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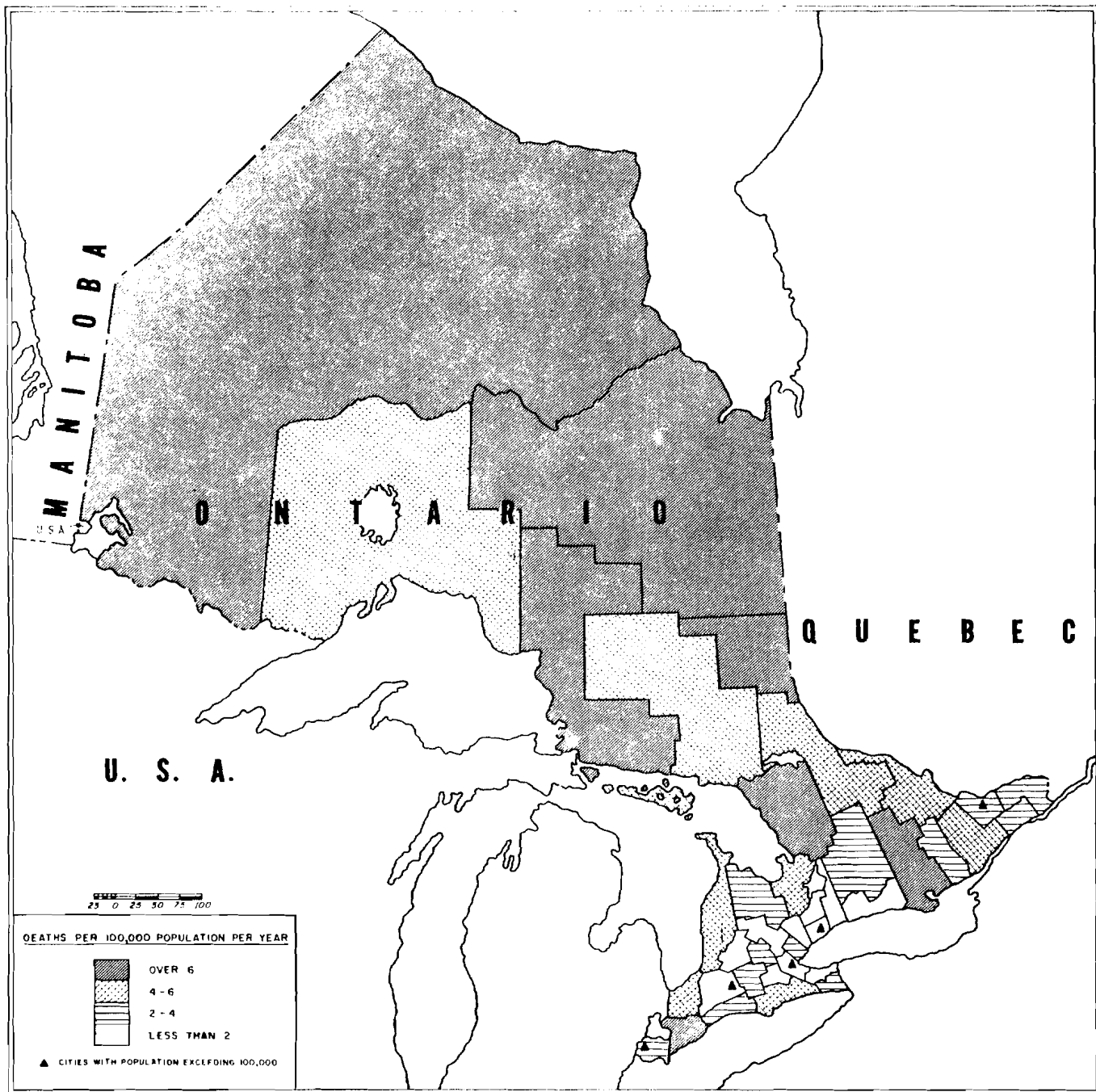
FIRE DEATHS IN THE PROVINCE OF ONTARIO 1958 AND 1959

by
G. Williams-Leir

ANALYZED

Internal Report No. 211
of the
Division of Building Research

OTTAWA
December 1960



ONTARIO FIRE DEATH RATE 1954 - 1959

PREFACE

The Fire Section of the Division of Building Research, National Research Council of Canada, on 1 January 1954, began a study of deaths caused by fire in the Province of Ontario. DBR Reports Nos. 72, 86 and 124 have already been issued on this study. The purpose of the present report is to present in statistical form the information obtained in the fifth and sixth years of the study. Over 1000 cases have now been investigated.

This investigation was undertaken with the encouragement and co-operation of the late Mr. W. J. Scott, O.B.E., Q.C., Fire Marshal of the Province of Ontario. Mr. R. B. Wallace, Deputy Registrar-General of Ontario, kindly provided the assistance of his Office's Vital Statistics Section. Mr. C. R. Magone, Q.C., Deputy Attorney General of Ontario, secured the co-operation of local coroners and Crown attorneys and many municipal fire officials also supplied useful information. The Division is grateful for all the assistance it has received.

For the initial, or pilot stage of this study, one province has been selected as a sample of the Dominion. It is hoped that in a few years the techniques used in conducting the study will be so developed that they can be offered for wider use.

Comments on, or criticisms of, this report will be welcomed.

Ottawa
December 1960

R. F. Legget
Director

FIRE DEATHS IN THE PROVINCE OF ONTARIO 1958 AND 1959

by

G. Williams-Leir

This is the fourth of a series of reports (1, 2, 3) on deaths due to fire in Ontario. It analyses the circumstances surrounding such deaths for the years 1958 and 1959. Since it is proposed to terminate this survey at the end of 1960 this report is less detailed than its predecessors. The final report will contain comparisons between the seven years of the study similar to those in the last report (3). Those wishing to compare the findings for 1958 and 1959 with earlier years should refer to this last report.

The information for the survey was gathered both by correspondence and from staff investigations.

FIRE DEATHS IN ONTARIO

The classifications used and the techniques by which the information was manipulated have been described in detail in the "Coding Manual for Analysis of Ontario Fire Deaths 1956" (4).

For the purpose of this inquiry a fire death means a death classified under heading E916 of the International Statistical Classification (5), namely, "Accident caused by fire and explosion of combustible material". The Vital Statistics Section of the Ontario Registrar-General's Office informs the Fire Section of each case it is classifying under this head, and normally these are the cases studied in this survey. Occasionally, cases are rejected or added after further information has been obtained as a result of the Fire Section's inquiries.

Sources of Information

Some fatal fires are visited as soon as possible after the event by a member of the Fire Section who then prepares a report. In other cases fires are visited by a member of the Ontario Fire Marshal's staff and his report is made available to the Division.

The Fire Section is informed about other cases through a newsclipping service and by the Vital Statistics Section. Forms are then sent to the fire chief of the municipality concerned, or, if there is no fire department, to the local police officer who is requested to supply particulars of the fire.

Specimens of the forms used since March 1956 are included as Appendix I to this report.

The Vital Statistics Section reports on every case; a death is not treated as a fire death until either a report is received from this Section or a report from another source has been discussed with the Vital Statistics Section.

PRIMARY CLASSIFICATION OF FIRE DEATHS

The appropriate questions to ask when ascertaining the reasons for a fire death vary according to the circumstances. Thus, questions about building construction are irrelevant when the death is due to a clothing fire; and when the victim is a small child, there are questions regarding the care taken of the child that do not arise for adults.

In this report, therefore, every fire death has been classified as either a B death or a C death, where B means "building fire" and C "clothing fire" (precise definitions of these terms are given in the Coding Manual (4)). Every fire death is also either an I death or an A death, where I means "infant or child under seven" and A means "aged seven or over".

One indication which supports the view that infant fire deaths form a group for which separate treatment is appropriate is the sudden drop in fire deaths at about age 5 (Fig. 4).

The four abbreviations, B, C, I and A will be used singly or together in this report without further explanation. It should be noted that there are four possible combinations - IB, IC, AB, AC - so that an IB death means the death of a child under seven in a building fire, and so on.

Table I shows how male and female victims were distributed among these primary classifications.

Fatal Fires

The 348 fire deaths reported on resulted from 274 fatal fires. The distribution of deaths per fire is given in Table II. Throughout the report the unit of comparison used is the fire death rather than the fatal fire.

Fire Death Rate

This term is defined for the purpose of this report as the number of fire deaths in any group per 100,000 people at risk in that group per 12 months. The abbreviation "FDR" will be used in the remainder of this report.

Geographical Distribution of Fire Deaths

The Frontispiece to this report is a map that shows how the fire death rate varies across Ontario. FDR has been

computed by counties and districts for the six year period 1954-59, but in several cases adjacent counties or districts have been grouped so that no group has a population of less than 50,000 (since in groups smaller than this the FDR would be unduly influenced by a single fatality).

It would be unwise to draw conclusions about any single group from just six years of investigation, however, since a single fire in which several lives are lost could drastically alter the FDR for a less populous county or group. In spite of this there is a clear conclusion to be drawn from the Frontispiece map as a whole. All the districts (i.e. from Muskoka and Nipissing northwards) have FDR's exceeding 4 and most exceed 6. In contrast, most of the counties of southern Ontario have FDR's less than 4. Most cities with populations over 100,000 have FDR's less than 2, and this governs the rate for the counties in which they lie.

Over-all rates for these areas when grouped may be computed. As shown in Table III, the five cities together have an FDR of about 2. Excluding these cities the rate for the remainder of the counties (i.e. southern Ontario) is about 3, while for the districts (i.e. northern Ontario) it is about 6.

These three groupings have very different population densities and a negative correlation between population density and fire death rate seems evident.

Chronological Distribution of Fire Deaths

Figures 1, 2 and 3 show the dependence of FDR upon time of year, day of week, and time of day.

The worst season for fire deaths is from October to May, and Saturday is the worst day of the week. More fatal fires occur at night than during the day, and there is also a heavy incidence of fatal fires around breakfast time.

The time of the fire is the subject of the graphs, not the time of death.

Fire Deaths by Age of Victim

Fire deaths, not FDR, are plotted against age in Fig. 4. As explained in the previous report, FDR is highest for the over-80's, whereas the proportion of fire deaths to deaths from other causes is highest at age 4.

Occupancy

The occupancies in which the fatal fires took place are set out in Table IV. Compared with 1954-57 there were more fire deaths in institutions and in trailers and fewer

outdoors; more in unshared houses and apartments and fewer in other dwelling categories.

Nature of Fatal Injury

Table V shows the nature of the fatal injury that was recorded as the cause of death. When a body is badly burned in a building fire it is difficult to say whether death was due to burns, asphyxia or carbon monoxide poisoning, and, therefore, the figure for burns may be high.

BUILDING FIRE DEATHS

The next three sections deal with building fire deaths only. Deaths due to ignition of clothing without any building fire are excluded.

(a) Overcrowding

In order to test the hypothesis that fire deaths are frequently associated with overcrowded living, the gross floor area per resident for each dwelling where a fatal fire occurred was tabulated whenever the data were available.

The results are given in Table VI, from which it will be seen that 37 per cent of the fatalities had been living at a density of 150 square feet per person, or at a higher density.

(b) Source of ignition and reason for fatal injury

These are tabulated together in Table VII. Among the known sources of ignition, the most prominent are 'smoking' (categories 3 and 4) and 'fuel cookers and stoves' (categories 14 and 15). Among the known reasons for fatal injury, the most frequent is 'asleep in burning building'. Nine deaths are attributed to incendiarism.

(c) Surface materials

It is of obvious importance to know whether the choice of building materials influences the probability of the death of the occupants by fire. In Table VIII the wall finishes in the room where each fatal fire started are given. This may not be the room where the victim suffered his fatal injury.

From the Table it appears that in 34 per cent of the cases where the nature of the wall material was known it was combustible, and likewise in 39 per cent of the

cases where the ceiling material was known. These proportions are appreciably smaller than those given for 1956-57 in the previous report.

There is still no information available on the numbers of buildings at risk lined with each class of material, but the proportions are still high enough to make it plausible that the risk is greater in a combustibly-lined house.

Fire Department Attendance

Table IX summarizes the available information on attendance of fire departments at fatal building fires. In 72 per cent of the cases the death occurred in a municipality having a fire department and this department did attend the fire, sometimes assisted by others. In 10 per cent of cases the fire was attended either by a fire department from outside the municipality or by a non-municipal firefighting body such as a works fire brigade. In the remaining 18 per cent no organized firefighting body was in attendance.

This information has been tabulated for building fires with clothing fires excluded. In most clothing fires there is no need for the attendance of a fire department.

Extent of Fatal Building Fires

Table X lists the extent of the building fires. In more than half the cases the building was destroyed but the fire rarely spread to other buildings.

CLOTHING FIRE DEATHS

The sources of ignition in fatal clothing fires are given in the right-hand column of Table VII. The most prominent sources are smoking materials and cooking appliances, both electrical and of other types. In 1958-59, 42 per cent of the C deaths were of victims aged 65 or over; the corresponding figure for B deaths is 22 per cent, so it appears that old people are especially prone to fatal clothing fires.

The type of garment and the material of which it was made are tabulated together in Table XI. Cotton shirts and dresses are the most frequent offenders; they are also probably the garments most often worn and exposed to risk.

Table XII indicates the action taken by the victim when his clothes ignited. This information would be more valuable if we also knew the action taken by those persons who suffered clothing fires and survived.

FIRE DEATHS OF CHILDREN

This report has dealt with source of ignition and reason for fatal injury for all fire deaths including those of children. When children are concerned, however, another reason must be considered. Since children are normally in someone's care, why was this person unable to protect them before a fire or rescue them during it? For convenience and with no implication of blame this person will be referred to as the "responsible person", or RP for short.

Over the two years 1958-59, 95 children under seven died in fires, 12 of them through clothing fires. In 87 cases the child was under parental care at the time and in 54 out of 79 cases the "responsible person" was in the age range 21-34. Thus fire deaths of infants cannot generally be attributed to the carelessness of babysitters or to the immaturity or senility of the persons having charge of the children.

The reasons assigned for failure to safeguard the children are set out in Table XIII. Often it has been difficult to be certain of the most accurate classification. For example, the heading "responsible person in the same building but still not in time to save the child" has been used where a more appropriate heading might have been found if fuller information had been available. This classification has been used for several cases where the RP was sleeping at the time of the fatal fire.

Inquests

Inquests are held on a surprisingly small proportion of fire deaths, and the proportion seems to be falling.

27 per cent in 1956
16 per cent in 1957
23 per cent in 1958
15 per cent in 1959

Reporting

Table XIV gives some indication of the quality of the reports on which this survey is based. The code used in the Table is as follows.

Source of Report

A	Fire Section, Division of Building Research
B	Office of the Ontario Fire Marshal
C	Police
D	Fire Chief
E	Newsclipping
VS	Vital Statistics Section, Registrar General of Ontario

Reports of types A and B have an advantage over types C and D in that the officers preparing them are specialists in investigating fires rather than fighting them. The proportion of reports of these types has fallen from 42 to 32 per cent since the last report. Types A, B, C and D all have an advantage over E and VS in that the officer preparing them is supplied with a questionnaire that has been carefully designed to elicit the information desired. The proportion of cases where the survey depends on reports of types C and D has risen from 45 to 65 per cent, while those relying on E and VS reports have fallen from 13 to 3 per cent.

SUMMARY

Fire deaths in Ontario continued in 1958 and 1959 at about the same rate as in the previous four years. No conspicuous new trends were observed.

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4. Williams-Leir, G. Coding manual for analysis of Ontario fire deaths, 1956. Internal Report No. 100 of the Division of Building Research, National Research Council, Ottawa, September 1956, 21p, 1 Fig.
5. Manual of the International Statistical Classification of diseases, injuries and causes of death. World Health Organization, Geneva, 1948, Vol. 1, p. 263, 305-307, 311.

ACKNOWLEDGMENT

The large quantity of clerical work required by the survey was ably carried out by Miss Rena Hutcheon.

TABLE I
FIRE DEATHS BY SEX AND PRIMARY CLASSIFICATION (1958-59)

	<u>Number of Fire Deaths</u>				
	IC *	IB	AC	AB	Total
Male	7	44	29	125	205
Female	5	39	25	74	143
Total	12	83	54	199	348

* IC - Victim under 7 years of age, clothing fire

IB - Victim under 7 years of age, building fire

AC - Victim aged 7 or over, clothing fire

AB - Victim aged 7 or over, building fire

TABLE II

NUMBER OF DEATHS THAT RESULT FROM EACH FATAL FIRE

<u>Number of Fires</u>		<u>Deaths per</u> <u>Fire</u>	<u>Total</u> <u>Number of</u> <u>Deaths</u>
1958	1959		
120	113	1	233
13	12	2	50
2	5	3	21
1	3	4	16
2	1	5	15
1	-	6	6
1	-	7	7
140	134	-	348

TABLE III

GEOGRAPHICAL INCIDENCE: RELATION OF FIRE DEATH RATE TO POPULATION DENSITY

(1954-59)

	<u>Fire Deaths</u>							<u>Population</u> 1957 (thousands)	<u>Fire</u> <u>Death</u> <u>Rate</u>	<u>Area</u> (thousands of sq miles)	<u>People</u> (per sq mile)
	1954	1955	1956	1957	1958	1959	6 years 1954-9				
Metropolitan Toronto	28	17	24	16	34	36	155	1310	1.97	-	-
Hamilton	4	1	2	8	3	5	23	234	1.64	-	-
Ottawa	6	14	14	2	12	3	51	218	3.90	-	-
Windsor	2	-	4	6	9	2	23	119	3.22	-	-
London	3	1	2	1	-	2	9	101	1.49	-	-
Subtotal - 5 largest cities	43	33	46	33	58	48	261	1982	2.19	0.29	6930
Remainder of southern Ontario	88	79	94	95	82	85	523	2925	2.98	39.4	74.2
Northern Ontario	42	59	30	56	39	36	262	715	6.11	324	2.21
Total - Ontario	173	171	170	184	179	169	1046	5622	3.10	-	-

TABLE IV
OCCUPANCY

<u>Occupancy</u>	<u>Fire Deaths in 1958-59</u>				
	IC	IB	AC	AB	Total
<u>Residential</u>					
Unshared separate dwelling	4	62	20	86	172
Shared separate dwelling	-	3	1	5	9
Apartment	1	9	5	23	38
Rooming house	-	-	3	9	12
Barracks, etc.	-	-	-	-	-
Hotel	-	-	1	9	10
Summer cottage	-	-	-	7	7
Shack or one-room dwelling	-	-	-	8	8
Dwelling - no further particulars	6	-	5	9	20
Other or mixed	-	2	-	8	10
Subtotal	11	76	35	164	286
<u>Non-residential</u>					
Industrial	-	-	4	8	12
Mercantile	-	-	-	1	1
Office	-	-	-	1	1
Institution, e.g. hospital, home for aged	-	-	7	8	15
Place of restraint, e.g. jail	-	-	-	-	-
Place of assembly	-	-	2	1	3
Farm out-building	-	1	-	1	2
Stationary vehicle	1	3	3	5	12
Outdoors	-	2	2	3	7
Other or mixed	-	1	1	7	9
Subtotal	1	7	19	35	62
Total	12	83	54	199	348

TABLE V
NATURE OF FATAL INJURY

<u>Nature of Fatal Injury</u>	<u>Fire Deaths in 1958-59</u>				
	IC	IB	AC	AB	Total
Asphyxia	-	40	-	78	118
Burns	12	37	54	108	211
Carbon monoxide poisoning	-	4	-	12	16
Other injuries	-	2	-	1	3
Total	12	83	54	199	348

TABLE VI
WAS THE DWELLING OVERCROWDED WHERE A
FATAL BUILDING FIRE OCCURRED?

<u>Square Feet</u> <u>per Person</u>	<u>Fire Deaths</u>			<u>Cumulative</u> <u>Percentage</u>
	1955-57	1958-59	1955-59	
Less than 50	4	5	9	2.1
50 - 70	12	8	20	6.9
70 - 100	33	16	49	18.5
100 - 150	51	28	79	37.2
150 - 200	50	21	71	54.0
200 - 300	30	37	67	69.9
300 - 500	41	31	72	87.0
500 - 700	17	10	27	93.4
700 - 1000	8	6	14	96.7
More than 1000	10	4	14	100.0
Total known density	256	166	422	
Unknown density	84	74	158	
Non-residential building fires	47	42	89	
Clothing fires	138	66	204	
Total	525	348	873	

TABLE VII
TWO ASPECTS OF "CAUSE OF FIRE DEATH" (ONTARIO 1958-59)

		Reason for Fatal Injury in B Deaths																						
		Number of B Deaths																				Total	Total C Deaths	
		21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	Unknown			
Source of Ignition (B and C Deaths)	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	
	2	4	-	-	-	1	-	1	-	1	-	1	-	-	-	1	-	4	-	1	-	14	5	
	3	26	-	-	-	-	-	-	-	2	-	2	1	-	-	-	-	5	1	2	3	42	2	
	4	10	-	1	-	2	-	1	1	-	-	1	6	-	-	-	-	4	4	2	6	38	12	
	5	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	3	7	
	6	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1	4	
	7	-	-	-	-	-	1	-	-	-	2	-	-	-	-	-	-	-	-	-	-	3	2	
	8	-	-	-	-	-	-	1	-	-	-	1	1	-	-	-	-	-	-	-	-	3	-	
	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	
	10	-	-	-	-	-	-	-	1	5	-	-	-	-	-	-	-	-	-	1	2	9	-	
	11	1	-	-	-	1	1	-	-	1	-	-	-	-	-	-	-	3	-	-	1	8	15	
	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	13	2	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1	-	-	3	7	-
	14	2	-	-	-	1	-	-	-	13	-	1	2	-	1	-	-	3	-	1	5	29	9	
	15	1	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	6	1	1	-	11	1	
	16	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	1	-	1	4	2	
	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	18	1	-	-	-	-	-	-	-	-	-	2	1	-	-	-	-	-	-	-	-	4	1	
	19	-	-	-	-	-	-	-	-	-	1	-	2	-	-	-	-	-	1	-	-	4	1	
Unknown	16	3	1	-	3	-	1	-	13	-	-	12	-	-	-	2	27	-	1	21	100	5		
Total		63	3	2	-	9	2	4	3	38	2	11	24	-	1	1	3	56	7	12	41	282	66	

Key: Source of Ignition

- 1 Building ignited as result of clothing fire
- 2 Playing with matches, flames
- 3 Someone fell asleep while smoking
- 4 Other instances of smoking
- 5 Injudicious use of flammable liquids
- 6 Use of open flames, welders' sparks, etc.
- 7 Burning rubbish not in incinerator; bonfires
- 8 Explosions
- 9 Self-heating or spontaneous ignition
- 10 Incendiarism
- Faulty maintenance or use of:
 - Electrical -
 - 11 Cooking or cooking-heating appliances
 - 12 Space-heating appliances
 - 13 Other, including wiring, lighting, radios, Christmas trees, etc.
 - Non electrical -
 - 14 Cooking or cooking-heating appliances
 - 15 Space-heating appliances
 - 16 Other, including lamps, chimneys and flues, etc.
 - 17 Faulty design of appliances
 - 18 Faulty installation of appliances
 - 19 Other known sources including mechanical failures not adequately described by Nos. 11 to 18

Reason for Fatal Injury

- 21 Asleep in burning building and did not wake in time to attempt escape (including coma induced by drugs, liquor, etc.)
- Trapped by fire owing to:
 - 22 Fire in any one of the available exits
 - 23 Failure to find exit in darkness, smoke, etc.
 - 24 Inability to open exit door
 - 25 Attempt to warn or save other(s)
 - 26 Attempt to save material objects
 - 27 Loss of judgment due to fire (e.g., panic)
 - 28 Loss of judgment due to other circumstances (e.g., liquor, drugs)
 - 29 Being overtaken by rapidly spreading fire, or fumes from the fire
 - 30 Forest/grass fire
 - 31 Other known reasons
 - 32 Reasons unknown
 - 33 Explosions
 - 34 Injured as a result of being engaged in fire-fighting or salvage operations during fire
 - 35 Injured because of panic of others present
 - 36 Injured by falls, falling objects, etc. while escaping from fire
 - 37 Infant, and no other reason applicable (see Table XIII)
 - 38 Trapped because bedridden, invalid, injured before fire, or senile
 - 39 Other known reasons

TABLE VIII

WALL AND CEILING FINISHES IN RESIDENCES WHERE FATAL FIRES OCCURRED(OTHER THAN CLOTHING FIRES)1958-59

<div><div>Walls</div><div>Ceiling</div></div>					Total Inc.									Total Com. Mixed Com. and Inc.	Unknown	Total
	1	2	5	6		10	11	12	13	14	15	16				
1	66	1	-	2	69	-	-	1	1	-	-	-	2	-	3	74
2	-	28	-	-	28	-	-	3	1	-	1	-	5	-	1	34
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	1	1	-	-	-	-	-	-	-	-	-	1	2
Total Inc.	66	29	-	3	98	-	-	4	2	-	1	-	7	-	5	110
10	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-	1
11	2	-	-	-	2	-	13	-	1	-	-	-	14	-	1	17
12	-	-	-	-	-	-	-	4	7	-	-	-	11	-	-	11
13	-	2	-	1	3	-	2	-	12	-	-	-	14	-	1	18
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	5	-	-	-	-	4	9	-	-	9
Total Com.	2	2	-	1	5	1	20	4	20	-	-	4	49	-	2	56
Mixed Com. and Inc.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	7
Unknown	-	-	-	-	-	-	5	-	5	-	-	-	10	-	57	67
Total	68	31	-	4	103	1	25	8	27	-	1	4	66	-	71	240

KEY

Inc. = incombustible

Com. = combustible

1 = lath and plaster

2 = plasterboard

5 = ceramic tile

6 = other or mixed incombustible

10 = combustible board,
no further description.

11 = wood

12 = plywood

13 = soft fibreboard

14 = pressed paperboard

15 = hardboard

16 = other or mixed combustible

Non-residential

42

Clothing fire deaths

66

Total fire deaths
Ontario 1958-59

348

TABLE IX
FIRE DEPARTMENT ATTENDANCE AT FATAL
BUILDING FIRES (1958-59)

	<u>B Deaths</u>
Fire attended solely by FD of the municipality concerned	184
Fire attended by another municipal FD	14
Fire attended by both the above	18
Fire attended by some other firefighting service, e.g. a works fire brigade	10
Fire attended by the latter and by municipal FD (s)	4
No FD attended, or not known whether a FD attended	52
Total	282

TABLE X
SIZE OF FATAL BUILDING FIRES (1958-59)

	<u>B Deaths</u>
Contents only of room where the fire started	4
Damage confined to room of origin	48
Damage confined to story	22
Damage confined to building	178
Fire extended to other buildings	19
Unknown or not applicable	11
Total	282

TABLE XI
STYLE AND FABRIC OF GARMENTS FIRST IGNITED
IN FATAL CLOTHING FIRES (1956-59)

	<u>Cotton</u>	<u>Wool</u>	<u>Synthetic Fibre</u>	<u>Unknown</u>	<u>Total</u>
Male Victims:					
Shirt	16	2	1	3	22
Trousers	3	-	-	4	7
Jacket or Sweater	2	3	1	2	8
Overalls	6	-	-	-	6
Pyjamas	5	-	1	2	8
Dressing gown	2	1	-	1	4
Other	4	-	-	3	7
Unknown	-	-	-	32	32
Subtotal	38	6	3	47	94
Female Victims:					
Blouse	1	-	-	-	1
Skirt or slacks	3	-	1	3	7
Jacket or Sweater	-	1	1	-	2
Dress, apron, smock	20	-	5	2	27
Pyjamas, nightgown	5	-	1	4	10
Dressing gown	3	-	1	3	7
Other	-	-	-	-	-
Unknown	-	-	-	18	18
Subtotal	32	1	9	30	72
Total	70	7	12*	77	166

* The cases ascribed to 'synthetics' are as follows:

rayon	5
nylon	5
orlon	1
'plastic'	<u>1</u>
	<u>12</u>

TABLE XII

ACTION TAKEN BY VICTIM OF CLOTHING FIRE

	<u>1958-59</u> <u>C Fire Victims</u>
Tried to beat or smother fire	9
Tried to use water or other extinguishant	1
Tried to remove clothing	2
Unable to take effective action because infant, senile or invalid	9
No effective action (influence of liquor or drugs)	2
No effective action (panic)	10
No need to act: others took action immediately	19
Other reactions	2
Unknown	12
Total	66

TABLE XIII

INFANTS: REASON PARENT OR OTHER RESPONSIBLE
PERSON UNABLE TO SAFEGUARD CHILD

	<u>1958-59</u> <u>I Fire Victims</u>
Responsible person busy saving other person(s) or trying to	11
Responsible person injured (non-fatally) in the same fire	5
Responsible person injured fatally in the same fire	6
Someone performed hazardous operation in presence of infant	2
Responsible person's judgment impaired (e.g. by liquor or drugs)	3
Responsible person's judgment impaired (e.g. panic, hysterics, etc.)	5
Responsible person not there, or not in time, and no further particulars	4
Responsible person not there: had left infant for 5 minutes or more	25
Responsible person in same building at time of fire, but was not in time to save infant	18
Other known reasons	12
Unknown	4
Total	95

TABLE XIV
REPORTS RECEIVED

<u>Source of Report</u>	<u>No. of Cases</u> <u>1958-59</u>
Class A report available	23
B report but no A available	89
C report but no A or B	75
D report but no A, B or C	150
E report but no A, B, C or D	5
Vital Statistics report only	6
Total	348

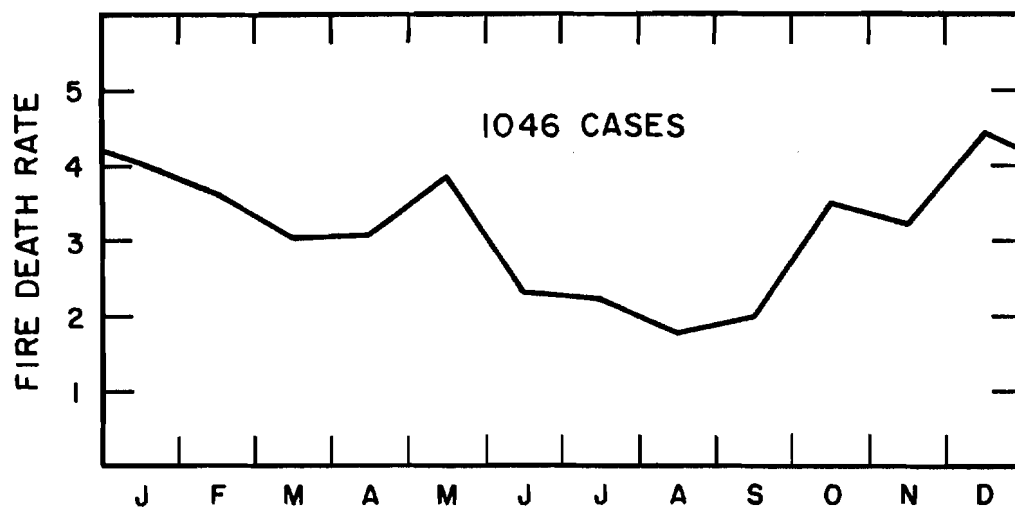


FIGURE 1
FIRE DEATH RATE BY MONTH: 1954-9

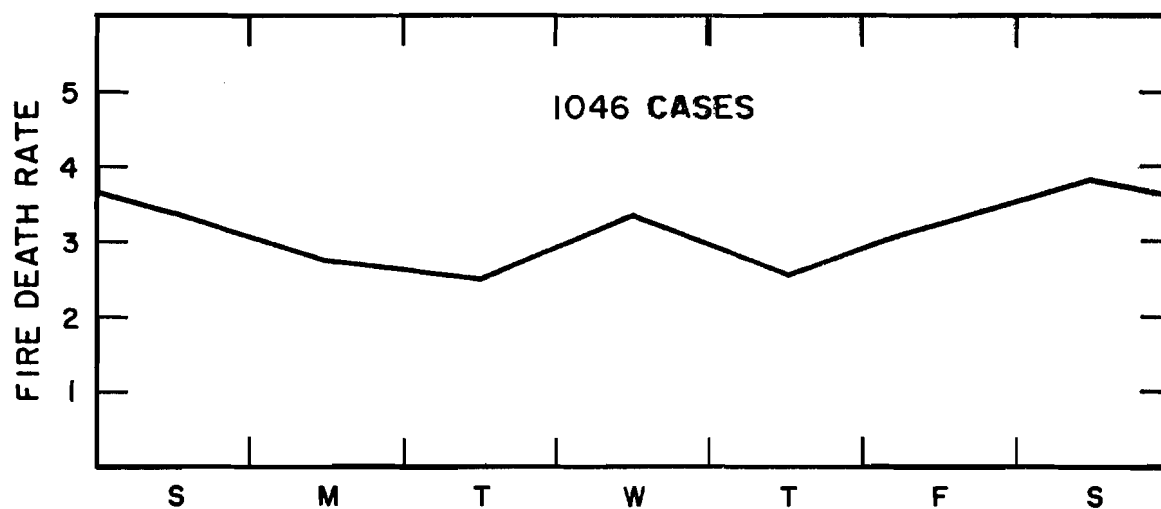


FIGURE 2
FIRE DEATH RATE BY DAY OF WEEK: 1954-9

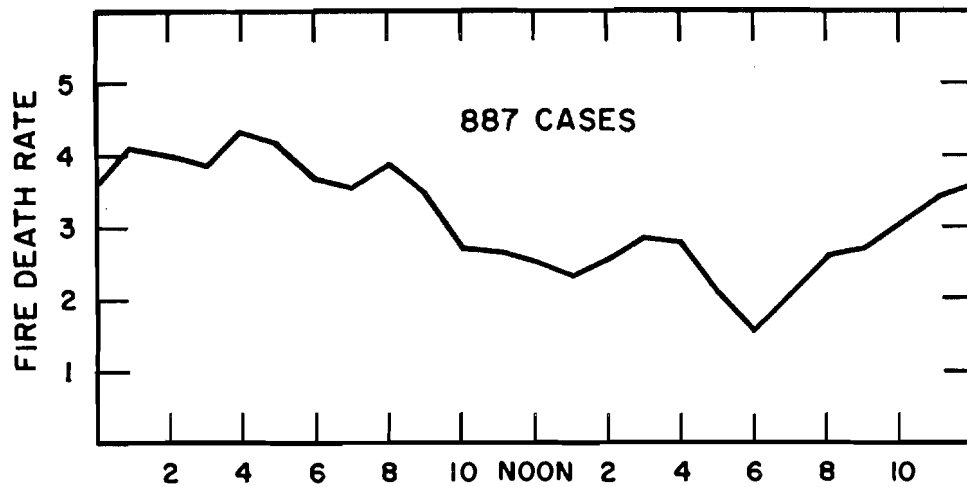


FIGURE 3
FIRE DEATH RATE BY TIME OF DAY: 1954-9

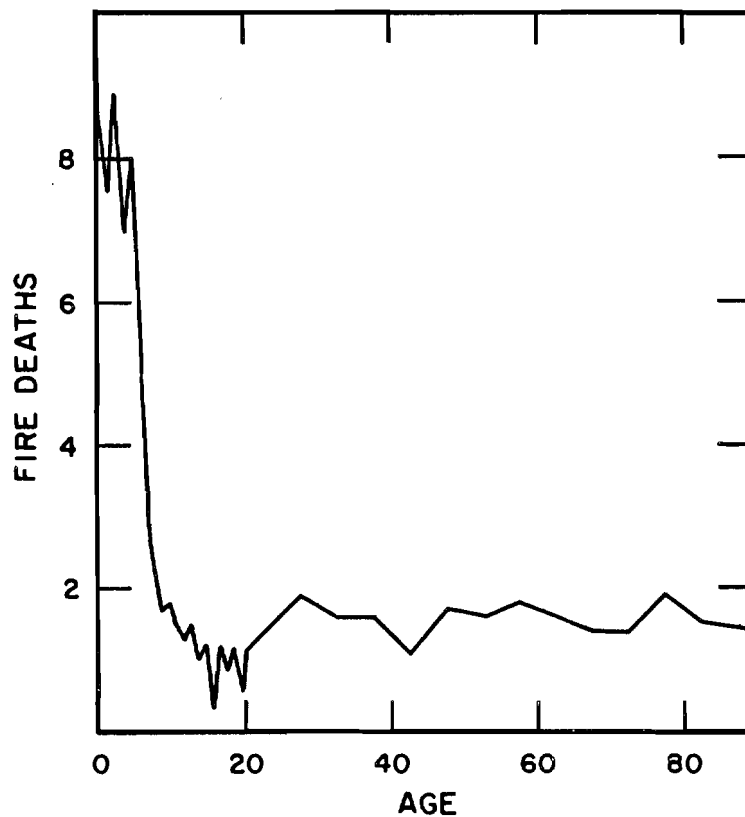


FIGURE 4
NUMBER OF FIRE DEATHS ANNUALLY
IN ONE-YEAR AGE GROUPS

APPENDIX I

National Research Council

Division of Building Research

Fire Research Section

Fire Fatality Investigation Form (I)

REPORT ON FATAL FIRE

Full address of fire (number, street, municipality, and county or district) -----

Date of fire -----

Time of outbreak ----- A.M.* Time alarm received ----- A.M./P.M. *
----- P.M. ----- EST/EDST *

Occupancy (e.g. hotel, clothing factory, etc.) If dwelling, state whether for one family or more, & whether apartment, double, duplex, separate house, etc. If "mixed occupancy", e.g. part dwelling, part stores, state occupancy for each storey.

Area On a separate sheet, please give, if you can, an outline sketch plan of each storey of the building, with approximate measurements. Show point where fire started and where bodies were found.

	<u>Width</u>	<u>Length</u>
(Basement/cellar: _____)	ft.	ft.
(Ground floor: _____)		
(Higher storeys: _____)		

How many storeys? ----- How many people normally
(excluding basement) ----- resided in the building? -----

Was basement used as living quarters? Yes/No/No basement existed/Don't know *

Construction of exterior walls -----
(clapboard, brick veneer, solid brick, etc.) -----

Interior finish of room where fire started -----
(wallpapered lath & plaster; painted gypsum wallboard, etc.) -----

(i) Walls ----- (ii) Ceiling -----

Where did fire start, & on which storey? -----

How did the fire start?
(a) Source of ignition (lamp, range, etc.) -----
(b) What fuel (if any) did it use? (oil, gas, elec.) -----
(c) What first ignited? (curtains, bedding, etc.) -----
(d) and why? (lamp knocked over, playing with matches, etc.) -----

Was the fire confined to: Room of origin/Storey of origin/Building of origin/*
or did it extend to other building(s)?

Did any fire department attend this fire? -----
(If yes, state which fire department.) -----

How many deaths from this fire? ----- Was there, or will
----- there be, an inquest? Yes/No *

Any further remarks (Reverse side or separate sheet may be used also) -----

Please send any available photographs, and state what payment is required.
They will be returned if not needed.

PLEASE ALSO COMPLETE BLUE FORM; ONE COPY FOR EACH FATALITY.

* - Cross out whichever does not apply.

Signature ----- Rank or position -----

Date ----- Department -----

National Research Council

Division of Building Research
Fire Research SectionFire Fatality Investigation Form (II)REPORT ON FIRE VICTIM

(Please complete one form for each fatality)

Name of victim _____ Age _____ Sex _____

1. BUILDING FIREWhereabouts in the building did the victim obtain his injuries?
(mention which storey) _____
_____Why was the victim trapped or otherwise unable to escape? _____
_____2. CLOTHING FIRE If the fatality was due to the victim's clothing becoming
ignited:-How did this happen? _____
_____What did the victim and
others present do about it? _____
_____What was the type of garment first ignited? (shirt, skirt, etc.) _____

Fabric: state main constituent (cotton, wool, etc.) _____

If available, please send an unburnt piece of the ignited garment,
if possible a square foot or more.3. INFANT If the victim was a child less than seven years old:-Who was the person in charge of or responsible for the child?
(e.g. parent, babysitter, etc.) _____How old was
this person? _____Was the responsible person with the child: in the same room? _____
same storey? _____ Same building? _____; if not, how
far away was he/she? _____If the responsible person was not in the same building as the child at
the time of the fire, how long had he/she been away? _____If the responsible person was there, why was he/she unable to safeguard
the infant? _____4. If the questions above do not fit the circumstances, please give your own
account on another sheet, or on the back of this one.

PLEASE ALSO COMPLETE FORM (I) REPORT ON FATAL FIRE

Signature _____ Rank or position _____

Date _____ Department _____

National Research Council

Division of Building Research

Fire Research Section.

FIRE FATALITY INVESTIGATION FORM III

1. Name of Deceased:
Surname: _____ Given names: _____
2. Sex: _____ 3. Age: _____ Reg. No. _____
4. Date of death: _____ Month by name: _____ Year: _____
5. Place of death: _____
6. Place of residence: _____
7. Date of fire or explosion: _____ Month by name: _____ Year: _____
8. Did fatal fire or explosion occur at home, in industry, or in a public place?
9. How was the injury sustained?
10. Nature of injury and cause of death:
11. Was there an autopsy? _____ An inquest? _____
12. Findings of autopsy and/or verdict of inquest:
13. Any further particulars:

V/S Code No.

E

N

Date of report:

Form revised 7/56

Signature: _____

Registrar-General's Office