

RISK FACTORS IN RESIDENTIAL FIRE FATALITIES FOR THE MENTALLY ILL AND SOCIALLY AT RISK

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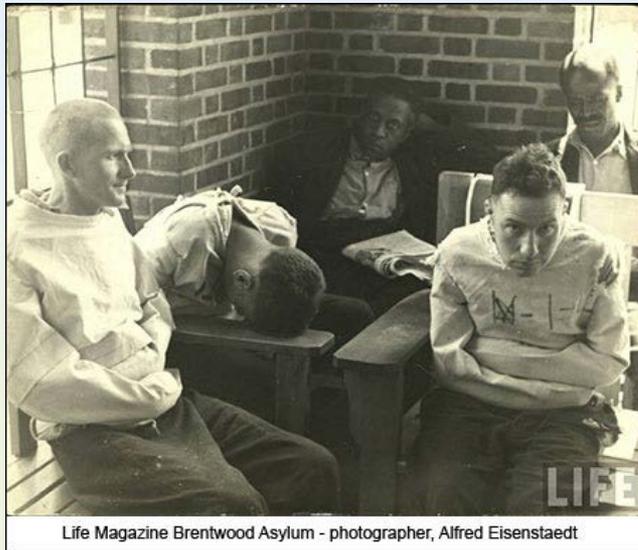


- Particular groups of people are more vulnerable to death in a fire.
- Key demographic, behavioural and environmental characteristics common to fire victims.
 - Men, the elderly, the very young and people affected by drugs and alcohol.
 - Behaviour likely to increase the risk of fire ignition (cigarette smoking, unsupervised children, acts of omission).
 - Respond effectively (substance abuse, sleep, locked doors or blocked exits).
 - Few studies have identified **mental illness** and **social risk factors**: vulnerable to death in a fire.

Reference	Location	Sample	Results
Leth, Gregersen & Sabroe (1998)	Denmark (1991 – 1996)	65 Fatal fires – Police reports	<ul style="list-style-type: none"> • 33.8% (22) physical handicapped • 51.6% (32) chronic alcohol abuse • 43% (32) psychiatric illness
Miller (2005)	New Zealand (1997 – 2003)	131 Coronial Files	<ul style="list-style-type: none"> • 63% low socioeconomic status • 38.8% pre-existing health condition, including physical disability, sensory impairments & psychological conditions
Rhodes & Reinholdt (1998)	Victoria, Australia (1992 – 1995)	66 State Coronial Records	<ul style="list-style-type: none"> • Pre-existing factors affected response to the fire incl. • Physical impairment • Psychological condition • Lived alone • Socially isolated
Runyan, Bangdiwala, Linzer, Sacks, & Butts (1992)	North Carolina, USA (1988 – 1989)	151 Medical Examiner Files	<ul style="list-style-type: none"> • Higher risk of death – 117/151 alcohol, drug impaired, physical/mental disabilities and over 64 years
Watts-Hampton, Bruck & Ball (2008)	Victoria, Australia (1998 – 2005)	101 Coronial Files (coroners database)	<ul style="list-style-type: none"> • 54.5% mentally ill (55/101 fatalities) • Mentally ill were 7.9 times more likely to combine alcohol & drugs before their death • Mentally ill 5.9 times more likely to have a history of careless smoking

- May affect interactions with family, friends, colleagues and wider social community.
- ABS 2007: 45% (7.3 million) of people – experienced a mental illness.
- 38% experience more than one (ABS, 2009).
- Mental illness has been linked to social isolation.
- More likely to live alone, slightly higher rate of unemployment.

- Behavioural and/or psychological disturbance, which causes an individual to experience a level of temporary or long term distress and/or disability. This disturbance may impair an individuals mental functioning and their capacity to cope with daily living (Diagnostic and Statistical Manual of Mental Disorders-IV-TR [DSM-IV-TR], 2000).



Life Magazine Brentwood Asylum - photographer, Alfred Eisenstaedt

May include Mood Disorders, Anxiety Disorders, Schizophrenia and other psychotic disorders.

Three factors under the broader 'socially at risk' category.

Social isolation

- Can be defined as including an individual who has limited contact, both in regard to the number and diversity of contacts and the “frequency of contact”, with family, friends and the broader community (Shankar, McMunn, Steptoe and Banks, 2011, pp.377).

Known to human services

- Human services usually include facilities or programs focused on basic health, welfare or other needs of groups (elderly, poor, sick).

Receiving assistance from community services

- Services provided to support people who are disadvantaged in some capacity (this may temporary or long term).

- Victoria University's (VU) Coronial Database: Identify demographic, behavioural and environmental risk factors in residential fire fatality for people with a mental illness and/or socially at risk.
- No research on why this might be?
- Current intervention and prevention methods (community education programs) may not be effective.

- Which demographic, behavioural and/or environmental risk factors are significantly more associated with fire fatalities who have a mental illness or who are socially at risk?
- Relative contribution of key demographic, behavioural and/or environmental predictors in an explanatory model of mental illness and social risk in fire fatality.
- This will allow for a comparison (degree of overlap) of two explanatory models for mental illness and social risk.

- VU Coronial Database (currently include 397 case files).
- Coronial record includes a number of documents, which together create a profile of the deceased.
- Fire incident reports, police and fire investigator reports, medical history, post-mortem reports, toxicology analysis, witness and survivor reports, statements from family and friends and the coroner's verdict.

- Code coronial files into the database.
- Record information re: the fire incident, behaviour of people other than the deceased and the casualty.
- Research will involve a subset of the database - accidental deaths in residential settings.

1.

- Identify subgroup
- Accidental, residential fatal fires

2.

- Identify people with a mental illness and who are socially at risk within the subgroup
- Development of a strict classification system
- DSM IV TR

Risk Factors

Demographic	Behavioural	Environmental
Sex	Alcohol intoxication at the time of fire ignition	Located in the room of fire ignition
Age	Drug use at the time of fire ignition	Alone in the dwelling at the time of fire ignition
Pre-existing physical health	Cigarette smoking at the time of fire ignition	Lived alone
Employment	History of careless smoking	Smoke alarm present in the residence
Type of dwelling	Fire caused by smoking materials	Smoke alarm operational in the residence
	Awake or asleep at the time of fire ignition	Conditions preventing escape from the residence

Two Step Process:

1. Frequency of risk factor occurrence across groups (e.g. mentally ill vs. non-mentally ill) and chi square test of independence performed to determine significance.
2. Logistic Regression, in particular odds ratio analyses – Hierarchical logistic regression to test an explanatory model of the predictors in fire fatality.

Table 1. Coroners cause of death (n=397)

Coroners cause of death	Frequency	Percent
Accidental	254	64.0
Arson	12	3.0
Child fireplay	8	2.0
Suicide	83	20.9
Murder/suicide	11	2.8
Murder	4	1.0
Domestic dispute	1	.3
Inconclusive	2	.5
Unspecified	4	1.0
Unknown	16	4.0
See note	2	.5
Total	397	100.0

Excluded suicide, murder, murder/suicide or any fatal fires that did not occur in a residence as a result of an accident e.g. manufacturing property fires.

- VU Coronial Database is being expanded.
- Samples of the classification system have been distributed to experts in related fields for review.
- Analyse social isolation (97 case files) 30 socially isolated, 67 not socially isolated.

- Unique in terms of its originality and its significant contribution
 - No known studies
1. Results will provide valuable data both to validate the fact that there are more vulnerable groups of people within our society and to
 2. Allow a better understanding of what makes them more vulnerable.
 3. This knowledge will help us know how best to tailor community fire prevention work.