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Fire statistics

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<https://doi.org/10.4224/21274248>

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Fire Statistics

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Outline

- The current state of Canada's Fire Statistics
- A way forward
- What can we learn from the existing data both National and International
- "Lies, Damn Lies, and Statistics" - Mark Twain or
"How to lie with statistics"

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Current State of Canadian Fire Statistics

- Last Canada Wide fire statistics are from 2001
- Even these are incomplete for some provinces
- 1986 – 2001 are available on line at:
http://www.ccfmfc.ca/stats/statsReports_e.html
or
http://www.ccfmfc.ca/stats/stats_f.html

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Current State of Canadian Fire Statistics - continued

- A number of Jurisdictions have limited resources to collect fire incident data
- Existing coding framework is too complex for many
- All jurisdictions have a large percentage of volunteer stations with little training or incentive to fully complete complex fire incident report forms

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Current State of Canadian Fire Statistics - continued

- **Some municipalities use computer support software for their fire service but often the data is not compatible with the CCS (Canadian Code Structure)**
- **These situations are unlikely to improve significantly**

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A Way Forward

- **Adopt a combined approach**
- **Collect limited Canada Wide data**
 - # of Structural Fires
 - # of Fire Deaths in Structural Fires by age/sex/firefighter

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A Way Forward Continued

- **Work with 3 or 4 key provinces to collect comprehensive fire data**
 - Alberta (10% of Canadian Population)
 - British Columbia (13% of Canadian Population)
 - Ontario (39% of Canadian Population)
 - Quebec? (24% of Canadian Population)
 - Totals ~75% of Canadian population

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Use Statistics to fill the Gap!

- **A number of jurisdictions around the world collect fire data based upon statistical sampling (e.g. NFPA in the US)**
- **In this approach a number of representative locations are selected for which good statistics are available (Good is a relative term as we will see later).**
- **Based upon the data collected from these locations a general picture is generated to provide a national view.**
- **This is the approach we are proposing to use to get at some of the underlying trends at a fairly detailed level**

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How Good are Existing Fire Statistics?

- Data on Canadian fire deaths are fairly good although some possible double counting (Province and INAC/Federal Government) and some missing data.
- Who died and under what circumstances can sometimes be unclear (building fire – vehicle fire – sex – age – etc.)
- Injury data is more problematic and certainly is less reliable than the data on deaths – probably reflects the more serious injuries and under-represents the less serious fire related injuries

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How good are existing statistics? continued

- Fire incident data is probably even more uncertain and only represents the fires that were reported to the authorities
- Studies from various sources indicate that something approaching 1 in 9 or 1 in 10 residential fires are actually reported to the authorities and captured in official statistics!
- These other fires are dealt with by the house owner and don't develop to a size that brings them to the attention of the authorities – these may have been suppressed by the house owner or they did not develop beyond the initial object and self extinguished.

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How many household fires are there then?

- Limited Canadian data on this – only fire service data and that can be unreliable (for the reasons stated previously) and in recent years is limited.
- UK based data from national surveys of households indicate a prevalence of fires at about 1.5% of the housing stock per year (2004/05 *Fires in the Home* report)
- 6% of these households who reported fires, also reported having more than one fire in the last 12 months!

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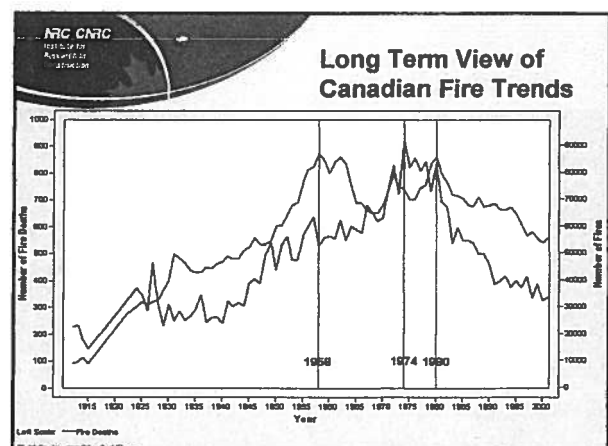
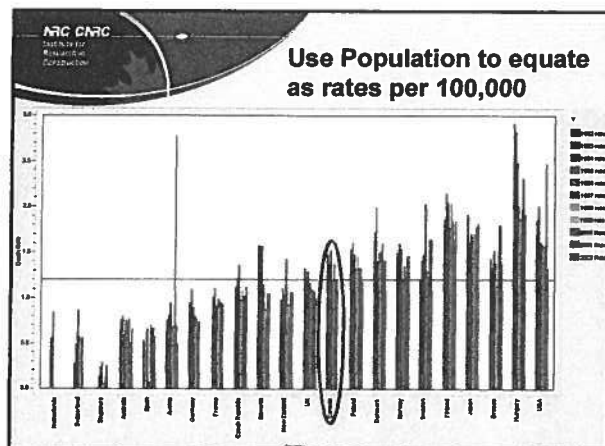
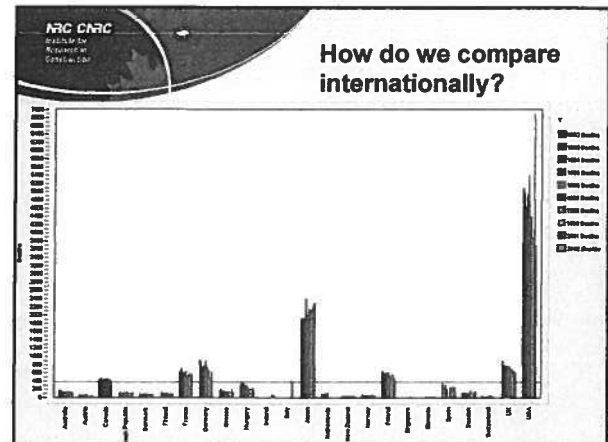
How many household fires are there then Cont.

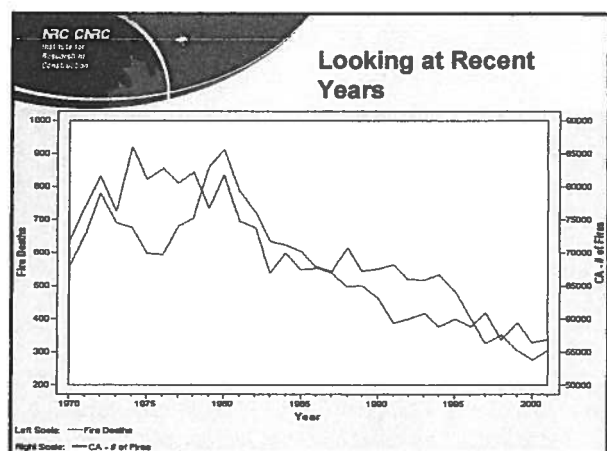
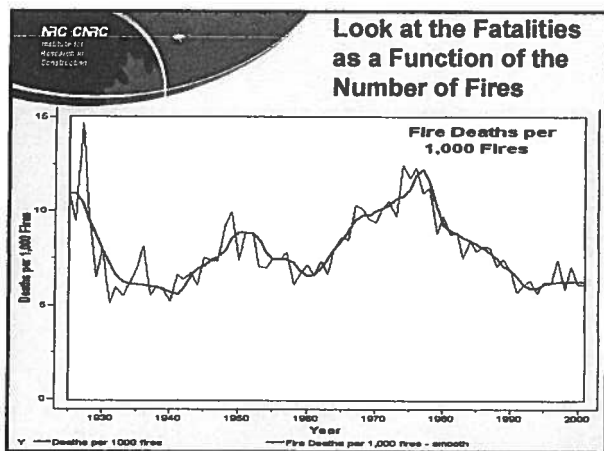
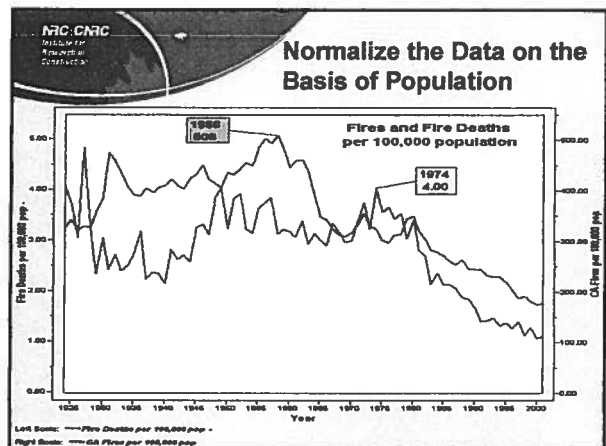
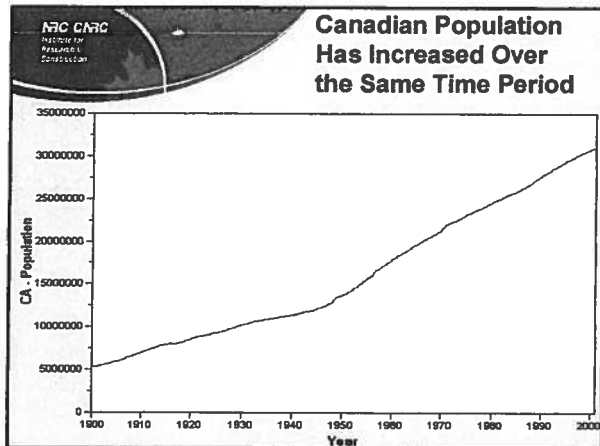
- Of the 308,000 households experiencing a fire, 273,000 were within the house (other fires were outside – garden etc.)
- The fire service were called to approximately 1 in 5 of these fires

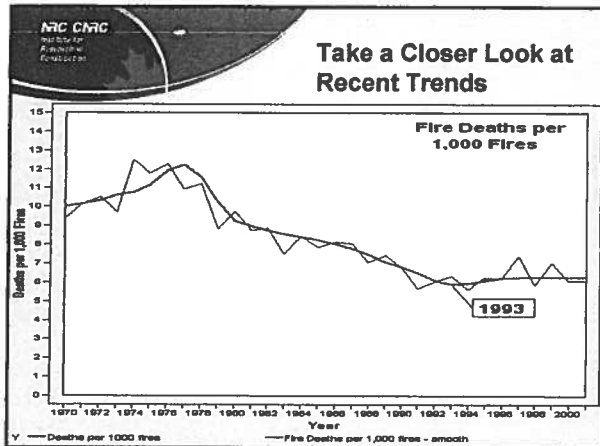
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How many household fires are there then cont.

- Based upon UK figures (1.6% of housing stock) Canada would expect there to be something in the order of 173,446 fires (based upon 11,662,976 households in 2001)
- Reported fires in Canadian residences are 21,494 (39% of total reported fires) which, based upon British figures, probably represents approximately 12% or 1 in 8 of actual household fires being reported (slightly more than the 1 in 9 fires in the UK).
- There are a lot of assumptions in this estimate but it provides some indication of the level of actual residential fire activity in the country







NAC CNAC
National Association of Fire Chiefs
National Fire Protection Association

What can we learn from these data?

- Some interesting trends
 - Number of fires per year are decreasing
 - Number of fire deaths per year are decreasing
- BUT
 - The number of fires are reducing at a faster rate than the death rate!
- This implies that a greater percentage of the fires we do see are likely to be lethal
- Why, what is it about these fires that makes it more likely that they will prove to be lethal?

