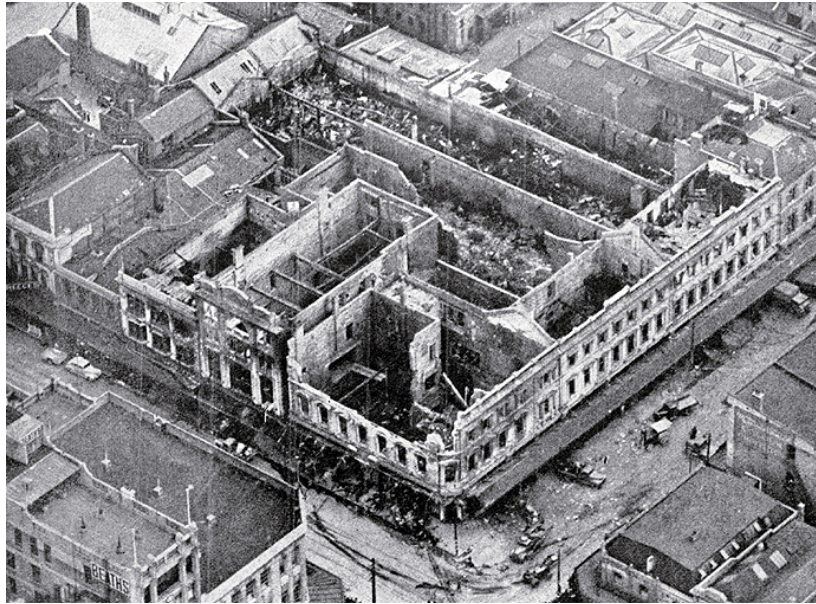


This, the final article in my series on the causes of fire, focuses on household fires and a little understood aspect of fire losses – understanding the hazard.

Human memory is short – less than a lifetime - so that the lessons from the past soon fade. How many of us can recall the most tragic fire loss in New Zealand's history, the Ballantyne's Department Store fire which occurred on 18 November 1947 causing the death of 41 people?



New Zealand's most Tragic Fire Loss. Aerial View of Ballantyne's after the 1947 Fire

Since the year 2000 New Zealand has experienced about 5,000 household fires each year that required attendance by the New Zealand Fire Service. Given that there are approximately 1.4 million households in New Zealand it is not surprising that most of us have not experienced the trauma, emotional and financial burden that fire can cause. To most New Zealanders fire is an event that happens to someone else.

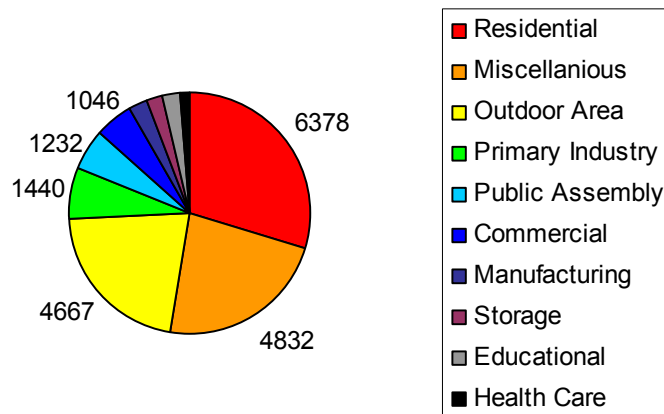
Without the learning imparted by experience we cannot, in general, truly understand the hazard from fire or empathise with those who have. Reading an article about a devastating fire loss can never convey to the reader what a life-changing event fire can be. The clinical, factual, un-emotive descriptions of fire that might be read in a Coroner's report or an engineering investigation do not adequately convey the emotions associated with the event. The destruction of irreplaceable memorabilia and personal effects such as photographs is one thing. A fire that results in injury or death is another.

Jessica (let's try and personalise this) had been reading by candlelight before she fell asleep. Mum had said 'lights out at 9', but candles didn't count, and the fairytales in her book somehow came alive in the yellow glow of the candle secreted under her bed. Smoke from the smouldering fire filled her bedroom but Jessica was already unconscious. The stealthy poison gases that accompany fire had done their evil work

before the acrid smoke and bright, crackling flames would have awoken her. The fire, just moments before a peaceful incandescent candle, raced up the curtain. The heat curling the pastel wall paper and scorching it brown, then black, as the pall of baking smoke descended from the ceiling – smoke so hot as to burn skin from flesh. Just three minutes after the first flames the room erupted into an inferno and thankfully Jessica was dead – freed from the pain of scalding, searing burns as her long black hair charred and her face blistered from the pyre. Down the hall ...

Looking back at to the statistics that were presented in my very first article in this series you can see that household fires are the most frequent fires reported in New Zealand. They are also the greatest cause of loss of life due to fire in New Zealand. This is appalling news, but it gets worse.

Fires by Occupancy in 2003/4

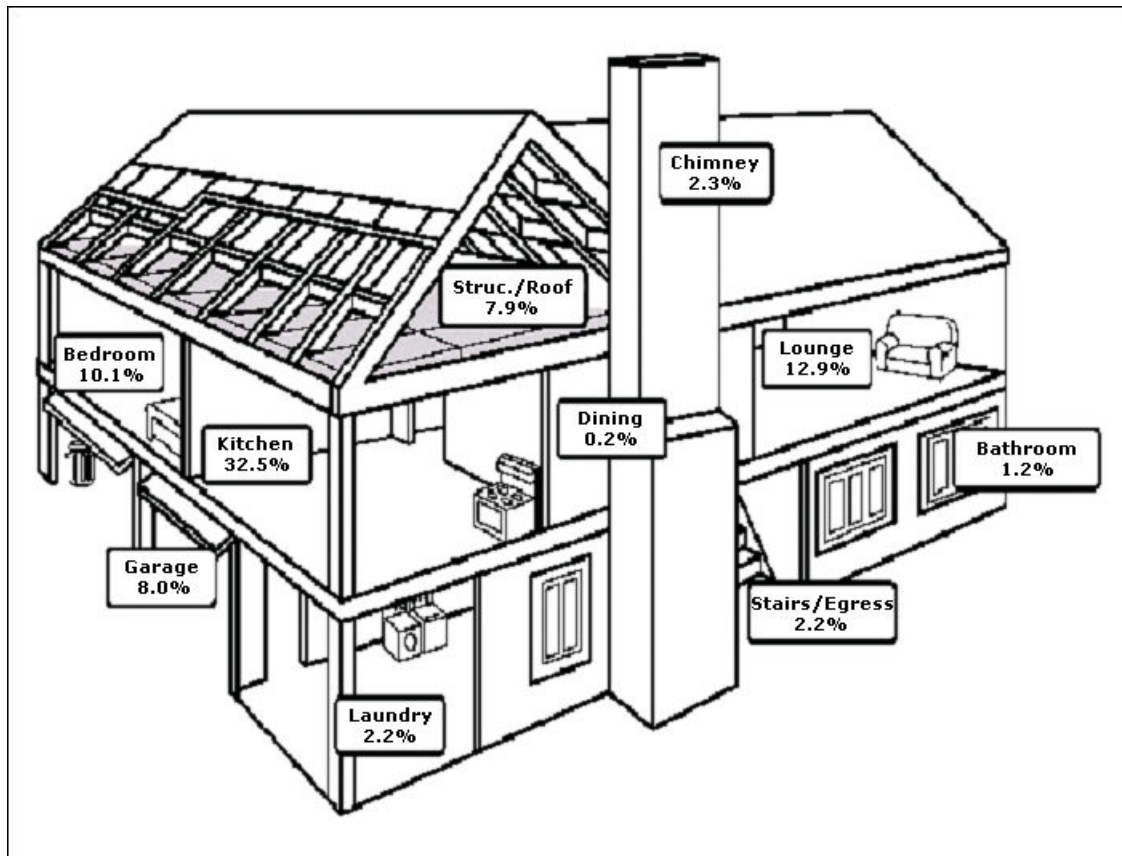


Although correlative statistics and anecdotal evidence are not in themselves strong arguments, the occurrence of household fires is not evenly distributed across our society. Socio-economics, age, gender and regional influences are some of the discriminating factors in the occurrence of household fires.

The New Zealand Fire Service has long been the champion of publicising fire awareness in the home. For this they must be commended. You may be familiar with their advertising campaigns, particularly on television. But maybe not – after all these campaigns are targeted to reach the audiences that are statistically most likely to experience household fire. While the advertisements truly demonstrate the cause, the speed and the ferocity of house fires, I feel that they do not always fully convey the hazard. Perhaps this is because we have become hardened, disconnected and immune to the horror that television puts before our eyes each day, or perhaps it is because the Censor would struggle validating images of a smouldering corpse in the charred remains of a child's bedroom.

Where House Fires Start

You need look no further than the New Zealand Fire Service Summary Statistics for confirmation that most house fires start in the kitchen - about a third of all fires start here. In decreasing order of frequency come the lounge, bedrooms and garage followed by structural fires. Below I have reproduced a very instructive graphic from the New Zealand Fire Services Emergency Incident Statistics 2005/6 which shows where fires start. We can all learn from this.



Common Causes of Household Fires

Given that the majority of fires start in the kitchen the cause is somewhat self-apparent. We use heat each day to cook our food (let's face it, leftovers come from somewhere). Problem is that when we don't monitor this process things tend to get over-done – big time. In 2005/6 New Zealand Fire Service Emergency Incident Statistics 890 structural fires were attributed to unattended cooking.

Arson also features significantly with 543 fires attributed to unlawful causes. The number could be higher as several hundred fires of undetermined cause are categorised as suspicious. Lounges tend to be areas that we heat and spend a significant amount of our waking at-home hours occupying. Open fires, heaters and smoking are probable causes of fire in this area.

It is interesting to consider the relatively high percentage of structural fires that occur. You might reasonably expect that most structures do not spontaneously burst into flame. The likely root cause of these fires is electrical wiring and fittings.

Prevention

Prevention is better than cure – and there is no cure for fire. There are 1001 things we can do to minimise the risk of fire in our homes. Here are a few.

We need to start with education. ‘Learn not to Burn’.

We need to plan ahead. Discuss what to do in a fire emergency with your family before a fire happens. Plan the escape route and practise it. Get out and stay out. And dial 111 for the Fire Service. Make special plans for the young, the old, and the otherwise-abled.

Clearly kitchen fires are a significant preventable cause of fire in your home. When something is cooking in the kitchen someone needs to be monitoring the process, particularly on the stove top. We need to be prepared to act in the event of kitchen fire. As anyone who has seen the effect of water applied to burning oil or fat can attest (don’t try this under any circumstances) knowing what not to do is just as important as knowing what to do.

You might like to conduct a fire safety audit in your home. You don’t need to be an expert to do this. Think ignition sources and think about the hazard. Where are your matches, lighters and candles? When was the chimney last cleaned? Do you use electric blankets, and if so, are they serviceable and used in accordance with the manufacturer’s instructions. Do you clean the lint from the drier’s filter before you use it? Do you have power multi-adaptors with a zillion appliances plugged into it? Are your appliances and extension cords in good order and are all the fuses in your fuse board the correct rating? How do you dispose of ashes from your fireplace? (Putting them on the back doorstep wrapped in newspaper in a cardboard box is just not a good idea.) There is a wealth of information available on the Internet and through the New Zealand Fire Service to help you prevent fires, but you can do much by applying common sense.

Protection

Finally there are some things that you can do to ensure the best possible outcome in the event that a fire does occur in your home.

Fit smoke alarms and change out the battery every year. While smoke alarms never put a fire out they can provide early warning. Their cost is insignificant against the possible loss from a fire, and the benefits are guaranteed to be better than two weeks of Lotto investment. If the alarm keeps going off because you burnt the toast again today then

either move the smoke alarm (it is in the wrong place) or learn to stop burning the toast. You might need more than one smoke alarm, particularly in large or multi-story houses. Put a smoke alarm in the Christmas stocking of those you love.

A fire extinguisher in the kitchen (and garage) can be very effective if you know how to use it. A garden hose can also be very effective at extinguishing incipient fires. If you are burning rubbish then maybe you want to lay out the hose ahead of time. If you have fire fighting equipment then know how to use it, and know when to call it quits, get out, and call the professionals.

Automatic Fire Sprinklers. Automatic fire sprinklers are the best fire protection for life and property, and NZS 4517 is a specific design standard for protection of domestic housing in New Zealand. Sprinkler installation is not just for new homes. Sprinklers can be retrofitted into existing houses too. The cost of sprinklers installing sprinklers is a significant outlay for a retrofit, but is trivial compared to the cost of a new home, and is insignificant when costed against life. One day residential insurers will learn that the financial cost of fire losses can be minimised by sprinklers. They will put urban legends about water damage in the garbage and offer premium incentives for homes protected with automatic sprinklers. One day our building laws will recognise that the hazards of house fires can be minimised by automatic sprinklers, and legislate to require that all new homes are protected. One day...