the National Fire Information Database (NFID) - New Brunswick, Ontario, Manitoba, Alberta, British Columbia and the Canadian Armed Forces. Saskatchewan also provided data to the NFID, however they were for only 2012 to 2014, so their data have not been included in this table.

2. New Brunswick did not provide information on the property classification of fire incidents in the province. Their counts are included under "Unknown".

**Notes:** Incidents where the property type was unknown were excluded from the calculation of percentages. Totals may not add to 100% due to rounding.

Despite the changes in the distribution of the type of fire incidents reported, the general trend across all fire types is still one of decline. For example, the number of structural fires declined by 26% between 2005 and 2014 (Chart 1).





**Notes:** Six jurisdictions in Canada provided ten years of fire incident data to the National Fire Information Database (NFID) - New Brunswick, Ontario, Manitoba, Alberta, British Columbia and the Canadian Armed Forces. Saskatchewan also provided data to the NFID, however it only covered 2012 to 2014, inclusive. As such, Saskatchewan data is excluded from the current chart.

In 2014, there was a total of 38,844 fires in the seven jurisdictions reported to the NFID, 63% (19,062) of which were structural in nature. Vehicle fires (20%) and outdoor fires (17%) accounted for the remaining fire incidents reported in 2014 (Table 2).

Among the provinces, Saskatchewan reported the largest proportion of structural fires in 2014 (88%), while Manitoba and British Columbia reported among the lowest at 49%.

### Table 2

## Number and proportion of reported structural, vehicle and outdoor fire incidents, 6 jurisdictions, 2014<sup>1</sup>

	Structu	ral fires	Vehicl	e fires	Outdoo	or fires	Unknown <sup>2</sup>	Total fire incidents
Jurisdiction	number	percent	number	percent	number	percent	number	number
New Brunswick							1,509	1,509
Ontario	9,220	72	2,901	23	749	6	5,855	18,725
Manitoba	1,790	49	599	17	1,235	34	0	3,624
Saskatchewan	1,555	88	2	0	213	12	629	2,399
Alberta	3,227	63	1,475	29	381	7	652	5,735
British Columbia	3,215	49	1,049	16	2,319	35	10	6,593
Total, excluding Canadian Armed Forces	19,007	64	6,026	20	4,897	16	8,655	38,585
Canadian Armed Forces	55	21	30	12	174	67	0	259
Total, including Canadian Armed Forces	19,062	63	6,056	20	5,071	17	8,655	38,844

. Not available for any reference period

1. Seven jurisdictions in Canada provided incident data for 2014 to the National Fire Information Database (NFID) - New Brunswick, Ontario, Manitoba, Saskatchewan, Alberta, British Columbia and the Canadian Armed Forces.

2. New Brunswick did not provide information on the property classification of fire incidents in the province. Their counts are included under "Unknown".

**Notes:** Incidents where the property type was unknown were excluded from the calculation of percentages. Totals may not add to 100% due to rounding.

### Six in ten structure fires are residential in nature

There are many types of structural properties which are used for various purposes. For the purpose of this report, structures have been classified into the following categories: residential, industrial, assembly, mercantile, business use and personal service, institutional storage properties and other types of structures (see <u>"Appendix A: Key terminology and definitions"</u> for descriptions of each category).

Over the ten year period, residential fires consistently accounted for approximately 6 in 10 structural fires, ranging from a low of 57% in 2006 to a high of 66% in 2011 and 2013 (Table 3). Storage properties accounted for the second largest proportion of total structural fires throughout the 2005 to 2014 period, accounting for 7% of fires in any given year.

### Table 3

## Number and proportion of fire incidents by selected property type (structures only), 5 jurisdictions, 2005 to 2014<sup>1</sup>

	Resider	ntial	Asse	mbly	Stor		Total structural fire incidents
Year	number	percent	number	percent	number	percent	number
2005	13,619	58	1,718	7	1,607	7	23,580
2006	13,255	57	1,737	7	1,624	7	23,367
2007	14,134	59	1,645	7	1,633	7	24,082
2008	13,522	60	1,361	6	1,599	7	22,418
2009	12,535	63	1,214	6	1,532	8	19,896
2010	11,991	63	982	5	1,562	8	18,996
2011	12,841	66	960	5	1,607	8	19,412
2012	11,830	64	928	5	1,521	8	18,528
2013	11,600	66	821	5	1,345	8	17,546
2014	11,446	65	924	5	1,270	7	17,507
Total	126,773	62	12,290	6	15,300	7	205,332

1. Five jurisdictions in Canada provided ten years of fire incident data by property classification to the National Fire Information Database (NFID) - Ontario, Manitoba, Alberta, British Columbia and the Canadian Armed Forces. The counts in this table exclude New Brunswick (where the property classification of fire incidents was not provided) and Saskatchewan (where data were only provided for 2012 to 2014).

**Note:** Numbers presented here will not add to the total nor will percentages add to 100% due to the fact that only selected categories have been presented. For the complete table including all categories, refer to Table D-3 in Appendix D.

Of the 19,062 structural fires reported in 2014, 63% were residential fires. This proportion was fairly consistent among the reporting provinces, with the exception of Saskatchewan where it was 40% (Table 4). Due to the high prevalence of residential fires overall, the focus of the analysis that follows relates to residential fires only.

### Table 4

## Number and proportion of fire incidents by selected property type (structures only), 6 jurisdictions, 2014<sup>1</sup>

	Reside	ential	Asse	mbly	Stor prope		Total structural fire incidents
Jurisdiction	number	percent	number	percent	number	percent	number
Ontario	5,951	65	520	6	653	7	9,220
Manitoba	1,097	61	72	4	143	8	1,790
Saskatchewan	625	40	63	4	145	9	1,555
Alberta	2,118	66	113	4	325	10	3,227
British Columbia	2,255	70	212	7	148	5	3,215
Total, excluding Canadian Armed Forces	12,046	63	980	5	1,414	7	19,007
Canadian Armed Forces	25	45	7	13	1	2	55
Total, including Canadian Armed Forces	12,071	63	987	5	1,415	7	19,062

1. Six jurisdictions in Canada provided fire incident data by property classification for 2014 to the National Fire Information Database (NFID) - Ontario, Manitoba, Saskatchewan, Alberta, British Columbia and the Canadian Armed Forces. The counts in this table exclude New Brunswick where the property classification of fire incidents was not provided.

**Note:** Numbers presented here will not add to the total nor will percentages add to 100% due to the fact that only selected categories have been presented. For the complete table including all categories, refer to Table D-4 in Appendix D. **Source:** Statistics Canada, Canadian Centre for Justice Statistics, National Fire Information Database

### One-third of residential fires initiated by cooking equipment

When referring to the cause of fire, there are several components – two being the source of ignition, and what is referred to as "act or omission". Generally speaking, the source of ignition refers to the actual equipment, device or item that generated the ignition. An act or omission refers to a human component in the cause of the fire – specifically, the set of circumstances precipitated by human acts (i.e., something that was done) or human omissions to act (i.e., something that was not done) that contributed to the onset of the fire incident.

Throughout the 2005 to 2014 period, cooking equipment and smoker's equipment/open flame were the two leading sources of ignition in residential fires. These two categories combined consistently accounted for about 6 in 10 of all residential fires (Table 5). Heating equipment as the source of ignition in residential fires declined consistently over the ten-year period, dropping 43% (from 2,025 residential fires to 1,161).

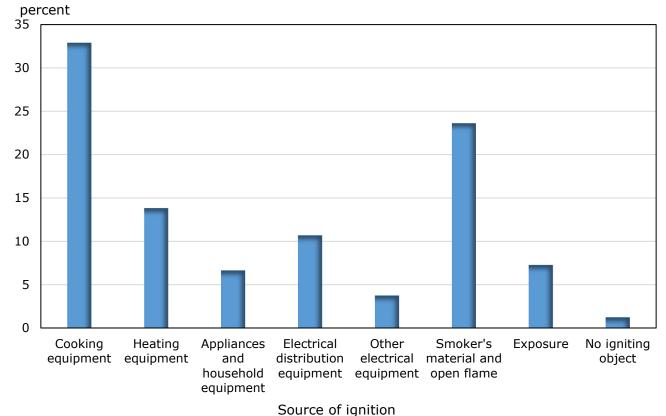
# Table 5Number and proportion of residential fires by selected source of ignition,5 jurisdictions, 2005 to 20141

	Cooking equipment		Heating Equipment		Electrical distribution equipment		materi	ker's ial and flame	Total residential fire incidents
Year	number	percent	number	percent	number	percent	number	percent	number
2005	2,741	27	2,025	20	990	10	2,876	28	13,619
2006	2,730	28	1,836	19	876	9	2,816	29	13,255
2007	2,651	26	1,876	18	971	10	2,939	29	14,134
2008	2,721	28	1,745	18	1,022	10	2,757	28	13,522
2009	2,754	29	1,564	17	931	10	2,504	27	12,535
2010	2,789	31	1,334	15	893	10	2,312	26	11,991
2011	2,630	29	1,350	15	876	10	2,373	26	12,841
2012	2,697	32	1,234	14	875	10	2,285	27	11,830
2013	2,743	32	1,221	14	872	10	2,130	25	11,600
2014	2,826	33	1,161 14		892	10	2,040	24	11,446
Total	27,282	29	15,346	16	9,198	10	25,032	27	126,773

1. Five jurisdictions in Canada provided the property classification and source of ignition for ten years of fire incident data to the National Fire Information Database (NFID) - Ontario, Manitoba, Alberta, British Columbia and the Canadian Armed Forces. The counts in this table exclude New Brunswick (where the property classification of fire incidents was not provided) and Saskatchewan (where data were only provided for 2012 to 2014).

**Notes:** Numbers presented here will not add to the total nor will percentages add to 100% due to the fact that only selected categories have been presented. For the complete table including all categories, refer to Table D-7 in Appendix D.

Consistent with the overall trend, cooking equipment, such as ovens and fryers, was the most frequently reported source of ignition, accounting for one-third (33%) of all residential fires in 2014. This was followed closely by smoker's equipment and open flames, which accounted for a quarter (24%) of these fire incidents (Chart 2, Table 6).





**Notes:** Six jurisdictions in Canada provided the property classification and source of ignition for 2014 to the National Fire Information Database (NFID) - Ontario, Manitoba, Saskatchewan, Alberta, British Columbia and the Canadian Armed Forces. The percentages in this chart exclude New Brunswick where the property classification of fire incidents was not provided.

There was some variation among the provinces in regards to the leading source of ignition in residential fires (Table 6). For example, in Ontario, Manitoba and British Columbia, the leading source was cooking equipment (32%, 38%, and 41%, respectively), followed by smoker's material and open flame (23%, 19%, and 23%, respectively). Conversely, in Alberta, the two leading causes were reversed, with smoker's material and open flame (30%) accounting for a larger share, followed by cooking equipment (26%). In Saskatchewan, the leading cause of residential fires was split equally between heating equipment (25%), electrical distribution equipment (24%), and no igniting object (24%).

### Table 6

## Number and proportion of residential fires by selected source of ignition, 6 jurisdictions, 2014<sup>1</sup>

	Cooking equipment		Heating Equipment		Electrical distribution equipment		Smoker's material and open flame		Total residential fire incidents
Jurisdiction	number	percent	number	percent	number	percent	number	percent	number
Ontario	1,337	32	698	17	455	11	977	23	5,951
Manitoba	332	38	106	12	102	12	168	19	1,097
Saskatchewan	19	14	35	25	33	24	1	1	625
Alberta	412	26	121	8	178	11	476	30	2,118
British Columbia	740	41	234	13	154	9	410	23	2,255
Total, excluding Canadian Armed Forces	2,840	33	1,194	14	922	11	2,032	24	12,046
Canadian Armed Forces	5	23	2	9	3	14	9	41	25
Total, including Canadian Armed Forces	2,845	33	1,196	14	925	11	2,041	24	12,071

1. Six jurisdictions in Canada provided the property classification and source of ignition for 2014 to the National Fire Information Database (NFID) - Ontario, Manitoba, Saskatchewan, Alberta, British Columbia and the Canadian Armed Forces. The counts in this table exclude New Brunswick where the property classification of fire incidents was not provided.

**Notes:** Numbers presented here will not add to the total nor will percentages add to 100% due to the fact that only selected categories have been presented. For the complete table including all categories, refer to Table D-8 in Appendix D.

## Mechanical or electrical failures among leading human factors leading to residential fires in recent years

As mentioned above, acts or omissions are an additional component to be considered when examining the cause of fire incidents. For the purpose of this report, an act or omission includes such actions as incendiary acts and negligent use of fuel sources, equipment or materials. It also includes such factors as mechanical failures which may have resulted from human omissions through lack of maintenance, or through design, construction or installation deficiencies.

Between 2005 and 2008, the misuse of equipment such as over-fuelling of equipment and leaving equipment unattended, was the leading human factor related to residential fires, accounting for 3 in 10 of these incidents (Table 7). However, the number and proportion of residential fires where misuse of equipment was a factor has declined considerably over the ten year period, dropping 69% from the high in 2005.

Mechanical or electrical failures overtook as the leading human factor leading to residential fires in 2009. In 2014, these failures accounted for one in five of fires occurring in homes. This included instances where the omission to maintain mechanical or electrical equipment properly resulted in fire outbreak (for specific examples, see <u>"Key terminology and definitions"</u>) (Table 7).

# Table 7Number and proportion of residential fires by selected act or omission, 5 jurisdictions,2005 to 20141

	Misu mate igni	erial	Mecha elect failu malfu	rical ire/		isuse of		Total residential fire incidents	
Year	number	percent	number	percent	number	percent	number	percent	number
2005	1,186	12	1,641	16	3,148	31	1,097	11	13,619
2006	1,181	12	1,563	16	3,002	30	1,057	11	13,255
2007	1,072	10	1,634	16	3,146	30	1,168	11	14,134
2008	1,042	11	1,695	17	2,834	29	1,276	13	13,522
2009	1,376	15	1,674	18	1,188	13	1,270	14	12,535
2010	1,390	16	1,578	18	1,121	13	1,230	14	11,991
2011	1,306	15	1,612	19	1,020	12	1,337	16	12,841
2012	1,324	16	1,537	18	996	12	1,340	16	11,830
2013	1,252	15	1,604	19	994	12	1,367	16	11,600
2014	1,268	15	1,674 20		979	979 12		19	11,446
Total	12,397	13	16,212	18	18,428	20	12,670	14	126,773

1. Five jurisdictions in Canada provided act or omission information and the property classification for ten years of fire incident data to the National Fire Information Database (NFID) - Ontario, Manitoba, Alberta, British Columbia and the Canadian Armed Forces. The counts in this table exclude New Brunswick (where the property classification of fire incidents was not provided) and Saskatchewan (where data were only provided for 2012 to 2014).

**Notes:** Numbers presented here will not add to the total nor will percentages add to 100% due to the fact that only selected categories have been presented. For the complete table including all categories, refer to Table D-11 in Appendix D.

There was significant variation among the provinces in the leading acts or omissions contributing to residential fires in 2014. For example, in Manitoba and Saskatchewan, mechanical or electrical failures represented the leading human factor, accounting for 29% and 44% of all residential fires, respectively. However, in Ontario it was equally split between the mechanical/electrical failure and misuse of equipment categories, at 21% each (Table 8).

By comparison, in Alberta and British Columbia, human failing was identified as the leading contributing human factor resulting in residential fires (31% and 49%, respectively). Human failing refers to where the act or omission was due to a person/persons: being asleep or fatigued at the time of the fire; having temporary loss of judgement; having a physical or mental disability; being impaired by alcohol, drugs or medication; having an accident; being distracted or preoccupied. It also includes factors of age where an infant, young child or elderly person was unattended or unsupervised.

## Table 8 Number and proportion of residential fires by selected act or omission, 6 jurisdictions, 2014<sup>1</sup>

	Misuse of material ignited		Mechanical/ electrical failure/ malfunction		Misuse of equipment		Human	failing	Total residential fire incidents
Jurisdiction	number	percent	number	percent	number percent		number	percent	number
Ontario	648	17	815	21	788	21	0	0	5,951
Manitoba	228	25	262	29	33	4	114	13	1,097
Saskatchewan	16	10	69	44	5	3	10	6	625
Alberta	249	16	322	20	38	2	491	31	2,118
British Columbia	141	8	269	14	119	6	912	49	2,255
Total, excluding Canadian Armed Forces	1,282	15	1,737	21	983	12	1,527	18	12,046
Canadian Armed Forces	2	8	6	25	1	4	11	46	25
Total, including Canadian Armed Forces	1,284	15	1,743	21	984	12	1,538	18	12,071

1. Six jurisdictions in Canada provided act or omission information and the property classification for 2014 incident data to the National Fire Information Database (NFID) - Ontario, Manitoba, Saskatchewan, Alberta, British Columbia and the Canadian Armed Forces. The counts in this table exclude New Brunswick where the property classification of fire incidents was not provided.

**Notes:** Numbers presented here will not add to the total nor will percentages add to 100% due to the fact that only selected categories have been presented. For the complete table including all categories, refer to Table D-12 in Appendix D. **Source:** Statistics Canada, Canadian Centre for Justice Statistics, National Fire Information Database

### Fire-related deaths declining since 2008

Fire casualties are categorised as fatal and non-fatal casualties. For the purpose of this report, they will be referred to as "deaths" and "persons injured" as a result of a fire incident.

Due to the fact that deaths resulting from fire incidents must be reported to, and investigated by, provincial Fire Investigator's offices whereas injuries may not be, death-related information is considered to be more accurately reported. For this reason, most of the analysis that follows is related to fire-related deaths, however similar information on persons injured in fire incidents is included in the data tables at the end of the report.

Four provinces (Ontario, Manitoba, Alberta and British Columbia) provided fire-related death information for the entire 2005 to 2014 period. During this time, the number of fire-related deaths reported by the four provinces varied annually, but has, in general, been declining since the high of 219 deaths in 2008. More specifically, the number of deaths (150) reported by the four jurisdictions in 2014 is 32% lower than in 2008 (Table 9).

## Table 9Fire-related deaths - children, youth, adults, seniors, 4 jurisdictions, 2005 to 2014<sup>1,2</sup>

	Deaths												
	Childre	en²	Youth <sup>2</sup>		Adults <sup>2</sup>		Senior citizens <sup>2</sup>		Unknown	Total deaths			
Year	number	rate	number	rate	number	rate	number	rate	number	number			
2005	6	1.9	5	2.6	101	6.8	32	10.9	32	176			
2006	9	2.8	9	4.7	86	5.7	33	10.9	24	161			
2007	6	1.9	2	1.1	111	7.2	46	14.9	28	193			
2008	15	4.7	5	2.7	119	7.7	58	18.4	22	219			
2009	10	3.1	3	1.6	116	7.4	53	16.3	21	203			
2010	4	1.2	4	2.2	86	5.4	57	17.1	18	169			
2011	11	3.4	0	0.0	89	5.5	48	14.0	24	172			
2012	6	1.8	3	1.7	74	4.5	42	11.7	24	149			
2013	14	4.2	1	0.6	70	4.3	43	11.5	13	141			
2014	43	12.8	0	0.0	60	3.6	32	8.2	15	150			
Total	124	3.8	32	1.7	912	5.8	444	13.3	221	1,733			

1. Four jurisdictions in Canada provided 10 years of casualty data to the National Fire Information Database (NFID) -Ontario, Manitoba, Alberta, and British Columbia. New Brunswick and Saskatchewan also provided casualty data to the NFID, however they covered only 6 years and 3 years respectively, so their data have not been included in this table. 2. For the purpose of this report, children are defined as persons 11 years and under; youth are persons aged 12 to 17 years; adults are 18 to 64 years; senior citizens are 65 years and older.

**Notes:** Rates are calculated on the basis of 1,000,000 population.

In 2014, six jurisdictions (New Brunswick, Ontario, Manitoba, Saskatchewan, Alberta and British Columbia) reported 170 deaths and 1,297 persons injured as a result of fire incidents (Table 10).

		Deaths													
	Child	r <b>en</b> ²	Youth <sup>2</sup>		Adults <sup>2</sup>		Senior citizens²		Unknown	Total deaths					
Jurisdiction	numbe	rate	number	rate	number	rate	number	rate	number	number					
New Brunswick	0	0.0	0	0.0	2	4.2	4	28.9	0	6					
Ontario	41	23.5	0	0.0	29	3.3	15	7.0	0	85					
Manitoba	1	5.2	0	0.0	6	7.5	4	21.3	11	11					
Saskatchewan	2	11.6	0	0.0	2	2.8	1	6.1	9	14					
Alberta	0	0.0	0	0.0	22	8.0	11	23.5	0	33					
British Columbia	2	3.7	0	0.0	9	3.0	6	7.6	4	21					
Total	45	13.4	0	0.0	62	3.7	33	8.5	30	170					

## Table 10Fire-related deaths - children, youth, adults, seniors, 6 jurisdictions, 2014<sup>1,2</sup>

1. Six jurisdictions in Canada provided 2014 casualty data to the National Fire Information Database (NFID) - New Brunswick, Ontario, Manitoba, Saskatchewan, Alberta, and British Columbia.

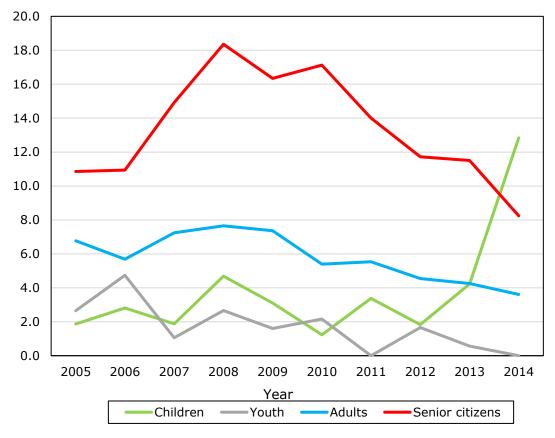
2. For the purpose of this report, children are defined as persons 11 years and under; youth are persons aged 12 to 17 years; adults are 18 to 64 years; senior citizens are 65 years and older.

**Notes:** Rates are calculated on the basis of 1,000,000 population.

#### Senior citizens have among the highest rates of fire-related deaths

Between 2005 and 2013, senior citizens (persons aged 65 years and older) consistently had higher rates of fire-related deaths compared to the other age categories, ranging from a low of 10.9 deaths per 1,000,000 persons in both 2005 and 2006, to a high of 18.4 deaths per 1,000,000 persons in 2008. This could suggest that the elderly population may be at a greater risk of death from fire incidents than other age groups (Table 9, Chart 3).

## Chart 3 Fire-related deaths - children, youth, adults, senior citizens, 4 jurisdictions, 2005 to 2014



rate per 1,000,000 population

**Notes:** Four jurisdictions in Canada provided 10 years of casualty data to the National Fire Information Database (NFID) - Ontario, Manitoba, Alberta, and British Columbia. New Brunswick and Saskatchewan also provided casualty data to the NFID, however they covered only 6 years and 3 years respectively, so their data are not included in the data for this chart. For the purpose of this report, children are defined as persons 11 years and under; youth are persons aged 12 to 17 years; adults are 18 to 64 years; senior citizens are 65 years and older. Rates are calculated on the basis of 1,000,000 population. **Source:** Statistics Canada, Canadian Centre for Justice Statistics, National Fire Information Database.

It should be noted that 2014 appears to have been an atypical year in regards to child deaths in fire incidents. Inconsistent with the overall trend, the rate of fire-related deaths for children (persons 11 years and younger) was highest among the age groups, at 13.4 deaths per 1,000,000 population, followed by senior citizens whose fire-related death rate was 8.5 deaths per 1,000,000 persons (Table 10).

### Nine firefighter deaths reported over 10-year period

Of the 1,733 fire-related deaths reported by four jurisdictions (Ontario, Manitoba, Alberta and British Columbia) over the 2005 to 2014 period, civilians consistently represented 98% to 100% of all deaths (Table 11).

In addition to information on civilian deaths and injuries, the NFID also captures information on the number of firefighter deaths, occurring within 1 year from a fire-related injury. As a result, firefighter deaths, which are often associated with occupational illnesses resulting from repeated and continued exposure to fire and smoke over time, may not be reflected in the database. In total, there were 9 reported firefighter deaths reported to the NFID between 2005 and 2014. In addition, there were 3,102 firefighters who were injured in the line of duty.

		Deaths											
	Civi	lian	Firefig	ghter	Unknown <sup>2</sup>	Total deaths							
Year	number percent		number	percent	number	number							
2005	166	99	1	1	9	176							
2006	143	100	0	0	18	161							
2007	177	99	2	1	14	193							
2008	196	99	1	1	22	219							
2009	186	100	0	0	17	203							
2010	157	100	0	0	12	169							
2011	156	98	3	2	13	172							
2012	139	100	0	0	10	149							
2013	119	119 100		0	22	141							
2014	104	98	2	2	44	150							
Total	1,543	99	9	1	181	1,733							

### Table 11

## Fire-related deaths, civilians and firefighters, 4 jurisdictions, 2005 to 2014<sup>1</sup>

1. Four jurisdictions in Canada provided 10 years of casualty data to the National Fire Information Database (NFID) - Ontario, Manitoba, Alberta, and British Columbia. New Brunswick and Saskatchewan also provided casualty data to the NFID, however they covered only 6 years and 3 years respectively, so their data have not been included in this table.

2. "Unknown" includes fire/police/RCMP/other and unknown.

**Notes:** Deaths where it was unknown whether the victim was a civilian or a firefighter were excluded from the calculation of percentages. Totals may not add to 100% due to rounding.

In 2014, there were 170 fire-related deaths reported by the six jurisdictions. Similar to the 10year trend, civilians accounted for 98% of these deaths. Overall, 2% of the deaths involved fire fighters. Both of the firefighter deaths occurred in Alberta, with the other jurisdictions reporting only civilian deaths resulting from fire (Table 12).

			D	eaths		
	Civi	lian	Firefi	ghter	Unknown <sup>2</sup>	Total deaths
Jurisdiction	number	percent	number	percent	number	number
New Brunswick	6	100	0	0	0	6
Ontario	41	100	0	0	44	85
Manitoba	11	100	0	0	0	11
Saskatchewan	14	100	0	0	0	14
Alberta	31	94	2	6	0	33
British Columbia	21	100	0	0	0	21
Total	124	98	2	2	44	170

## Table 12 Fire-related deaths, civilians and firefighters, 6 jurisdictions, 2014<sup>1</sup>

1. Six jurisdictions in Canada provided 2014 casualty data to the National Fire Information Database (NFID) - New Brunswick, Ontario, Manitoba, Saskatchewan, Alberta, and British Columbia.

2. "Unknown" includes fire/police/RCMP/other and unknown.

**Notes:** Where it was unknown whether the victim was a civilian or a firefighter, the counts have been excluded from the calculation of percentages. Totals may not add to 100% due to rounding.

### Smoke inhalation more frequently the cause of death than burns

During the 2005 to 2014 period, smoke inhalation was consistently the most frequently reported cause of death (as reported by Manitoba, Alberta and British Columbia), accounting for 61% to 81% of all deaths in these provinces, annually. In 2014, smoke inhalation was reported as the cause in 60% of all deaths, while burns accounted for the remaining 40% (Table 13, 14).

Table 13		
Cause of fire-related deaths,	3 jurisdictions,	2005 to 2014 <sup>1</sup>

			Cause	of death		
	Smoke in	halation	Bu	Irn	Unknown	Total deaths
Year	number	percent	number	percent	number	number
2005	37	79	10	21	129	176
2006	33	77	10	23	118	161
2007	38	81	9	19	146	193
2008	43	74	15	26	161	219
2009	35	70	15	30	153	203
2010	33	65	18	35	118	169
2011	29	64	16	36	127	172
2012	23	64	13	36	113	149
2013	21	66	11	34	109	141
2014	28	61	18	39	104	150
Total	320	70	135	30	1,278	1,733

1. Four jurisdictions in Canada provided 10 years of casualty data to the National Fire Information Database (NFID) -Ontario, Manitoba, Alberta, and British Columbia. Ontario did not provide data related to the cause of injury, so their counts have been included under "Unknown". New Brunswick and Saskatchewan also provided casualty data to the NFID, however they covered only 6 years and 3 years respectively, so their data have not been included in this table. **Notes:** Where the cause of death was unknown, the counts have been excluded from the calculation of percentages. Totals may not add to 100% due to rounding.

Source: Statistics Canada, Canadian Centre for Justice Statistics, National Fire Information Database

## Table 14 Cause of fire-related deaths, 3 jurisdictions, 2014<sup>1</sup>

			Cau	se of deat	h	
	Smoke ir	halation	Bu	rn	Unknown	Total deaths
Jurisdiction	number	percent	number	percent	number	number
New Brunswick					6	6
Ontario					85	85
Manitoba					11	11
Saskatchewan	0	0	1	7	13	14
Alberta	17	59	12	41	4	33
British Columbia	11	65	6	35	4	21
Total	28	60	19	40	123	170

. Not available for any reference period

1. Six jurisdictions in Canada provided 2014 casualty data to the National Fire Information Database (NFID) -New Brunswick, Ontario, Manitoba, Saskatchewan, Alberta, and British Columbia. However New Brunswick, Ontario and Manitoba did not provide information on the cause of injury, so their data are presented under "Unknown".

**Notes:** Where the cause of death was unknown, the counts have been excluded from the calculation of percentages. Totals may not add to 100% due to rounding.

### Nine in ten of all fire-related deaths occurred as a result of residential fires

The majority of fire-related deaths occur in structural fires. In 2014, 87% of the reported fire deaths occurred as a result of structural fires. Vehicle fires accounted for 11% of reported deaths, while outdoor fires accounted for 4% (Table 15).

#### Table 15

### Number and proportion of deaths by type of fire, 6 jurisdictions, 2014<sup>1</sup>

				Тур	e of fire			
	Struc	tural	Veh	Vehicle Outdoo		loor	Unknown	Total deaths in structure fires
				Numbe	er of deat	hs		
Jurisdiction	number	percent	number	percent	number	percent	number	number
New Brunswick							6	6
Ontario	45	94	2	4	1	2	37	85
Manitoba	7	64	3	27	1	9	0	11
Saskatchewan	14	100	0	0	0	0	0	14
Alberta British	23	70	7	21	3	9	0	33
Columbia	20	100	0	0	0	0	1	21
Total	109	87	12	10	5	4	44	170

. Not available for any reference period

1. Six jurisdictions in Canada provided fire related deaths and property classification for 2014 to the National Fire Information Database (NFID) - New Brunswick, Ontario, Manitoba, Alberta, Saskatchewan and British Columbia. Although New Brunswick provided data on deaths, the type of fire was not provided. Therefore the number of deaths for New Brunswick have been included under 'Unknown'.

**Note:** Totals may not add to 100% due to rounding.

The number of deaths resulting from structural fires reported by four jurisdictions over the period (Ontario, Manitoba, Alberta and British Columbia) was much lower in 2014 (95 deaths) compared to all other years, where the number of deaths ranged from 121 in 2013 to 199 in 2008 (Table 16).

Of the deaths occurring as a result of structural fires over the 2005 to 2014 period, the majority occurred as a result of fires in the home, ranging from 87% in 2009 to 95% in 2008 and 2010.

# Table 16Number and proportion of deaths by selected property type(structures only), 4 jurisdictions, 20141

			Ту	pe of stru	ucture		
	Resid	ential	Stor prope		Other p typ		Total deaths in structure fires
			Nu	mber of o	deaths		
Year	number	percent	number	percent	number	percent	number
2005	144	94	0	0	5	3	154
2006	135	94	2	1	4	3	144
2007	157	93	3	2	5	3	168
2008	190	95	0	0	4	2	199
2009	152	87	5	3	8	5	174
2010	141	95	5	3	3	2	149
2011	142	92	4	3	5	3	155
2012	119	91	3	2	1	1	131
2013	114	94	3	2	1	1	121
2014	87	92	4	5	1	1	95
Total	1,381	93	29	2	37	2	1,490

1. Four jurisdictions in Canada provided ten years of fire-related deaths and property classification data to the National Fire Information Database (NFID) - Ontario, Manitoba, Alberta, and British Columbia. The counts in this table exclude New Brunswick (where the property classification of fire incidents was not provided), Saskatchewan (where data were only provided for 2012 to 2014) and the CAF (where information on casualties was not provided).

2. "Other property type" includes: industrial, assembly, mercantile, business use/personal service, institutional, and other structure type.

Note: Totals may not add to 100% due to rounding.

In 2014, of those deaths resulting from structural property fires, nine in ten (93%) occurred as a result of a fire in a residence. Although there were variations in this proportion among the provinces (ranging from 83% in Alberta to 100% in Manitoba and Saskatchewan), it is evident that the majority of fire-related deaths result from fires in the home (Table 17).

Similarly, of those persons injured as a result of structural property fires, the majority (87%) occurred as a result of a fire in a residence, ranging from 81% in Alberta to 100% in Saskatchewan.

### Table 17

## Number and proportion of deaths by selected property type (structures only), 5 jurisdictions, 2014<sup>1</sup>

			Тур	oe of struct	ure		
	Resid	ential	Storage p	roperties	Other p tyr		Total deaths in structure fires
			Nur	nber of dea	aths		
Jurisdiction	number	percent	number	percent	number	percent	number
Ontario	43	96	1	2	1	3	45
Manitoba	7	100	0	0	0	0	7
Saskatchewan	14	100	0	0	0	0	14
Alberta	19	83	2	9	2	10	23
British Columbia	18	90	1	5	1	6	20
Total	101	93	4	4	4	4	109

1. Five jurisdictions in Canada provided fire related deaths and property classification for 2014 to the National Fire Information Database (NFID) - Ontario, Manitoba, Alberta, Saskatchewan and British Columbia. New Brunswick also provided data on deaths, however did not provide the property classification of fire incidents. Therefore the number of deaths for New Brunswick have been excluded.

2. "Other property type" includes: industrial, assembly, mercantile, business use/personal service, institutional, and other structure type.

**Note:** Numbers presented here will not add to the total nor will percentages add to 100% due to the fact that only selected categories have been presented. For the complete table including all categories, refer to Table D-26 in Appendix D. **Source:** Statistics Canada, Canadian Centre for Justice Statistics, National Fire Information Database

## Number of residential fires where no smoke alarm was present more than doubled over 10 years

Information on the performance of smoke alarms in residential fire-incidents is limited, as many reporting jurisdictions were unable to confirm the presence and/or performance of smoke alarms in the majority of incidents.

However, the available data suggest that the non-presence of smoke alarms increased from one in ten (9%) in 2005 to almost a quarter (23%) of all residential fires in 2014, whereas the non-activation rates were fairly consistent, averaging 13% over the ten years (Table 18).

Although the number of residential fires has been declining, the number of incidents where there was no smoke alarm has more than doubled over the ten-year period, from 1,183 in 2005 to 2,650 in 2014.

## Table 18 Performance of smoke alarm device, residential fires, 4 jurisdictions, 2005 to 2014<sup>1</sup>

			P	erforman	ce of smo	ke alarm (	device (re	sidential	fires)		Performance of smoke alarm device (residential fires)														
	No smoke alarm Alarm activated		Alarm did not activate Unk			Unknown		o smoke 1, not ated, 10wn	Total residential fire incidents																
Year	number	percent	number	percent	number	percent	number	percent	number	percent	number														
2005	1,183	9	3,542	26	1,537	11	7,357	54	10,077	74	13,619														
2006	1,163	9	3,677	28	1,441	11	6,974	53	9,578	72	13,255														
2007	1,532	11	3,913	28	1,425	10	7,264	51	10,221	72	14,134														
2008	1,509	11	3,788	28	1,284	9	6,941	51	9,734	72	13,522														
2009	2,696	22	4,373	35	1,803	14	3,663	29	8,162	65	12,535														
2010	2,618	22	4,129	34	1,821	15	3,423	29	7,862	66	11,991														
2011	3,710	29	4,170	32	1,689	13	3,272	25	8,671	68	12,841														
2012	2,800	24	4,132	35	1,678	14	3,220	27	7,698	65	11,830														
2013	2,608	22	4,289	37	1,610	14	3,093	27	7,311	63	11,600														
2014	2,650	23	4,184	37	1,587	14	3,025	26	7,262	63	11,446														
Total	22,469	18	40,197	32	15,875	13	48,232	38	86,576	68	126,773														

1. Six jurisdictions in Canada provided 10 years of fire incident data to the National Fire Information Database (NFID) - New Brunswick, Ontario, Manitoba, Alberta, British Columbia and the Canadian Armed Forces. The Canadian Armed Forces did not provide data related to smoke alarm performance, so their counts are included under "Unknown". The counts in this table exclude New Brunswick (where the property classification of fire incidents was not provided) and Saskatchewan where data were only provided for 2012 to 2015). **Source:** Statistics Canada, Canadian Centre for Justice Statistics, National Fire Information Database

That said, the proportion of residential fires where a smoke alarm was present and activated increased from a low of 27% in 2005 to 37% in 2014. At the same time, the proportion of residential fires where there was either no smoke alarm present, present but not activated, or the presence of an alarm was unknown, has been on a downward trend since 2005, declining 28% over the ten-year period.

In 2014, where known, there was no smoke alarm present in two in ten (22%) of residential fires, while the smoke alarm failed to activate in 13% of these incidents (Table 19). Among the provinces, Alberta had the highest proportion of fires where there was no smoke alarm device present (61%), compared to the other provinces where the proportions ranged between 3% and 17%.

## Table 19Performance of smoke alarm device, residential fires, 6 jurisdictions, 20141

			Per	formance	e of smok	e alarm	device (r	esidentia	al fires)		
	No smoke alarm		Alarm activated		Alarm did not activate		Unknown		Total no smoke alarm, not activated, unknown		Total residential fire incidents
Jurisdiction	number	percent	number	percent	number	percent	number	percent	number	percent	number
Ontario	1,013	17	2,562	43	1,165	20	1,211	20	3,389	57	5,951
Manitoba	102	9	379	35	206	19	410	37	718	65	1,097
Saskatchewan	18	3	51	8	14	2	542	87	574	92	625
Alberta	1,299	61	354	17	216	10	249	12	1,764	83	2,118
British Columbia	236	10	889	39			1,130	50	1,366	61	2,255
Total, excluding Canadian Armed Forces	2,668	22	4,235	35	1,601	13	3,542	29	7,811	65	12,046
Canadian Armed Forces						-	25		25	100	25
Total, including Canadian Armed Forces	2,668	22	4,235	35	1,601	13	3,567	30	7,836	65	12,071

1. Seven jurisdictions in Canada provided 2014 fire incident data to the National Fire Information Database (NFID) - New Brunswick, Ontario, Manitoba, Saskatchewan, Alberta, British Columbia and the Canadian Armed Forces. The counts in this table exclude New Brunswick (where the property classification of fire incidents was not provided). The Canadian Armed Forces did not provide information regarding smoke alarm performance, so their counts have been included under "Unknown". **Source:** Statistics Canada, Canadian Centre for Justice Statistics, National Fire Information Database

Over the 2005 to 2014 period, there did not appear to be a discernible trend related to deaths and the presence of smoke alarms, and activation versus non-activation (Table 20). However, the proportion of deaths in residential fires where there was either no smoke alarm present, or present but not activated, or the presence of an alarm was unknown was fairly consistent over the ten year period, averaging 84%. This proportion is 16% higher than the same proportion for all residential fires.

### Table 20

## Performance of smoke alarm device where death occurred resulting from fire, 4 jurisdictions, 2005 to 2014<sup>1</sup>

				Perf	formance	of smoke	alarm dev	vice				
	No smok	No smoke alarm Alarm activated				did not /ate	Unknown		Total no smoke alarm, not activated, unknown		Total deaths	
		Number of deaths										
Year	number	number percent number percent number percent number percent number percent n										
2005	26	15	29	16	25	14	96	55	147	84	176	
2006	41	25	26	16	16	10	78	48	135	84	161	
2007	50	26	29	15	10	5	104	54	164	85	193	
2008	47	21	34	16	17	8	121	55	185	84	219	
2009	33	16	35	17	20	10	115	57	168	83	203	
2010	27	16	21	12	23	14	98	58	148	88	169	
2011	36	21	27	16	24	14	85	49	145	84	172	
2012	22	15	28	19	16	11	83	56	121	81	149	
2013	26	18	28	20	8	6	79	56	113	80	141	
2014	35	23	19	13	8	5	88	59	131	87	150	
Total	343	20	276	16	167	10	947	55	1,457	84	1,733	

1. Four jurisdictions in Canada provided 10 years of casualty data to the National Fire Information Database (NFID) - Ontario, Manitoba, Alberta, and British Columbia. New Brunswick and Saskatchewan also provided casualty data to the NFID, however they covered only 6 years and 3 years respectively, so their data have not been included in this table.

Consistent with the proportion of all residential fires, in 2014, where known, there was no smoke alarm present in 22% of residential fires involving deaths. A smoke alarm was activated in 12% of residential fires causing deaths (Table 21).

In 2014, the proportion of deaths in residential fires where there was either no smoke alarm present, or present but not activated, or the presence of an alarm was unknown was 88%, fairly consistent with the ten-year trend.

#### Table 21 Performance of smoke alarm device where death occurred resulting from fire, 6 jurisdictions, 2014<sup>1</sup>

	Performance of smoke alarm device											
	No smoke alarm		Alarm activated		Alarm did not activate		Unknown		Total no smoke alarm, not activated, unknown		Total deaths	
		Number of deaths										
Jurisdiction	number	percent	number	percent	number	percent	number	percent	number	percent	number	
New Brunswick	1	17	1	17	0	0	4	67	5	83	6	
Ontario	7	8	10	12	6	7	62	73	75	88	85	
Manitoba	2	18	1	9	0	0	8	73	10	91	11	
Saskatchewan	2	14	0	0	0	0	12	86	14	100	14	
Alberta	20	61	5	15	2	6	6	18	28	85	33	
British Columbia	6	29	3	14	0	0	12	57	18	86	21	
Total	38	22	20	12	8	5	104	61	150	88	170	

1. Six jurisdictions in Canada provided 2014 casualty data to the National Fire Information Database (NFID) - New Brunswick, Ontario, Manitoba, Saskatchewan, Alberta, and British Columbia. The Canadian Armed Forces did not provide data related to either performance of smoke alarm devices or casualties.

### No sprinkler systems available in majority of fire incidents

Similar to the information on smoke alarms, information on the presence and performance of sprinkler systems was not widely reported, with the majority of jurisdictions indicating a large number of unknowns.

Though the proportion varied somewhat between 2005 and 2014, this trend in a lack of sprinkler systems remained fairly consistent across the 10 year period.

That said, the available data indicate that in the majority (95%) of fire related incidents in 2014, there was either no sprinkler system in place where a death occurred or it was unknown as to whether there was a sprinkler present (Table 22).

	Performance of sprinkler system, structural fires										
	No spr	inkler	Sprinkler operated		Sprinkler did not operate		Unknown		Total structural fires		
Jurisdiction	number percent		number	percent	number	percent	number	percent	number		
Ontario	6,059	66	292	3	335	4	2,534	27	9,220		
Manitoba	1,410	79	27	2	46	3	307	17	1,790		
Saskatchewan	0	0	1	0	1	0	1,553	100	1,555		
Alberta	2,572	80	123	4	82	3	450	14	3,227		
British Columbia			67	2			3,148	98	3,215		
Total, excluding Canadian Armed Forces	10,041	53	510	3	464	2	7,992	42	19,007		
Canadian Armed Forces							55	42	55		
Total, including Canadian Armed Forces	10,041	53	510	3	464	2	8,047	42	19,062		

Table 22

## Performance of sprinkler system, structural fires, 5 jurisdictions, 2014<sup>1</sup>

. Not available for any reference period

1. Seven jurisdictions in Canada provided 2014 fire incident data to the National Fire Information Database (NFID)

- New Brunswick, Ontario, Manitoba, Saskatchewan, Alberta, British Columbia and the Canadian Armed Forces. Canadian Armed Forces did not provide data on sprinkler systems so their counts have been included under "Unknown". The counts in this table exclude New Brunswick due to the fact that they did not provide property classification information for fire incidents.

**Notes:** Where the operation of the sprinkler was unknown, the counts have been excluded from the calculation of percentages. Totals may not add to 100% due to rounding.

#### Persons trapped by spreading fire or smoke leading reason for non-evacuation

Over the 2005 to 2014 period, the leading reason for non-evacuation where deaths occurred as a result of a fire incident was persons being trapped by spreading fire or smoke, ranging from 58% (in 2012) to 87% (in 2011) of non-evacuation deaths (Table 23). Similarly, over the same period, the leading cause for non-evacuation for persons injured as a result of fire incidents was being trapped by spreading fire or smoke, however, the proportions weren't as high as for deaths, ranging between 44% and 72% of non-evacuations.

## Table 23

## Fire-related deaths, non-evacuation and selected reason, 4 jurisdictions, 2005 to 2014<sup>1</sup>

	Deaths										
	Trappeo spread fire/sm	ing	Build collapse debris/e	/falling	Age/o phys limita	ical	Total deaths				
Year	number percent		number	percent	number	percent	number				
2005	32	86	1	3	4	11	176				
2006	33	70	7	15	6	13	161				
2007	44	76	0	0	11	19	193				
2008	48	79	1	2	8	13	219				
2009	42	68	2	3	18	29	203				
2010	41	66	5	8	12	19	169				
2011	46	87	3	6	4	8	172				
2012	25	58	4	9	7	16	149				
2013	20	56	6	17	7	19	141				
2014	31	82	2	5	2	5	150				
Total	362	73	31	6	79	16	1,733				

**1.** Four jurisdictions in Canada provided ten years of casualty data to the National Fire Information Database (NFID) - Ontario, Manitoba, Alberta, and British Columbia.

**Note:** Numbers presented here will not add to the total nor will percentages add to 100% due to the fact that only selected categories have been presented. For the complete table including all categories, refer to Table D-36 in Appendix D.

In 2014, consistent with the ten-year trends for both deaths and injuries occurring as a result of a fire incident where the person was unable to evacuate the property, the reason was predominately due to being trapped by spreading fire or smoke (accounting for 77% and 57% of non-evacuations, respectively). It should be noted that there may have been more than one reason for non-evacuation, but only one reason can be provided (Table 24).

### Table 24

### Fire-related deaths, non-evacuation and selected reason, 5 jurisdictions, 2014<sup>1</sup>

	Deaths										
	Trapped by spreading fire/smoke		locke	ocked, ed or ucted		rdous Is/toxic	Total deaths				
Jurisdiction	number	percent	number	percent	number	percent	number				
New Brunswick							6				
Ontario	8	80	0	0	0	0	85				
Manitoba	1	50	1	50	0	0	11				
Saskatchewan	2	40	0	0	3	60	14				
Alberta	11	79	2	14	0	0	33				
British Columbia	11	92	0	0	0	0	21				
Total	33	77	3	7	3	7	170				

. Not available for any reference period

1. Six jurisdictions in Canada provided 2014 casualty data to the National Fire Information Database (NFID) - New Brunswick, Ontario, Manitoba, Saskatchewan, Alberta, and British Columbia.

**Notes:** Numbers presented here will not add to the total nor will percentages add to 100% due to the fact that only selected categories have been presented. For the complete table including all categories, refer to Table D-39 in Appendix D.

Source: Statistics Canada, Canadian Centre for Justice Statistics, National Fire Information Database

## Summary

The number of fire incidents has been on a downward trend since 2005, with a 25% decline in the number of incidents reported between 2005 and 2014. This decline occurred across all fire types. Structural fires were more commonly reported than were vehicle or outdoor fires, with 63% of all structural fires occurring in residences. One-third of all residential fires were initiated by cooking equipment, and mechanical or electrical failures were among the leading human factors which contributed to residential fires.

Overall, the number fire-related deaths has declined since 2008, however the majority of deaths resulting from structural property fires were due to fires occurring in the home. Among the cause of death, it was smoke inhalation, rather than burns, which was the most commonly cited cause. While not widely reported, the data indicate that in many fire-related incidents, there was no smoke alarm or sprinkler system present.

## **Appendix A: Key terminology and definitions**

### Fire/fire incident

For the purpose of the NFID, a fire has been defined by the CCFMFC and the CAFC as any instance of destructive and uncontrolled burning, including explosion of combustible solids, liquids or gases. Fire does **not** include the following, except where they cause fire or occur as a consequence of fire:

- a) lightning or electrical discharge;
- b) explosions of steam boilers, hot water tanks or other pressure vessels due to internal pressure and not due to internal combustion;
- c) explosions of ammunition or other detonating material;
- d) accidents involving ship, aircraft or other vehicle;
- e) forest (that fall under the Forest & Prairie Protection Act & any Federal jurisdiction);
- f) grass or brush or rubbish except for harvestable products; and
- g) overheat condition, whereby a material is altered by heat without self-sustained combustion (removal of heat will stop the alteration process), e.g., an overcooked roast in the oven, discolouration cause by hot metal on a kitchen counter, or a cigarette scar on a table or on a carpet.

This definition restricts fire incidents to be reported nationally to those which cause deaths or injuries or which destroy or damage property having a value that may be expressed in terms of dollars.

**Type of fire:** refers to where the source of the fire originated. For example, if the fire originated in a single dwelling and spread to an attached garage (including any vehicles), the type of fire is classified as a "Structure fire".

**Structure fire:** includes a wide range of properties/assemblies of materials forming a construction for occupancy or use to serve a specific purpose. This includes, but is not limited to, all types of buildings, open platforms, bridges, storage facilities, tents, air-supported structures, and grandstands.

**Vehicle fire:** includes a wide range of motorized vehicles including, but not limited to passenger vehicles (other than a motor home), trucks, sport utility vehicles, buses, freight or transport vehicles, rail vehicles, farm equipment, water vehicles (e.g., boats, barges, hovercraft), and aircraft. Mobile properties used as a structure are excluded (e.g., mobile homes, motor homes, camping trailers).

**Outdoor fire:** refers to fires involving vegetation, grass, brush, crops, leaves and other outdoor properties not involving a structure or vehicle.

**Type of structure/property:** classifies structural properties into categories with common themes and refers to the general purpose for which the structure is used. The type of structure categories are as follows: residential, industrial, assembly, mercantile, business use/personal service, institutional, storage properties, and other structure type.

**Residential structures:** refers to structures where persons commonly reside for living purposes, either on a permanent or temporary basis. This category includes but is not limited to, single detached homes, duplexes, semi-detached homes, row/garden/town housing, apartments, tenements, hotels/motels/lodges/hostels/boarding houses, dormitories, educational institutional residences, camp sites/RV parks, mobile/trailer parks and residential homes with an attached business (up to 3 stories).

**Industrial structures:** refers to structures where raw materials are transformed into new products and the assembly of component parts of manufactured products is considered industrial. Examples of industrial structures include the following: manufacturing/processing of chemicals, petroleum, paint and plastic; wood and furniture manufacturers; metal, electrical equipment and appliance manufacturers; food processing facilities; tobacco manufacturers, textile, manufacturers of textiles, clothing and footwear; and vehicle and equipment manufacturers.

**Assembly structures:** refers to structures for the gathering of persons for civic, political, travel, religious, social education or recreational purposes. Such property is characterized by the presence or potential presence of crowds, with attendant panic hazard. Included in this category, but not limited to, are auditoriums/theatres, arenas, cultural centres, amusement parks, stadiums, educational institutions, churches, funeral parlours, recreation/sports facilities, sports and social clubs, and food or beverage establishments.

**Mercantile structures:** refers to the occupancy or use of a building or part thereof for the displaying or selling of retail goods, wares or merchandise. Examples of mercantile structures include retail stores of any type (e.g., clothing, electronics, furniture/appliance, pharmacies, department stores, variety and specialty shops, etc.), repair shops, laundromats, dry cleaners, and vehicle sales and services.

**Business use/personal service:** refers to the occupancy or use of a building or part thereof for the transaction of business or the rendering or receiving of professional or personal services. Examples of businesses and services included in this category are office buildings, civic, federal or provincial government offices, banks, post offices, barber/hairdressing establishments, tanning salons, and massage parlours.

**Institutional structures:** refers to properties for medical treatment, for care of persons suffering from illness, disease or infirmity, for the care of children and for the care of convalescents or aged persons and for penal or corrective purposes. Institutional buildings ordinarily provide sleeping facilities for the occupants, and are principally used by persons whose actions are supervised or restrained. Examples of institutional structures are as follows: prisons/penitentiaries, jails, detention centres, correctional facilities, reformatories, hospitals, medical centres/clinics, mental health hospitals, and licensed care facilities.

**Storage structures:** refers to property characterized by the presence of relatively small numbers of persons in proportion to the area. Storage includes all buildings, structures or areas utilized primarily for the storage or sheltering of goods, merchandise, products, vehicles or animals, including servicing, processing or repair operations.

**Other structure type:** includes mostly very specialized structure not elsewhere classified such as laboratories, farm facilities, utilities (e.g., power generating plants, gas manufacturing plants), communications centres (e.g., radio, radar sites, police/fire/emergency communications centres), and nucleonics sites.

**Source of ignition:** refers to the actual equipment, device or item which brings about ignition. For the purpose of this report the following categories have been used to present the source of fire: cooking equipment, heating equipment, appliances and household equipment, electrical distribution equipment, other electrical equipment, smoker's material and open flame, exposure fire, no igniting object, or other/unknown.

**Cooking equipment:** includes but is not limited to, ovens/stoves, top burner area (including fire in a pot or pan), deep fat fryers, commercial ovens and stoves, smokers,

pans or grills not on stove, hot plates, barbecues, portable warming appliances, toasters, kettles, coffee makers, microwave ovens, etc.

**Heating equipment:** includes but is not limited to, central heating units such as furnaces/boilers, water heaters, space heaters, baseboard heaters, wood stoves, fireplaces, chimneys, vent connectors, and radiant heating systems.

**Appliances and household equipment:** includes but is not limited to, televisions, radios, washing machines and dryers, dishwashers, air condition units, refrigerators/freezers, electric blankets/heating pads, vacuum cleaners, hair dryers, snow blowers, etc.

**Electrical distribution equipment:** includes but is not limited to, permanent electric wiring, conductors, transformers, fuses, circuit breakers, extension cords/power bars, batteries, etc.

**Other electrical equipment:** includes but is not limited to, appliance motors, power tools, computers/laptops, lamps (incandescent, fluorescent, halogen, grow lamps), video game equipment, photocopiers, printers, etc.

**Smoker's material and open flame:** includes but is not limited to, cigarettes, pipes, cigars, lighters, matches, ashtrays, lanterns, candles, cutting torch, welding equipment, blow torches, soldering irons, hot ashes or embers not associated with smoking, etc.

**Exposure:** an exposure fire is one where the structure reported was not the originating source of the fire. An exposure fire can occur as a direct consequence of a fire originating in either a completely detached segregated building, vehicle, structure or facility or an outside open area (e.g., campfires, forest fires, tree/grass/shrub or brush fires).

No igniting object: refers to lightning.

**Other igniting object:** refers to objects not elsewhere classified and includes, but is not limited to the following: internal combustion engines (including exhaust systems), air compressors, fireworks, sparklers, flares, commercial and industrial machinery/equipment, chemical reactions/spontaneous combustion, Molotov cocktail, etc.

**Act or omission:** refers to the set of circumstances precipitated by human acts (something that was done) or human omissions to act (something that was not done) that contributed to the onset of the fire incident. The purpose of this classification is to indicate these acts or omissions, be they deliberate or negligent. It includes such actions as incendiary acts and negligent use of fuel sources, equipment or materials. It also includes such factors as mechanical failures which may have resulted from human omissions through lack of maintenance, or through design, construction or installation deficiencies.

**Incendiary acts:** refers to deliberate acts of arson caused by individuals or groups of persons during riots, civil disturbances, acts of vandalism or mischief. This category also includes suspicious fires.

**Acts of misuse of source of ignition:** refers to primarily accidents involving the source of ignition such things as the misuse/improper extinguishment of smokers' material, inadequate control of open fires, playing with a source of ignition, welding or using a torch too close to a flammable object, etc.

**Misuse of material ignited:** refers to the improper use/handling or storage of the material that caught fire, such as an accidental fuel spill, overheating of cooking oil, grease or wax, placing a combustible too close to heat, etc.

**Mechanical/electrical failure/malfunction:** refers to the omission to maintain mechanical or electrical equipment properly, which resulted in: a part to fail, leak or break; or an automatic control failure; or a manual control failure; or an electrical short circuit; or for a part to wear out; or an engine backfire; or some other sort of mechanical/electrical failure or malfunction.

**Construction, design or installation deficiency:** refers to construction, design deficiencies of the structure in general. This category also includes the installation of materials too close to a combustible, over fusing, and suspected faulty wiring.

**Misuse of equipment:** includes but is not limited to the following: over-fuelling of equipment, a log rolling out of a fireplace or wood burning oven, screen not closed, flying embers, lack of maintenance, and leaving equipment unattended.

**Human failing:** refers to instances where the onset of the fire was related to circumstances related to a person or persons. It includes instances where the act or omission was due to a person/persons: being asleep or fatigued at the time of the fire; having temporary loss of judgement; having a physical or mental disability; being impaired by alcohol, drugs or medication; having an accident; being distracted or preoccupied. It also includes factors of age where an infant, young child or elderly person was unattended or unsupervised.

#### Fire casualties/victims

Fire casualties refers to any fire deaths or fire injuries (civilian or firefighter) based on the definitions that follow.

#### Fire-related deaths

a) Fire-related death (civilian)

A person (i.e., civilian/non-firefighter) killed accidentally as a direct result of a fire or a person who dies from a fire injury within one year following the date on which the injury was sustained, providing the person was not a member of a fire department.

A person who dies from burns or asphyxia in a vehicle as a result of a collision is **not** considered a fire death. A person who dies by accident as a result of an incendiary fire (i.e., arson) is considered to be a fire death.

When there is doubt about suicide or murder, the person has been classified as a fire death.

b) Fire-related death (firefighter)

A member of a fire department killed accidentally while in the process of fighting a fire or who died from a fire action injury within one year following the date on which the injury was sustained.

A firefighter killed as a result of an accident while en route to or returning from the scene of an actual fire or who died from an injury received in such an accident, is considered to be a fire-related death.

#### **Fire Injuries**

a) Fire-related injury (civilian)
 A person (i.e., civilian/non-firefighter) accidentally injured as a direct result of a fire unless this person is a member of a fire department.

A person who suffers from smoke inhalation from an overheat condition where no actual fire occurred is **not** considered an injury.

b) Fire-related injury (firefighter)A member of a fire department accidentally injured while in the process of fighting a fire.

A firefighter injured as a result of an accident while en route to or returning from the scene of an actual fire is considered a fire action injury.

### **Appendix B: Data coverage and limitations**

Seven jurisdictions provided fire-related data for the pilot NFID project. However, not all jurisdictions were able to provide the complete 10 years of fire incident and victim information. British Columbia, Alberta Manitoba, and Ontario all provided at least 10 years of data for both fire incidents and victims. The following table provides the years of data provided by each of the seven participating jurisdictions, by the type of information.

Note that all jurisdictions reported data for 2015 with the exception of Ontario whose data for that year were not finalized at the time of the request for data. It is for that reason that the information in this report covers the 10 year period of 2005 to 2014.

It should also be noted that New Brunswick did not provide information related to the type of property, therefore their fire incident data have not been included in the tables or analysis where property type is the unit of analysis.

Additionally, data related to deaths and persons injured as a result of fire incidents was not provided by the Canadian Armed Forces.

	Type of in	formation
Jurisdiction	Incident	Casualties
British Columbia	2005 to 2015	2005 to 2015
Alberta	2005 to 2015	2005 to 2015
Saskatchewan	2012 to 2015	2012 to 2015
Manitoba	2005 to 2015	2005 to 2015
Ontario	2005 to 2014	2005 to 2014
New Brunswick	2005 to 2015	2010 to 2015
Canadian Armed Forces	2005 to 2015	n/a

### Table B-1: Years of data reported to the NFID by jurisdiction, by type of information Type of information

Additionally, there is an unknown level of underreporting of fire incidents across the country. Not all fire services report their fire incident information to their respective Fire Commissioner's/Fire Marshal's Office. Others may report, but not on a consistent basis. This may be true of where fire services are provided primarily or solely by volunteer firefighters or smaller municipalities with small scale operations, and limited resources and capacity to complete the various reports. In some jurisdictions, reporting by First Nations fire services may or may not be included, and may not be mandatory. However, it is believed amongst the fire services community that fire-related deaths are more consistently recorded.

It should also be noted that the degree of underreporting for Saskatchewan may be higher than in other jurisdictions. This is due to the fact that data were provided for only those municipalities (including towns, cities, villages, etc.) that are using the NFIRS (National Fire Incident Reporting System), a U.S.-based records management system.

#### High proportion of "unknowns"

A number of the tables contain a relatively high proportion of unknown values. Although these counts have been removed from the calculation of proportions for the other categories in the table, the proportion of known values is artificially inflated. For this reason, caution should be used in the interpretation of the information in these tables.

### **Appendix C: Methodology**

The initial step in the development of the NFID was the development of the taxonomy (to serve as a data dictionary for the database in its final form). The 2001 version of the *Canadian Code Structure on Fire Loss Statistics* (CCS) served as the fundamental basis and starting point in developing the taxonomy. The CCS provides a standard set of defined data elements and code sets as they relate to fire incidents and losses which are commonly accepted by the Council of Canadian Fire Marshals and Fire Commissioners and the Canadian Association of Fire Chiefs. The purpose of the CCS was to provide for the development of standardized reporting of fire information across the country.

As previously mentioned, seven jurisdictions provided data files for the NFID pilot project according to specifications provided by the CCJS. Although there are notable similarities in the types of data collected by the various jurisdictions, as noted by Wijayasinghe (2012) and Maxim et. al. (2013), upon examination of the data files, no one jurisdiction completely adopted the CCS standards. While some code sets show (some) alignment with the coding structure of the CCS, others have no resemblance to the national data requirements set out in the CCS.

In order to facilitate the analysis of fire data across the country, it was necessary to apply a standardized and uniform coding structure to all files. In building the NFID taxonomy, the CCS provided not only standard data element names, definitions, labels, code sets and descriptions, but also standard formats and lengths. In some instances, where there appeared to be analytical utility, new code values were added to existing CCS data elements. Where no existing data elements were present, new ones were defined and derived and added to the NFID.

#### Standardization of data for the NFID

All jurisdictional data, including that which closely followed the CCS, required "cleaning" as they had lengthy descriptors following the code values. Additionally, although the codes seemingly conformed to the CCS, all jurisdictional code values were validated against the CCS, because it was found that no jurisdiction conformed 100%. In many instances new codes were added for operational purposes, or minor changes to codes and descriptions had been made.

The data standardization process was the same for all jurisdictions whether they conformed to the CCS or not, applying the NFID standards for variable names, formats, lengths and code values. The process by which CCJS standardizes data from data providers for its various microdata surveys is commonly referred to as "data mapping". Each jurisdictions' data were mapped independently to the NFID standard. This exercise required system documentation from the jurisdictions that provided definitions and descriptions of variables and response code values (e.g., data dictionaries, code set documents, etc.).

An MS Excel workbook was created for each jurisdictional file, containing a spreadsheet for each NFID data element. All details for each NFID data element were provided on one side of the spreadsheet, leaving the other side to map the jurisdictional details, where available. An example of how data were mapped for the NFID "Performance of Automatic Extinguishing Equipment (PERFORM)" variable for Saskatchewan is provided below. Note, that code values which are blank in this data element in Saskatchewan indicate that no corresponding value appeared in their dataset. These mappings served as the specifications for the statistical-based software programs developed to "transform" the jurisdictional data to the NFID standards.

	SK NFIRS mapping	NFID data element details
Data element name:	n/a	Performance of Automatic Extinguishing Equipment
Label:	AESPerform	PERFORM
Record:	Incident	Incident
Format:	n/a	Alphanumeric 1
	1 - System operated and was effective	1 - Equipment operated
	4 - System did not operate	2 - Equipment should have operated but did not
Code Values and	3 - Fire too small to activate system	3 - Equipment present but fire too small to require operation
Descriptions:	Blank	8 - No equipment present in room or area of origin of fire
	Blank	9 - Performance of automatic extinguishing equipment – unclassified
	U Undetermined or blank	0 - Performance of automatic extinguishing equipment - unknown

Table C-1. Example of data mapping, PEFORM data element, Saskatchewan

### Further standardization required for analytical purposes

Beyond the mapping exercise aimed at aligning the jurisdictional data with the NFID taxonomy, additional standardization was also required. "Grouped variables" were created for some of the data elements with large numbers of response codes. The groups represent common themes within the variables. For example, the NFID "Act or Omission" variable contains 87 response codes, which are grouped into the following 9 categories: incendiary fires; misuse of source of ignition; misuse of material ignited; mechanical/electrical failure/malfunction; construction, design or installation deficiency; misuse of equipment; human failing; vehicle accident; miscellaneous, unknown, or undetermined. Fire incident information or data received from each of the provinces in relation to circumstances precipitated by human acts or human omissions to act and leading to a fire incident were subsequently classified into one of the Act and Omission categories. For example, if *Act or Omission* was identified as "Electrical short circuit" (code value 440) on an incident record it was mapped or classified to the Mechanical/electrical failure/malfunction NFID category (code value 4000) category.

The grouping of these variables (where there may be a large number of small frequencies by individual categories and variation in reporting by jurisdiction) allows for more generalized analysis of data, and also a way to facilitate comparability between jurisdictions (and over time).

### References

Fire Protection Services, Human Resources and Social Development Canada. (2007). *Council of Canadian Fire Marshals and Fire Commissioners, Annual Report 2002, Fire Losses in Canada*.

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Maxim, P., Plecas, DI, Garis, L. (2013). *Report on the Feasibility of a Canadian National Fire Information Database*. University of the Fraser Valley, School of Criminology & Criminal Justice, Centre for Public Safety & Criminal Justice Research.

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### **Appendix D: Detailed data tables**

#### Table D-1

# Number and proportion of reported structural, vehicle and outdoor fire incidents, 6 jurisdictions, 2005 to 2014<sup>1</sup>

	Structu	ral fires	Vehicle	e fires	Outdoo	or fires	Unknown <sup>2</sup>	Total fire incidents
Year	number	percent	number	percent	number	percent	number	number
2005	23,580	52	9,445	21	12,457	26	3,226	48,708
2006	23,367	53	8,960	20	12,070	25	3,018	47,415
2007	24,082	53	8,715	19	12,625	26	3,083	48,505
2008	22,418	55	8,511	21	9,894	23	2,291	43,114
2009	19,896	56	7,896	22	7,914	18	9,396	45,102
2010	18,996	57	6,979	21	7,195	16	11,508	44,678
2011	19,412	60	7,173	22	6,005	14	10,500	43,090
2012	18,528	57	6,485	20	7,261	16	12,731	45,005
2013	17,546	61	6,151	21	5,075	14	8,422	37,194
2014	17,507	62	6,054	21	4,858	13	8,026	36,445
Total	205,332	56	76,369	21	85,354	19	72,201	439,256

1. Six jurisdictions in Canada provided ten years of fire incident data to the National Fire Information Database (NFID) - New Brunswick, Ontario, Manitoba, Alberta, British Columbia and the Canadian Armed Forces. Saskatchewan also provided data to the NFID, however they were for only 2012 to 2014, so their data have not been included in this table.

2. New Brunswick did not provide information on the property classification of fire incidents in the province. Their counts are included under "Unknown".

**Notes:** Incidents where the property type was unknown were excluded from the calculation of percentages. Totals may not add to 100% due to rounding.

# Table D-2Number and proportion of reported structural, vehicle and outdoor fire incidents, 6jurisdictions, 20141

	Structu	ral fires	Vehicl	e fires	Outdoo	or fires	Unknown <sup>2</sup>	Total fire incidents
Jurisdiction	number	percent	number	percent	number	percent	number	number
New Brunswick							1,509	1,509
Ontario	9,220	72	2,901	23	749	6	5,855	18,725
Manitoba	1,790	49	599	17	1,235	34	0	3,624
Saskatchewan	1,555	88	2	0	213	12	629	2,399
Alberta	3,227	63	1,475	29	381	7	652	5,735
British Columbia	3,215	49	1,049	16	2,319	35	10	6,593
Total, excluding Canadian Armed Forces	19,007	64	6,026	20	4,897	16	8,655	38,585
Canadian Armed Forces	55	21	30	12	174	67	0	259
Total, including Canadian Armed Forces	19,062	63	6,056	20	5,071	17	8,655	38,844

. Not available for any reference period

1. Seven jurisdictions in Canada provided incident data for 2014 to the National Fire Information Database (NFID) - New Brunswick,

Ontario, Manitoba, Saskatchewan, Alberta, British Columbia and the Canadian Armed Forces.

2. New Brunswick did not provide information on the property classification of fire incidents in the province. Their counts are included under "Unknown".

**Notes:** Incidents where the property type was unknown were excluded from the calculation of percentages. Totals may not add to 100% due to rounding.

# Table D-3Number and proportion of fire incidents by property type (structures only), 5 jurisdictions, 2005 to 2014<sup>1</sup>

	Reside	ential	Indu	strial	Asse	mbly	Merca	antile	use/pe	ness ersonal vice	Institu	ıtional		age erties	Otl	ıer	Total structural fire incidents
Year	number	percent	number	percent	number	percent	number	percent	number	percent	number	percent	number	percent	number	percent	number
2005	13,619	58	1,069	5	1,718	7	1,029	4	293	1	316	1	1,607	7	3,929	17	23,580
2006	13,255	57	931	4	1,737	7	1,052	5	285	1	290	1	1,624	7	4,193	18	23,367
2007	14,134	59	936	4	1,645	7	1,053	4	338	1	298	1	1,633	7	4,045	17	24,082
2008	13,522	60	858	4	1,361	6	981	4	292	1	276	1	1,599	7	3,529	16	22,418
2009	12,535	63	628	3	1,214	6	819	4	271	1	250	1	1,532	8	2,647	13	19,896
2010	11,991	63	618	3	982	5	678	4	270	1	248	1	1,562	8	2,647	14	18,996
2011	12,841	66	597	3	960	5	656	3	287	1	212	1	1,607	8	2,252	12	19,412
2012	11,830	64	657	4	928	5	693	4	247	1	234	1	1,521	8	2,418	13	18,528
2013	11,600	66	638	4	821	5	615	4	236	1	209	1	1,345	8	2,082	12	17,546
2014	11,446	65	636	4	924	5	657	4	241	1	225	1	1,270	7	2,108	12	17,507
Total	126,773	62	7,568	4	12,290	6	8,233	4	2,760	1	2,558	1	15,300	7	29,850	15	205,332

1. Five jurisdictions in Canada provided ten years of fire incident data by property classification to the National Fire Information Database (NFID) - Ontario, Manitoba, Alberta, British Columbia and the Canadian Armed Forces. The counts in this table exclude New Brunswick (where the property classification of fire incidents was not provided) and Saskatchewan (where data were only provided for 2012 to 2014).

Note: Totals may not add to 100% due to rounding.

# Table D-4Number and proportion of fire incidents by property type (structures only), 6 jurisdictions, 2014<sup>1</sup>

	Resid	ential	Indu	strial	Asse	mbly	Merca	antile	use/pe	ness ersonal vice	Institu	ıtional		rage erties	Ot	her	Total structural fire incidents
Jurisdiction	number	percent	number	percent	number	percent	number	percent	number								
Ontario	5,951	65	367	4	520	6	371	4	77	1	134	1	653	7	1,147	12	9,220
Manitoba	1,097	61	43	2	72	4	46	3	13	1	44	2	143	8	332	19	1,790
Saskatchewan	625	40	15	1	63	4	65	4	6	0	16	1	145	9	620	40	1,555
Alberta	2,118	66	90	3	113	4	129	4	72	2	20	1	325	10	360	11	3,227
British Columbia	2,255	70	133	4	212	7	111	3	75	2	26	1	148	5	255	8	3,215
Total, excluding Canadian Armed Forces	12,046	63	648	3	980	5	722	4	243	1	240	1	1,414	7	2,714	14	19,007
Canadian Armed Forces	25	45	3	5	7	13	0	0	4	7	1	2	1	2	14	25	55
Total, including Canadian Armed Forces	12,071	63	651	3	987	5	722	4	247	1	241	1	1,415	7	2,728	14	19,062

1. Six jurisdictions in Canada provided fire incident data by property classification for 2014 to the National Fire Information Database (NFID) - Ontario, Manitoba, Saskatchewan, Alberta, British Columbia and the Canadian Armed Forces. The counts in this table exclude New Brunswick where the property classification of fire incidents was not provided.

**Note:** Totals may not add to 100% due to rounding.

# Table D-5Number and proportion of structural fires by source of ignition, 5 jurisdictions, 2005 to 20141

	Cool equip	•	Hea Equip	ting oment	and ho	ances usehold oment	distril	trical oution oment	elect	her trical oment	Smo materi open	al and	Ехро	osure	-	niting ject	Unknown	Total structural fire incidents
Year	number	percent	number	percent	number	percent	number	percent	number	percent	number	percent	number	percent	number	percent	number	number
2005	3,111	20	2,516	16	782	5	1,846	12	736	5	4,884	32	1,218	8	222	1	8,265	23,580
2006	3,099	21	2,257	15	837	6	1,768	12	701	5	4,882	32	1,302	9	228	2	8,293	23,367
2007	3,060	20	2,341	15	843	6	1,831	12	743	5	4,992	33	1,226	8	173	1	8,873	24,082
2008	3,077	21	2,176	15	811	6	1,902	13	755	5	4,496	31	1,107	8	170	1	7,924	22,418
2009	3,083	23	1,975	15	808	6	1,684	13	701	5	3,888	29	1,092	8	136	1	6,529	19,896
2010	3,113	24	1,674	13	769	6	1,586	12	670	5	3,589	28	1,200	9	165	1	6,230	18,996
2011	2,941	23	1,692	13	747	6	1,623	13	647	5	3,512	28	1,376	11	162	1	6,712	19,412
2012	3,040	25	1,532	13	705	6	1,602	13	609	5	3,469	29	1,050	9	151	1	6,370	18,528
2013	3,024	26	1,563	13	740	6	1,580	14	629	5	3,083	26	920	8	138	1	5,869	17,546
2014	3,191	27	1,520	13	752	6	1,655	14	591	5	2,956	25	1,030	9	125	1	5,687	17,507
Total	30,739	23	19,246	14	7,794	6	17,077	13	6,782	5	39,751	30	11,521	9	1,670	1	70,752	205,332

1. Five jurisdictions in Canada provided the source of ignition and property classification for ten years of fire incident data to the National Fire Information Database (NFID) - Ontario, Manitoba, Alberta, British Columbia and the Canadian Armed Forces. The counts in this table exclude New Brunswick (where the property classification of fire incidents was not provided) and Saskatchewan (where data were only provided for 2012 to 2014).

Notes: Incidents where the source of ignition was unknown were excluded from the calculation of percentages. Totals may not add to 100% due to rounding.

# Table D-6Number and proportion of structural fires by source of ignition, 6 jurisdictions, 2014<sup>1</sup>

	Cool equip	-		iting oment	house	ces and ehold ment	Elect distrit equip	oution	Other el equip	ectrical ment	materi	ker's ial and flame	Ехро	osure	No ig obj	niting ect	Unknown	Total structural fire incidents
Jurisdiction	number	percent	number	percent	number	percent	number	percent	number	percent	number	percent	number	percent	number	percent	number	number
Ontario	1,515	26	883	15	424	7	813	14	258	4	1,426	25	421	7	61	1	3,419	9,220
Manitoba	380	28	163	12	70	5	249	18	54	4	262	19	163	12	9	1	440	1,790
Saskatchewan	19	8	44	18	18	7	81	32	8	3	3	1	0	0	78	31	1,304	1,555
Alberta	456	20	189	8	105	5	291	13	139	6	659	30	353	16	36	2	999	3,227
British Columbia	834	35	281	12	149	6	291	12	133	6	593	25	93	4	19	1	822	3,215
Total, excluding Canadian Armed Forces	3,204	27	1,560	13	766	6	1,725	14	592	5	2,943	24	1,030	9	203	2	6,984	19,007
Canadian Armed Forces	6	13	4	8	4	8	11	23	7	15	16	33	0	0	0	0	7	55
Total, including Canadian Armed Forces	3,210	27	1,564	13	770	6	1,736	14	599	5	2,959	25	1,030	9	203	2	6,991	19,062

1. Six jurisdictions in Canada provided the source of ignition and property classification for 2014 fire incident data to the National Fire Information Database (NFID) - Ontario, Manitoba, Saskatchewan, Alberta, British Columbia and the Canadian Armed Forces. The counts in this table exclude New Brunswick where the property classification of fire incidents was not provided.

Notes: Incidents where the source of ignition was unknown were excluded from the calculation of percentages. Totals may not add to 100% due to rounding.

# Table D-7Number and proportion of residential fires by source of ignition, 5 jurisdictions, 2005 to 20141

	Cool equip	-		ting oment	and ho	ances usehold oment		trical oution oment	elect	her trical oment	materi	ker's ial and flame	Ехро	osure		niting ect	Unknown	Total residential fire incidents
Year	number	percent	number	percent	number	percent	number	percent	number	percent	number	percent	number	percent	number	percent	number	number
2005	2,741	27	2,025	20	575	6	990	10	374	4	2,876	28	538	5	98	1	3,402	13,619
2006	2,730	28	1,836	19	590	6	876	9	371	4	2,816	29	549	6	104	1	3,383	13,255
2007	2,651	26	1,876	18	596	6	971	10	433	4	2,939	29	663	6	81	1	3,924	14,134
2008	2,721	28	1,745	18	576	6	1,022	10	411	4	2,757	28	511	5	97	1	3,682	13,522
2009	2,754	29	1,564	17	582	6	931	10	412	4	2,504	27	532	6	82	1	3,174	12,535
2010	2,789	31	1,334	15	547	6	893	10	402	4	2,312	26	605	7	98	1	3,011	11,991
2011	2,630	29	1,350	15	554	6	876	10	370	4	2,373	26	845	9	102	1	3,741	12,841
2012	2,697	32	1,234	14	509	6	875	10	340	4	2,285	27	527	6	89	1	3,274	11,830
2013	2,743	32	1,221	14	553	7	872	10	349	4	2,130	25	500	6	84	1	3,148	11,600
2014	2,826	33	1,161	14	562	7	892	10	321	4	2,040	24	629	7	75	1	2,940	11,446
Total	27,282	29	15,346	16	5,644	6	9,198	10	3,783	4	25,032	27	5,899	6	910	1	33,679	126,773

1. Five jurisdictions in Canada provided the property classification and source of ignition for ten years of fire incident data to the National Fire Information Database (NFID) - Ontario, Manitoba, Alberta, British Columbia and the Canadian Armed Forces. The counts in this table exclude New Brunswick (where the property classification of fire incidents was not provided) and Saskatchewan (where data were only provided for 2012 to 2014).

Notes: Incidents where the source of ignition was unknown were excluded from the calculation of percentages. Totals may not add to 100% due to rounding.

# Table D-8Number and proportion of residential fires by source of ignition, 6 jurisdictions, 20141

	Cool equip	king ment		ting oment	and hou	ances usehold ment		rical oution oment	Otl elect equip		mater	ker's ial and flame	Ехро	osure		niting ject	Unknown	Total residential fire incidents
Jurisdiction	number	percent	number	percent	number	percent	number	percent	number	percent	number	percent	number	percent	number	percent	number	number
Ontario	1,337	32	698	17	328	8	455	11	133	3	977	23	266	6	35	1	1,722	5,951
Manitoba	332	38	106	12	48	6	102	12	34	4	168	19	77	9	2	0	228	1,097
Saskatchewan	19	14	35	25	13	9	33	24	4	3	1	1	0	0	33	24	487	625
Alberta	412	26	121	8	73	5	178	11	82	5	476	30	227	14	26	2	523	2,118
British Columbia	740	41	234	13	112	6	154	9	70	4	410	23	59	3	12	1	464	2,255
Total, excluding Canadian Armed Forces	2,840	33	1,194	14	574	7	922	11	323	4	2,032	24	629	7	108	1	3,424	12,046
Canadian Armed Forces	5	23	2	9	1	5	3	14	2	9	9	41	0	0	0	0	3	25
Total, including Canadian Armed Forces	2,845	33	1,196	14	575	7	925	11	325	4	2,041	24	629	7	108	1	3,427	12,071

1. Six jurisdictions in Canada provided the property classification and source of ignition for 2014 to the National Fire Information Database (NFID) - Ontario, Manitoba, Saskatchewan, Alberta, British Columbia and the Canadian Armed Forces. The counts in this table exclude New Brunswick where the property classification of fire incidents was not provided.

Notes: Incidents where the source of ignition was unknown were excluded from the calculation of percentages. Totals may not add to 100% due to rounding.

# Table D-9Number and proportion of structural fires by act or omission, 5 jurisdictions, 2005 to 20141

	Incen	ıdiary	Misu sour igni		Misu mato igni		Mecha elect failu malfui	rical ire/	Constru desig instal defici	jn or É	Misu equip	se of ment	Human	failing	Unknown	Total structural fire incidents
Year	number	percent	number	percent	number	percent	number	percent	number	percent	number	percent	number	percent	number	number
2005	3,977	24	1,867	11	1,569	9	3,066	18	824	5	4,152	25	1,343	8	6,782	23,580
2006	4,315	26	1,750	10	1,552	9	3,091	18	812	5	3,917	23	1,323	8	6,607	23,367
2007	4,134	24	1,776	10	1,445	9	3,100	18	826	5	4,167	25	1,475	9	7,159	24,082
2008	3,525	22	1,757	11	1,358	9	3,215	20	727	5	3,654	23	1,569	10	6,613	22,418
2009	3,334	23	1,833	13	1,763	12	3,075	21	1,402	10	1,373	10	1,553	11	5,563	19,896
2010	2,859	22	1,704	13	1,838	14	2,873	22	1,194	9	1,251	9	1,481	11	5,796	18,996
2011	2,483	20	1,545	12	1,676	13	2,929	23	1,195	10	1,152	9	1,597	13	6,835	19,412
2012	2,587	20	1,793	14	1,698	13	2,891	22	1,084	8	1,150	9	1,648	13	5,677	18,528
2013	1,974	16	1,652	14	1,608	13	2,952	24	1,133	9	1,155	10	1,609	13	5,463	17,546
2014	1,909	16	1,515	13	1,631	13	3,058	25	1,055	9	1,121	9	1,806	15	5,412	17,507
Total	31,097	22	17,192	12	16,138	11	30,250	21	10,252	7	23,092	16	15,404	11	61,907	205,332

1. Five jurisdictions in Canada provided act or omission information and property classification for ten years of fire incident data to the National Fire Information Database (NFID) -Ontario, Manitoba, Alberta, British Columbia and the Canadian Armed Forces. The counts in this table exclude New Brunswick (where the property classification of fire incidents was not provided) and Saskatchewan (where data were only provided for 2012 to 2014).

**Notes:** Incidents where the act or omission was unknown were excluded from the calculation of percentages. Totals may not add to 100% due to rounding. **Source:** Statistics Canada, Canadian Centre for Justice Statistics, National Fire Information Database

# Table D-10Number and proportion of structural fires by act or omission, 6 jurisdictions, 20141

	Incen	ndiary	sour	se of ce of tion	mat	se of erial ited	Mecha elect failt malfu	rical	desig instal	uction, gn or lation iency		se of oment	Human	failing	Unknown	Total structural fire incidents
Jurisdiction	number	percent	number	percent	number	percent	number	percent	number	percent	number	percent	number	percent	number	number
Ontario	844	15	774	14	870	15	1,469	26	879	15	863	15	0	0	3,521	9,220
Manitoba	245	17	176	12	277	20	505	36	24	2	47	3	135	10	381	1,790
Saskatchewan	79	21	25	7	23	6	219	58	7	2	12	3	15	4	1,175	1,555
Alberta	400	17	329	14	299	13	574	25	75	3	49	2	606	26	895	3,227
British Columbia	416	16	232	9	182	7	490	19	72	3	161	6	1,051	40	611	3,215
Total, excluding Canadian Armed Forces	1,984	16	1,536	12	1,651	13	3,257	26	1,057	9	1,132	9	1,807	15	6,583	19,007
Canadian Armed Forces	4	8	4	8	3	6	20	39	5	10	1	2	14	27	4	55
Total, including Canadian Armed Forces	1,988	16	1,540	12	1,654	13	3,277	26	1,062	9	1,133	9	1,821	15	6,587	19,062

1. Six jurisdictions in Canada provided act or omission information and property classification for 2014 fire incident data to the National Fire Information Database (NFID) - Ontario, Manitoba, Saskatchewan, Alberta, British Columbia and the Canadian Armed Forces. The counts in this table exclude New Brunswick where the property classification of fire incidents was not provided. **Notes:** Incidents where the act or omission was unknown were excluded from the calculation of percentages. Totals may not add to 100% due to rounding.

Table D-11
Number and proportion of residential fires by act or omission, 5 jurisdictions, 2005 to 2014 <sup>1</sup>

	Incen	diary	Misus soure ignit	ce of		se of I ignited	Mecha elect failu malfu	rical ire/	Construction design instal defici	gn or lation	Misu equip	se of ment	Human	failing	Unknown	Total residential fire incidents
Year	number	percent	number	percent	number	percent	number	percent	number	percent	number	percent	number	percent	number	number
2005	1,482	14	1,203	12	1,186	12	1,641	16	529	5	3,148	31	1,097	11	3,333	13,619
2006	1,549	16	1,071	11	1,181	12	1,563	16	519	5	3,002	30	1,057	11	3,313	13,255
2007	1,647	16	1,144	11	1,072	10	1,634	16	513	5	3,146	30	1,168	11	3,810	14,134
2008	1,431	14	1,140	12	1,042	11	1,695	17	462	5	2,834	29	1,276	13	3,642	13,522
2009	1,403	15	1,330	14	1,376	15	1,674	18	1,026	11	1,188	13	1,270	14	3,268	12,535
2010	1,279	15	1,235	14	1,390	16	1,578	18	865	10	1,121	13	1,230	14	3,293	11,991
2011	1,165	14	1,174	14	1,306	15	1,612	19	850	10	1,020	12	1,337	16	4,377	12,841
2012	1,173	14	1,322	16	1,324	16	1,537	18	790	9	996	12	1,340	16	3,348	11,830
2013	1,033	12	1,260	15	1,252	15	1,604	19	812	10	994	12	1,367	16	3,278	11,600
2014	901	11	1,118	14	1,268	15	1,674	20	749	9	979	12	1,528	19	3,229	11,446
Total	13,063	14	11,997	13	12,397	13	16,212	18	7,115	8	18,428	20	12,670	14	34,891	126,773

1. Five jurisdictions in Canada provided act or omission information and the property classification for ten years of fire incident data to the National Fire Information Database (NFID) - Ontario, Manitoba, Alberta, British Columbia and the Canadian Armed Forces. The counts in this table exclude New Brunswick (where the property classification of fire incidents was not provided) and Saskatchewan (where data were only provided for 2012 to 2014).

Notes: Incidents where the act or omission was unknown were excluded from the calculation of percentages. Totals may not add to 100% due to rounding.

# Table D-12Number and proportion of residential fires by act or omission, 6 jurisdictions, 20141

	Incen	diary		se of ce of tion	Misu mata igni		failu	nical/ rical ure/ nction	desig instal	uction, gn or lation iency		se of ment	Human	failing	Unknown	Total residential fire incidents
Jurisdiction	number	percent	number	percent	number	percent	number	percent	number	percent	number	percent	number	percent	number	number
Ontario	356	9	587	15	648	17	815	21	637	17	788	21	0	0	2,120	5,951
Manitoba	146	16	105	12	228	25	262	29	11	1	33	4	114	13	198	1,097
Saskatchewan	37	24	17	11	16	10	69	44	3	2	5	3	10	6	468	625
Alberta	193	12	261	16	249	16	322	20	49	3	38	2	491	31	515	2,118
British Columbia	205	11	163	9	141	8	269	14	51	3	119	6	912	49	395	2,255
Total, excluding Canadian Armed Forces	937	11	1,133	14	1,282	15	1,737	21	751	9	983	12	1,527	18	3,696	12,046
Canadian Armed Forces	1	4	2	8	2	8	6	25	1	4	1	4	11	46	1	25
Total, including Canadian Armed Forces	938	11	1,135	14	1,284	15	1,743	21	752	9	984	12	1,538	18	3,697	12,071

1. Six jurisdictions in Canada provided act or omission information and the property classification for 2014 incident data to the National Fire Information Database (NFID) - Ontario, Manitoba, Saskatchewan, Alberta, British Columbia and the Canadian Armed Forces. The counts in this table exclude New Brunswick where the property classification of fire incidents was not provided.

Notes: Incidents where the act or omission was unknown were excluded from the calculation of percentages. Totals may not add to 100% due to rounding.

# Table D-13Fire-related deaths - children, youth, adults, seniors, 4 jurisdictions, 2005 to 2014<sup>1,2</sup>

		Deaths											
	Children <sup>2</sup>		Youth <sup>2</sup>		Adults <sup>2</sup>		Senior citizens <sup>2</sup>		Unknown	Total deaths			
Year	number	rate	number	rate	number	rate	number	rate	number	number			
2005	6	1.9	5	2.6	101	6.8	32	10.9	32	176			
2006	9	2.8	9	4.7	86	5.7	33	10.9	24	161			
2007	6	1.9	2	1.1	111	7.2	46	14.9	28	193			
2008	15	4.7	5	2.7	119	7.7	58	18.4	22	219			
2009	10	3.1	3	1.6	116	7.4	53	16.3	21	203			
2010	4	1.2	4	2.2	86	5.4	57	17.1	18	169			
2011	11	3.4	0	0.0	89	5.5	48	14.0	24	172			
2012	6	1.8	3	1.7	74	4.5	42	11.7	24	149			
2013	14	4.2	1	0.6	70	4.3	43	11.5	13	141			
2014	43	12.8	0	0.0	60	3.6	32	8.2	15	150			
Total	124	3.8	32	1.7	912	5.8	444	13.3	221	1733			

1. Four jurisdictions in Canada provided 10 years of casualty data to the National Fire Information Database (NFID) - Ontario, Manitoba, Alberta, and British Columbia. New Brunswick and Saskatchewan also provided casualty data to the NFID, however they covered only 6 years and 3 years respectively, so their data have not been included in this table.

2. For the purpose of this report, children are defined as persons 11 years and under; youth are persons aged 12 to 17 years; adults are 18 to 64 years; senior citizens are 65 years and older.

**Notes:** Rates are calculated on the basis of 1,000,000 population.

# Table D-14Fire-related deaths - children, youth, adults, seniors, 6 jurisdictions, 2014<sup>1,2</sup>

		Deaths										
	Child	ren <sup>2</sup>	Υοι	ıth <sup>2</sup>	Adu	ılts <sup>2</sup>	Senior o	itizens²	Unknown	Total deaths		
Jurisdiction	number	rate	number	rate	number	rate	number	rate	number	number		
New Brunswick	0	0.0	0	0.0	2	4.2	4	28.9	0	6		
Ontario	41	23.5	0	0.0	29	3.3	15	7.0	0	85		
Manitoba	1	5.2	0	0.0	6	7.5	4	21.3	11	11		
Saskatchewan	2	11.6	0	0.0	2	2.8	1	6.1	9	14		
Alberta	0	0.0	0	0.0	22	8.0	11	23.5	0	33		
British Columbia	2	3.7	0	0.0	9	3.0	6	7.6	4	21		
Total	45	13.4	0	0.0	62	3.7	33	8.5	30	170		

1. Six jurisdictions in Canada provided 2014 casualty data to the National Fire Information Database (NFID) - New Brunswick, Ontario, Manitoba, Saskatchewan, Alberta, and British Columbia.

2. For the purpose of this report, children are defined as persons 11 years and under; youth are persons aged 12 to 17 years; adults are 18 to 64 years; senior citizens are 65 years and older.

Note: Totals may not add to 100% due to rounding.

Table D-15	
Fire-related injuries - children, youth, adults, seniors, 4 jurisdictions, 2005 to 2014 <sup>1,2</sup>	

					Inj	jured per	sons			
	Children <sup>2</sup>		Youth <sup>2</sup>		Adults <sup>2</sup>		Senior citizens <sup>2</sup>		Unknown	Total injured persons
Year	number	rate	number	rate	number	rate	number	rate	number	number
2005	196	61.0	44	23.3	1,037	69.5	73	24.8	53	1,403
2006	143	44.6	40	21.1	886	58.6	72	23.9	37	1,178
2007	130	40.7	44	23.2	937	61.1	78	25.3	35	1,224
2008	91	28.4	54	28.7	824	53.0	68	21.5	66	1,103
2009	21	6.5	71	38.0	976	62.0	99	30.5	118	1,285
2010	34	10.5	58	31.3	931	58.4	118	35.5	114	1,255
2011	33	10.1	46	25.1	903	56.1	110	32.1	100	1,192
2012	41	12.5	56	31.0	971	59.7	95	26.5	177	1,340
2013	24	7.2	52	29.4	830	50.5	113	30.2	270	1,289
2014	27	8.1	51	29.3	856	51.5	107	27.6	193	1,234
Total	740	22.8	516	28.0	9,151	57.9	933	27.9	1,163	12,503

1. Four jurisdictions in Canada provided 10 years of casualty data to the National Fire Information Database (NFID) - Ontario, Manitoba, Alberta, and British Columbia. New Brunswick and Saskatchewan also provided casualty data to the NFID, however they covered only 6 years and 3 years respectively, so their data have not been included in this table.

2. For the purpose of this report, children are defined as persons 11 years and under; youth are persons aged 12 to 17 years; adults are 18 to 64 years; senior citizens are 65 years and older.

Note: Rates are calculated on the basis of 1,000,000 population.

# Table D-16Fire-related injuries - children, youth, adults, seniors, 6 jurisdictions, 2014<sup>1,2</sup>

	Injured persons												
	Children <sup>2</sup>				Adu	llts <sup>2</sup>	Senior o	citizens <sup>2</sup>	Unknown	Total injured persons			
Jurisdiction	number	rate	number	rate	number	rate	number	rate	number	number			
New Brunswick	0	0.0	0	0.0	43	93.5	5	36.1	0	48			
Ontario	9	5.2	39	41.6	608	68.6	86	40.2	72	814			
Manitoba	0	0.0	0	0.0	0	0.0	0	0.0	1	1			
Saskatchewan	3	17.5	0	0.0	3	4.3	1	6.1	8	15			
Alberta	8	13.1	5	17.9	140	50.9	12	25.6	0	165			
British Columbia	10	18.5	7	23.6	108	35.7	9	11.5	120	254			
Total	30	9.0	51	29.3	902	51.7	113	29.1	201	1,297			

1. Six jurisdictions in Canada provided 2014 casualty data to the National Fire Information Database (NFID) - New Brunswick, Ontario, Manitoba, Saskatchewan, Alberta, and British Columbia.

2. For the purpose of this report, children are defined as persons 11 years and under; youth are persons aged 12 to 17 years; adults are 18 to 64 years; senior citizens are 65 years and older.

Note: Totals may not add to 100% due to rounding.

Fire-related deaths, civilians and firefighters, 4 jurisdictions, 2005 to  $2014^1$ 

		Deaths										
	Civi	lian	Firefi	ghter	Unknown <sup>2</sup>	Total deaths						
Year	number	percent	number	percent	number	number						
2005	166	99	1	1	9	176						
2006	143	100	0	0	18	161						
2007	177	99	2	1	14	193						
2008	196	99	1	1	22	219						
2009	186	100	0	0	17	203						
2010	157	100	0	0	12	169						
2011	156	98	3	2	13	172						
2012	139	100	0	0	10	149						
2013	119	100	0	0	22	141						
2014	104	98	2	2	44	150						
Total	1,543	99	9	1	181	1,733						

1. Four jurisdictions in Canada provided 10 years of casualty data to the National Fire Information Database (NFID) - Ontario, Manitoba, Alberta, and British Columbia. New Brunswick and Saskatchewan also provided casualty data to the NFID, however they covered only 6 years and 3 years respectively, so their data have not been included in this table.

2. "Unknown" includes fire/police/RCMP/other and unknown.

**Notes:** Deaths where it was unknown whether the victim was a civilian or a firefighter were excluded from the calculation of percentages. Totals may not add to 100% due to rounding.

# Table D-18Fire-related deaths, civilians and firefighters, 6 jurisdictions, 20141

	Deaths									
	Civi	lian	Firefi	ghter	Unknown <sup>2</sup>	Total deaths				
Jurisdiction	number	percent	number	percent	number	number				
New Brunswick	6	100	0	0	0	6				
Ontario	41	100	0	0	44	85				
Manitoba	11	100	0	0	0	11				
Saskatchewan	14	100	0	0	0	14				
Alberta	31	94	2	6	0	33				
British Columbia	21	100	0	0	0	21				
Total	124	98	2	2	44	170				

1. Six jurisdictions in Canada provided 2014 casualty data to the National Fire Information Database (NFID) - New Brunswick, Ontario, Manitoba, Saskatchewan, Alberta, and British Columbia.

2. "Unknown" includes fire/police/RCMP/other and unknown.

**Notes:** Where it was unknown whether the victim was a civilian or a firefighter, the counts have been excluded from the calculation of percentages. Totals may not add to 100% due to rounding.

# Table D-19Fire-related injuries, civilians and firefighters, 4 jurisdictions, 2005 to 20141

	Injured persons											
	Civi	lian	Firefi	ghter	Unknown <sup>2</sup>	Total injured persons						
Year	number	percent	number	percent	number	number						
2005	995	71	406	29	0	1,401						
2006	864	73	313	27	1	1,178						
2007	853	70	371	30	0	1,224						
2008	811	74	292	26	0	1,103						
2009	851	72	338	28	0	1,189						
2010	807	71	329	29	0	1,136						
2011	810	75	265	25	0	1,075						
2012	938	76	298	24	0	1,236						
2013	860	77	258	23	0	1,118						
2014	977	79	257	21	0	1,234						
Total	8,684	74	3,102	26	1	11,787						

1. Four jurisdictions in Canada provided 10 years of casualty data to the National Fire Information Database (NFID) - Ontario, Manitoba, Alberta, and British Columbia. New Brunswick and Saskatchewan also provided casualty data to the NFID, however they covered only 6 years and 3 years respectively, so their data have not been included in this table.

2. "Unknown" includes fire/police/RCMP/other and unknown.

**Note:** Where it was unknown whether the victim was a civilian or a firefighter, the counts were excluded from the calculation of percentages. Totals may not add to 100% due to rounding.

# Table D-20Fire-related injuries, civilians and firefighters, 6 jurisdictions, 20141

		Injured persons										
	Civil	lian	Firefi	Unknown	Total injured persons							
Jurisdiction	number	percent	number	percent	number	number						
New Brunswick	27	56	21	44	0	48						
Ontario	599	74	215	26	0	814						
Manitoba	1	100	0	0	0	1						
Saskatchewan	15	100	0	0	0	15						
Alberta	143	87	22	13	0	165						
British Columbia	234	92	20	8	0	254						
Total	1,019	79	278	21	0	1,297						

1. Six jurisdictions in Canada provided 2014 casualty data to the National Fire Information Database (NFID) - New Brunswick, Ontario, Manitoba, Saskatchewan, Alberta, and British Columbia.

**Notes:** Where it was unknown whether the victim was a civilian or a firefighter, the counts have been excluded from the calculation of percentages. Totals may not add to 100% due to rounding.

#### Table D-21 Cause of fire-related deaths, 3 jurisdictions, 2005 to 2014<sup>1</sup>

				of death	-	
	Smoke ir	halation	Bu	irn	Unknown	Total deaths
Year	number	percent	number	percent	number	number
2005	37	79	10	21	129	176
2006	33	77	10	23	118	161
2007	38	81	9	19	146	193
2008	43	74	15	26	161	219
2009	35	70	15	30	153	203
2010	33	65	18	35	118	169
2011	29	64	16	36	127	172
2012	23	64	13	36	113	149
2013	21	66	11	34	109	141
2014	28	61	18	39	104	150
Total	320	70	135	30	1,278	1,733

1. Four jurisdictions in Canada provided 10 years of casualty data to the National Fire Information Database (NFID) -Ontario, Manitoba, Alberta, and British Columbia. Ontario did not provide data related to the cause of death, so their counts have been included under "Unknown". New Brunswick and Saskatchewan also provided casualty data to the NFID, however they covered only 6 years and 3 years respectively, so their data have not been included in this table.

**Notes:** Where the cause of death was unknown, the counts have been excluded from the calculation of percentages. Totals may not add to 100% due to rounding.

# Table D-22Cause of fire-related deaths, 3 jurisdictions, 20141

			Caus	se of death		
	Smoke ir	halation	Bu	Irn	Unknown	Total deaths
Jurisdiction	number	percent	number	percent	number	number
New Brunswick					6	6
Ontario					85	85
Manitoba					11	11
Saskatchewan	0	0	1	7	13	14
Alberta	17	59	12	41	4	33
British Columbia	11	65	6	35	4	21
Total	28	60	19	40	123	170

. Not available for any reference period

1. Six jurisdictions in Canada provided 2014 casualty data to the National Fire Information Database (NFID) - New Brunswick, Ontario, Manitoba, Saskatchewan, Alberta, and British Columbia. However New Brunswick, Ontario and Manitoba did not provide information on the cause of death, so their data are presented under "Unknown".

**Notes:** Where the cause of death was unknown, the counts have been excluded from the calculation of percentages. Totals may not add to 100% due to rounding.

#### Fire statistics in Canada, 2005 to 2014

			Caus	e of Injury		
	Smoke in	halation	Bu	ırn	Unknown	Total injuries
Year	number	percent	number	percent	number	number
2005	177	53	157	47	1,069	1,403
2006	181	54	154	46	843	1,178
2007	132	48	145	52	947	1,224
2008	194	58	141	42	768	1,103
2009	147	47	169	53	969	1,285
2010	125	43	167	57	963	1,255
2011	139	46	166	54	887	1,192
2012	169	48	186	52	985	1,340
2013	184	54	156	46	949	1,289
2014	160	50	162	50	912	1,234
Total	1,608	50	1,603	50	9,292	12,503

# Table D-23Cause of fire-related injuries, 3 jurisdictions, 2005 to 20141

1. Four jurisdictions in Canada provided 10 years of casualty data to the National Fire Information Database (NFID) - Ontario, Manitoba, Alberta, and British Columbia. Ontario did not provide data related to the cause of injury, so their counts have been included under "Unknown". New Brunswick and Saskatchewan also provided casualty data to the NFID, however they covered only 6 years and 3 years respectively, so their data have not been included in this table.

**Notes:** Where the cause of death was unknown, the counts have been excluded from the calculation of percentages. Totals may not add to 100% due to rounding.

### Table D-24 Cause of fire-related injuries, 3 jurisdictions, 2014<sup>1</sup>

			Caus	e of Injury		
	Smoke ir	halation	Bu	ırn	Unknown	Total injured persons
Jurisdiction	number	percent	number	percent	number	number
New Brunswick					48	48
Ontario					814	814
Manitoba					1	1
Saskatchewan	4	40	6	60	5	15
Alberta	48	35	88	65	29	165
British Columbia	112	60	74	40	68	254
Total	164	49.40	168.00	50.60	965	1,297

. Not available for any reference period

1. Six jurisdictions in Canada provided 2014 casualty data to the National Fire Information Database (NFID) - New Brunswick, Ontario, Manitoba, Saskatchewan, Alberta, and British Columbia. However New Brunswick, Ontario and Manitoba did not provide information on the cause of injury, so their data are presented under Other/unknown cause.

**Notes:** Where the cause of death was unknown, the counts have been excluded from the calculation of percentages. Totals may not add to 100% due to rounding.

### Number and proportion of deaths by type of fire, 4 jurisdictions, 2005 to 2014<sup>1</sup>

					Type of f	ire		
	Struc	tural	Veh	icle	Out	door	Unknown	Total deaths
				Nur	nber of d	eaths		
Year	number	percent	number	percent	number	percent	number	number
2005	154	89	11	6	9	5	2	176
2006	144	90	13	8	3	2	1	161
2007	168	88	20	10	4	2	1	193
2008	199	92 14 6 3 1		3	219			
2009	174	89	10		12	6	7	203
2010	149	91	10	6	4	2	6	169
2011	155	93	7	4	4	2	6	172
2012	131	89	12	8	4	3	2	149
2013	121	92	5	4	5	4	10	141
2014	95	85	12	11	5	4	38	150
Total	1,490	90	114	7	53	3	76	1,733

1. Four jurisdictions in Canada provided ten years of fire-related deaths and property classification data to the National Fire Information Database (NFID) - Ontario, Manitoba, Alberta, British Columbia.

**Notes:** Where the cause of death was unknown, the counts have been excluded from the calculation of percentages. Totals may not add to 100% due to rounding.

#### Number and proportion of deaths by type of fire, 6 jurisdictions, 2014<sup>1</sup>

				Тур	e of fire			
	Struc	tural	Veh	icle	Oute	door	Unknown	Total deaths in structure fires
				Numbe				
Jurisdiction	number	percent	number	percent	number	percent	number	number
New Brunswick							6	6
Ontario	45	94	2	4	1	2	37	85
Manitoba	7	64	3	27	1	9	0	11
Saskatchewan	14	100	0	0	0	0	0	14
Alberta	23	70	7	21	3	9	0	33
British Columbia	20	100	0	0	0	0	1	21
Total	109	87	12	10	5	4	44	170

. Not available for any reference period

1. Six jurisdictions in Canada provided fire related deaths and property classification data for 2014 to the National Fire Information Database (NFID) - New Brunswick, Ontario, Manitoba, Alberta, Saskatchewan and British Columbia. Although New Brunswick provided data on deaths, the type of fire was not provided. Therefore the number of deaths for New Brunswick have been included under 'Unknown'.

**Notes:** Where the cause of death was unknown, the counts have been excluded from the calculation of percentages. Totals may not add to 100% due to rounding.

# Table D-27 Number and proportion of deaths by property type (structures only), 4 jurisdictions, 2005 to 2014<sup>1</sup>

								т	ype of st	ructure							
	Reside	ential	Indus	strial	Assei	mbly	Merca	intile	Busi use/pe serv		Institu	utional	Stor prope		Otł	ier	Total deaths in structure fires
		· · · · · · · · · · · · · · · · · · ·						N	umber of	f deaths							
Year	number	percent	number	percent	number	percent	number	percent	number	percent	number	percent	number	percent	number	percent	number
2005	144	94	2	1	1	1	1	1	0	0	1	1	0	0	5	3	154
2006	135	94	0	0	1	1	0	0	0	0	2	1	2	1	4	3	144
2007	157	93	1	1	0	0	0	0	0	0	2	1	3	2	5	3	168
2008	190	95	2	1	0	0	1	1	1	1	1	1	0	0	4	2	199
2009	152	87	0	0	3	2	1	1	0	0	5	3	5	3	8	5	174
2010	141	95	0	0	0	0	0	0	0	0	0	0	5	3	3	2	149
2011	142	92	0	0	1	1	2	1	0	0	1	1	4	3	5	3	155
2012	119	91	5	4	0	0	1	1	0	0	2	2	3	2	1	1	131
2013	114	94	1	1	0	0	0	0	0	0	2	2	3	2	1	1	121
2014	87	92	0	0	1	1	1	1	0	0	1	1	4	4	1	1	95
Total	1,381	93	11	1	7	0	7	0	1	0	17	1	29	2	37	2	1,490

1. Four jurisdictions in Canada provided ten years of fire-related deaths and property classification data to the National Fire Information Database (NFID) - Ontario, Manitoba, Alberta, British Columbia. The counts in this table exclude New Brunswick (where the property classification of fire incidents was not provided), Saskatchewan (where data were only provided for 2012 to 2014) and the CAF (where information on casualties was not provided).

Note: Totals may not add to 100% due to rounding.

# Table D-28Number and proportion of deaths by property type (structures only), 5 jurisdictions, 2014<sup>1</sup>

								Ту	pe of stru	icture							
	Reside	ential	Indu	strial	Asse	mbly	Merca	antile	Busi use/pe serv	rsonal	Institu	ıtional	Stor prope	age erties	Other st ty		Total deaths in structure fires
								Nu	mber of c	leaths							
Jurisdiction	number	percent	number	percent	number	percent	number	percent	number	percent	number	percent	number	percent	number	percent	number
Ontario	43	96	0	0	0	0	1	2	0	0	0	0	1	2	0	0	45
Manitoba	7	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Saskatchewan	14	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
Alberta	19	83	0	0	0	0	0	0	0	0	1	4	2	9	1	4	23
British Columbia	18	90	0	0	1	5	0	0	0	0	0	0	1	5	0	0	20
Total	101	93	0	0	1	1	1	1	0	0	1	1	4	4	1	1	109

1. Five jurisdictions in Canada provided fire related deaths and property classification data for 2014 to the National Fire Information Database (NFID) - Ontario, Manitoba, Alberta, Saskatchewan and British Columbia. New Brunswick also provided data on deaths, however did not provide the property classification of fire incidents. Therefore the number of deaths for New Brunswick have been excluded.

Note: Totals may not add to 100% due to rounding.

#### Number and proportion of persons injured in fire-related incidents by property type (structures only), 5 jurisdictions, 2014<sup>1</sup>

								٦	Type of s	structure	•						
	Resid	ential	Indu	strial	Asse	mbly	Merca	antile	Busi use/pe serv	ersonal	Institu	ıtional	Stor prope	age erties	Otl structu		Total persons injured in structure fires
		Number of persons injured															
Jurisdiction	number	percent	number	percent	number	percent	number	percent	number	percent	number	percent	number	percent	number	percent	number
Ontario	643	87	17	2	20	3	12	2	0	0	5	1	25	3	16	2	738
Manitoba	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	100	1
Saskatchewan	14	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14
Alberta	116	81	1	1	1	1	3	2	2	1	3	2	10	7	8	6	144
British Columbia	202	91	5	2	3	1	4	2	1	0	3	1	0	0	4	2	222
Total	975	87	23	2	24	2	19	2	3	0	11	1	35	3	29	3	1119

1. Five jurisdictions in Canada provided data on persons injured in fire incidents and property classification for 2014 to the National Fire Information Database (NFID) - Ontario, Manitoba, Saskatchewan, Alberta, British Columbia. New Brunswick also provided data on injuries, however did not provide the property classification of fire incidents. Therefore the number of persons injured for New Brunswick have been excluded.

Note: Totals may not add to 100% due to rounding.

# Table D-30Performance of smoke alarm device, residential fires, 4 jurisdictions, 2005 to 20141

				Perform	nance of sn	noke alarm	device (re	esidential f	fires)		
	No smok	e alarm	Alarm a	ctivated	Alarm o activ		Unkr	nown	alarn	o smoke 1, not unknown	Total residential fire incidents
Year	number	percent	number	percent	number	percent	number	percent	number	percent	number
2005	1,183	9	3,542	26	1,537	11	7,357	54	10,077	74	13,619
2006	1,163	9	3,677	28	1,441	11	6,974	53	9,578	72	13,255
2007	1,532	11	3,913	28	1,425	10	7,264	51	10,221	72	14,134
2008	1,509	11	3,788	28	1,284	9	6,941	51	9,734	72	13,522
2009	2,696	22	4,373	35	1,803	14	3,663	29	8,162	65	12,535
2010	2,618	22	4,129	34	1,821	15	3,423	29	7,862	66	11,991
2011	3,710	29	4,170	32	1,689	13	3,272	25	8,671	68	12,841
2012	2,800	24	4,132	35	1,678	14	3,220	27	7,698	65	11,830
2013	2,608	22	4,289	37	1,610	14	3,093	27	7,311	63	11,600
2014	2,650	23	4,184	37	1,587	14	3,025	26	7,262	63	11,446
Total	22,469	18	40,197	32	15,875	13	48,232	38	86,576	68	126,773

1. Six jurisdictions in Canada provided 10 years of fire incident data to the National Fire Information Database (NFID) - New Brunswick, Ontario, Manitoba, Alberta, British Columbia and the Canadian Armed Forces. The Canadian Armed Forces did not provide data related to smoke alarm performance, so their counts are included under "Unknown". The counts in this table exclude New Brunswick (where the property classification of fire incidents was not provided) and Saskatchewan where data were only provided for 2012 to 2015).

### Performance of smoke alarm device, residential fires, 5 jurisdictions, 2014<sup>1</sup>

				Performa	ance of sn	noke alarr	n device (	residenti	al fires)		
	No smol	ke alarm	Alarm a	ctivated	Alarm activ	did not vate	Unkn	iown	Total no alarm activ unkn	n, not ated,	Total residential fire incidents
Jurisdiction	number	percent	number	percent	number	percent	number	percent	number	percent	number
Ontario	1,013	17	2,562	43	1,165	20	1,211	20	3,389	57	5,951
Manitoba	102	9	379	35	206	19	410	37	718	65	1,097
Saskatchewan	18	3	51	8	14	2	542	87	574	92	625
Alberta	1,299	61	354	17	216	10	249	12	1,764	83	2,118
British Columbia	236	10	889	39			1,130	50	1,366	61	2,255
Total, excluding Canadian Armed Forces Canadian Armed Forces	2,668	22	4,235	35	1,601	13	3,542	29	7,811	65	12,046
	•				•	•	25	•	25	100	25
Total, including Canadian Armed Forces	2,668	22	4,235	35	1,601	13	3,567	30	7,836	65	12,071

1. Seven jurisdictions in Canada provided 2014 fire incident data to the National Fire Information Database (NFID) - New Brunswick, Ontario, Manitoba, Saskatchewan, Alberta, British Columbia and the Canadian Armed Forces. The counts in this table exclude New Brunswick (where the property classification of fire incidents was not provided). The Canadian Armed Forces did not provide information regarding smoke alarm performance, so their counts have been included under "Unknown".

#### Performance of smoke alarm device where death occurred resulting from fire, 4 jurisdictions, 2005 to 2014<sup>1</sup>

				l	Performan	ce of smol	ke alarm d	evice			
	No smok	e alarm	Alarm a	ctivated	Alarm o activ		Unkn	own	Total no alarm activa unkn	n, not ated,	Total deaths
					N	umber of o	leaths				
Year	number	percent	number	percent	number	percent	number	percent	number	percent	number
2005	26	15	29	16	25	14	96	55	147	84	176
2006	41	25	26 16		16	10	78	48	135	84	161
2007	50	26	29	15	10	5	104	54	164	85	193
2008	47	21	34	16	17	8	121	55	185	84	219
2009	33	16	35	17	20	10	115	57	168	83	203
2010	27	16	21	12	23	14	98	58	148	88	169
2011	36	21	27	16	24	14	85	49	145	84	172
2012	22	15	28	19	16	11	83	56	121	81	149
2013	26	18	28	20	8	6	79	56	113	80	141
2014	35	23	19	13	.3 8 5		88 59		131	87	150
Total	343	20	276	16	167	10	947	55	1457	84	1,733

1. Four jurisdictions in Canada provided 10 years of casualty data to the National Fire Information Database (NFID) - Ontario, Manitoba, Alberta, and British Columbia. New Brunswick and Saskatchewan also provided casualty data to the NFID, however they covered only 6 years and 3 years respectively, so their data have not been included in this table.

Performance of smoke alarm device where death occurred resulting from fire, 6 jurisdictions, 2014 <sup>1</sup>
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	Performance of smoke alarm device													
	No smok	e alarm	Alarm ac	ctivated	Alarm ( activ		Unkr	iown	Total no alarm activa unkn	n, not ated,	Total deaths			
					N	umber of	deaths							
Jurisdiction	number	percent	number	percent	number	percent	number	percent	number	percent	number			
New Brunswick	1	17	1	17	0	0	4	67	5	83	6			
Ontario	7	8	10	12	6	7	62	73	75	88	85			
Manitoba	2	18	1	9	0	0	8	73	10	91	11			
Saskatchewan	2	14	0	0	0	0	12	86	14	100	14			
Alberta	20	61	5	15	2	6	6	18	28	85	33			
British Columbia	6	29	3	14	0	0	12	57	18	86	21			
Total	38	22	20	12	8	5	104	61	150	88	170			

1. Six jurisdictions in Canada provided 2014 casualty data to the National Fire Information Database (NFID) - New Brunswick, Ontario, Manitoba, Saskatchewan, Alberta, and British Columbia. The Canadian Armed Forces did not provide data related to either performance of smoke alarm devices or casualties.

		Performance of sprinkler system (structural fires)														
	No spi	rinkler	Sprinkler	operated		r did not vate	Unkr	nown	Total structural fire incidents							
Year	number	percent	number	percent	number	percent	number	percent	number							
2005	4,182	18	457	2	1,687	7	17,254	73	23,580							
2006	4,395	19	406	2	1,563	7	17,003	73	23,367							
2007	4,322	18	498	2	1,569	7	17,693	73	24,082							
2008	4,450	20	478	2	1,393	6	16,097	72	22,418							
2009	11,246	57	442	2	1,442	7	6,766	34	19,896							
2010	11,111	58	439	2	1,356	7	6,090	32	18,996							
2011	10,656	55	530	3	1,344	7	6,882	35	19,412							
2012	10,726	58	530	3	1,443	8	5,829	31	18,528							
2013	10,094	58	532	3	1,330	8	5,590	32	17,546							
2014	10,041	57	509	3	1,355	8	5,602	32	17,507							
Total	81,223	40	4,821	2	14,482	7	104,806	51	205,332							

#### Performance of sprinkler system, structural fires, 4 jurisdictions, 2005 to 2014<sup>1</sup>

1. Four jurisdictions in Canada provided 10 years of property classification and performance of sprinkler system data to the National Fire Information Database (NFID) - Ontario, Manitoba, Alberta, and British Columbia. The counts in this table exclude New Brunswick (where the property classification of fire incidents was not provided) and Saskatchewan (where data were only provided for 2012 to 2014).

# Table D-35Performance of sprinkler system, structural fires, 5 jurisdictions, 20141

			Performance of sprinkler system (structural fires)										
	No spr	inkler	Sprinkler	operated	Sprinkle ope	r did not rate	Unkr	nown	Total structural fire incidents				
Jurisdiction	number	percent	number	percent	number	percent	number	percent	number				
Ontario	6,059	66	292	3	335	4	2,534	27	9,220				
Manitoba	1,410	79	27	2	46	3	307	17	1,790				
Saskatchewan	0	0	1	0	1	0	1,553	100	1,555				
Alberta	2,572	80	123	4	82	3	450	14	3,227				
British Columbia			67	2			3,148	98	3,215				
Total, excluding Canadian Armed Forces	10,041	53	510	3	464	2	7,992	42	19,007				
Canadian Armed Forces							55	100	55				
Total, including Canadian Armed Forces	10,041	53	510	3	464	2	8,047	42	19,062				

. Not available for any reference period

1. Seven jurisdictions in Canada provided 2014 fire incident data to the National Fire Information Database (NFID) - New Brunswick, Ontario, Manitoba, Saskatchewan, Alberta, British Columbia and the Canadian Armed Forces. Canadian Armed Forces did not provide data on sprinkler systems so their counts have been included under Other/unknown. The counts in this table exclude New Brunswick due to the fact that they did not provide property classification information for fire incidents,.

Performance of sprinkler system where death occurred resulting from fire, 4 jurisdictions, 2005 to 2014<sup>1</sup>

	Performance of sprinkler system														
	No spr	inkler	Sprinkler	operated	Sprinkle oper	r did not rate	Unkr	iown	Total deaths						
					Number o	f deaths									
Year	number	percent	number	percent	number	percent	number	percent	number						
2005	43	24	1	1	1	1	131	74	176						
2006	45	28	0	0	0	0	116	72	161						
2007	41	21	1	1	1	1	150	78	193						
2008	39	18	0	0	0	0	180	82	219						
2009	38	19	0	0	0	0	165	81	203						
2010	38	22	0	0	0	0	131	78	169						
2011	39	23	0	0	0	0	133	77	172						
2012	27	18	0	0	0	0	122	82	149						
2013	25	18	0	0	0	0	116	82	141						
2014	37	25	1	1	0	0	112	75	150						
Total	372	21	3	0	2	0	1,356	78	1,733						

1. Four jurisdictions in Canada provided 10 years of casualty data to the National Fire Information Database (NFID) - Ontario, Manitoba, Alberta, and British Columbia. New Brunswick and Saskatchewan also provided casualty data to the NFID, however they covered only 6 years and 3 years respectively, so their data have not been included in this table.

#### Note: Totals may not add to 100% due to rounding.

# Table D-37Performance of sprinkler system where death occurred resulting from fire, 3 jurisdictions, 20141

				Perforn	nance of s		stem		
	No spr	inkler	Sprinkler	operated	Sprinkleı opeı		Unkn	own	Total deaths
					Number of	f deaths			
Jurisdiction	number	percent	number	percent	number	percent	number	percent	number
New Brunswick							6	100	6
Ontario							85	100	85
Manitoba	8	73	0	0	0	0	3	27	11
Saskatchewan							14	100	14
Alberta	29	88	0	0	0	0	4	12	33
British Columbia	0	0	1	5	0	0	20	95	21
Total	37	22	1	1	0	0	132	78	170

. Not available for any reference period

1. Six jurisdictions in Canada provided 2014 casualty data to the National Fire Information Database (NFID) - New Brunswick, Ontario, Manitoba, Saskatchewan, Alberta, British Columbia. New Brunswick, Ontario and Saskatchewan did not provide data on sprinkler systems so their incident counts have been included under Other/unknown. The Canadian Armed Forces did not provide casualty information.

**Note:** Totals may not add to 100% due to rounding.

# Table D-38Fire-related deaths, non-evacuation and reason, 4 jurisdictions, 2005 to 20141

	Deaths														
	Trapped by spreading fire/smoke		Buile collapse debris/e	/falling	Exit bl locke obstr	ed or	Fell, sli <sub>l</sub> trip		Age/ phys limita		Expos hazaı materia fun	dous Is/toxic	Unknown	Not applicable <sup>2</sup>	Total deaths
Year	number	percent	number	percent	number	percent	number	percent	number	percent	number	percent	number	number	number
2005	32	86	1	3	0	0	0	0	4	11	0	0	131	8	176
2006	33	70	7	15	1	2	0	0	6	13	0	0	104	10	161
2007	44	76	0	0	3	5	0	0	11	19	0	0	126	9	193
2008	48	79	1	2	4	7	0	0	8	13	0	0	144	14	219
2009	42	68	2	3	0	0	0	0	18	29	0	0	119	22	203
2010	41	66	5	8	4	6	0	0	12	19	0	0	98	9	169
2011	46	87	3	6	0	0	0	0	4	8	0	0	107	12	172
2012	25	58	4	9	7	16	0	0	7	16	0	0	92	14	149
2013	20	56	6	17	3	8	0	0	7	19	0	0	96	9	141
2014	31	82	2	5	3	8	0	0	2	5	0	0	104	8	150
Total	362	73	31	6	25	5	0	0	79	16	0	0	1,121	115	1,733

1. Four jurisdictions in Canada provided ten years of casualty and non-evacuation data to the National Fire Information Database (NFID) - Ontario, Manitoba, Alberta and British Columbia.

2. Not applicable includes occupants who committed suicide, or escaped but later died, and deaths that occurred in outdoor fires.

Notes: Where the reason for non-evacuation was unknown or not applicable, the counts have been excluded from the calculation of percentages. Totals may not add to 100% due to rounding.

#### Fire-related deaths, non-evacuation and reason, 5 jurisdictions, 2014<sup>1</sup>

	Deaths														
	sprea	ed by ading smoke	Building collapse/falling debris/explosion			ocked, ed or ucted	Fell, sli trip	pped or ped	Age/o phys limita	sical	haza materia	ure to rdous Is/toxic nes	Unknown	Not applicable <sup>2</sup>	Total deaths
Jurisdiction	number	percent	number	percent	number	percent	number	percent	number	percent	number	percent	number	number	number
New Brunswick													6	0	6
Ontario	8	80	0	0	0	0	0	0	2	20	0	0	68	7	85
Manitoba	1	50	0	0	1	50	0	0	0	0	0	0	9	0	11
Saskatchewan	2	40	0	0	0	0	0	0	0	0	3	60	9	0	14
Alberta	11	79	1	7	2	14	0	0	0	0	0	0	18	1	33
British Columbia	11	92	1	8	0	0	0	0	0	0	0	0	9	0	21
Total	33	77	2	5	3	7	0	0	2	5	3	7	119	8	170

. Not available for any reference period

1. Six jurisdictions in Canada provided 2014 casualty data to the National Fire Information Database (NFID) - New Brunswick, Ontario, Manitoba, Saskatchewan, Alberta, and British Columbia. New Brunswick did not provide information related to non-evacuation of occupants, therefore their deaths are presented under "Unknown".

2. Not applicable includes occupants who committed suicide, or escaped but later died, and deaths that occurred in outdoor fires.

**Notes:** Where the reason for non-evacuation was unknown or not applicable, the counts have been excluded from the calculation of percentages. Totals may not add to 100% due to rounding. **Source:** Statistics Canada, Canadian Centre for Justice Statistics, National Fire Information Database

Fire-related injuries, non-evacuation and reason, 4 jurisdictions, 2005 to 2014<sup>1</sup>

	Persons injured														
	Trapped by Building spreading collapse/falling fire/smoke debris/explosion		e/falling	Exit ble locke obstre	ed or	Fell, sli trip		phys	other sical ation	Expos hazar materia fun	dous Is/toxic	Unknown	Not applicable <sup>2</sup>	Total persons injured	
Year	number	percent	number	percent	number	percent	number	percent	number	percent	number	percent	number	number	number
2005	53	64	24	29	6	7	0	0	0	0	0	0	1297	23	1,403
2006	57	59	34	35	5	5	0	0	0	0	0	0	1066	16	1,178
2007	49	72	14	21	5	7	0	0	0	0	0	0	1148	8	1,224
2008	56	60	35	37	3	3	0	0	0	0	0	0	981	28	1,103
2009	52	68	25	32	0	0	0	0	0	0	0	0	1197	11	1,285
2010	38	40	49	52	8	8	0	0	0	0	0	0	1149	11	1,255
2011	59	71	19	23	5	6	0	0	0	0	0	0	1097	12	1,192
2012	50	59	30	35	5	6	0	0	0	0	0	0	1243	12	1,340
2013	29	44	30	45	7	11	0	0	0	0	0	0	1205	18	1,289
2014	46	58	30	38	4	5	0	0	0	0	0	0	1136	18	1,234
Total	489	59	290	35	48	6	0	0	0	0	0	0	11,519	157	12,503

1. Four jurisdictions in Canada provided ten years of casualty and non-evacuation data to the National Fire Information Database (NFID) - Ontario, Manitoba, Alberta and British Columbia.

2. Not applicable includes occupants who committed suicide, or escaped but later died, and deaths that occurred in outdoor fires.

Notes: Where the reason for non-evacuation was unknown or not applicable, the counts have been excluded from the calculation of percentages. Totals may not add to 100% due to rounding.

Fire-related injuries, non-evacuation and reason, 3 jurisdictions, 2014<sup>1</sup>

		Injured persons														
	Trapped by spreading fire/smoke n number percent		Building collapse/falling debris/explosion		Exit blocked, locked or obstructed		Fell, sli trip		Age/ phys limita		hazaı materia	ure to dous ls/toxic nes	Unknown	Not applicable <sup>2</sup>	Total injured persons	
Jurisdiction	number	percent	number	percent	number	percent	number	percent	number	percent	number	percent	number	number	number	
New Brunswick													48	0	48	
Ontario													814	0	814	
Manitoba													1	0	1	
Saskatchewan	4	57	0	0	0	0	0	0	0	0	3	43	8	0	15	
Alberta	22	50	19	43	3	7	0	0	0	0	0	0	111	10	165	
British Columbia	24	67	11	31	1	3	0	0	0	0	0	0	210	8	254	
Total	50	57	30	34	4	5	0	0	0	0	3	3	1,192	18	1,297	

. Not available for any reference period

1. Six jurisdictions in Canada provided 2014 casualty data to the National Fire Information Database (NFID) - New Brunswick, Ontario, Manitoba, Saskatchewan, Alberta, and British Columbia. New Brunswick, Ontario and Manitoba did not provide information related to non-evacuation of occupants, therefore their deaths are presented under "Unknown".

2. Not applicable includes occupants who escaped and injuries that occurred in outdoor fires.

**Notes:** Where the reason for non-evacuation was unknown or not applicable, the counts have been excluded from the calculation of percentages. Totals may not add to 100% due to rounding. **Source:** Statistics Canada, Canadian Centre for Justice Statistics, National Fire Information Database