



## Global Economic Costs of Residential Fire: A Systematic Review

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## **Background**

- An estimated **300,000 deaths** and millions are left with lifelong disabilities and disfiguring scars as a result of fires.
- Majority of fire-related deaths and injuries occur in residential areas.
- Zhuang et al. (2017), Lawrance et al. (2009), Ashe et al. (2009), Tannous et al. (2018) estimated costs of fire.
- Limited number of studies on the costs of residential fire conducted in Australia and internationally.



## Objective

- To provide a systematic review of the economic cost of residential fire from a societal perspective including:
  - Individuals
  - Economic costs for response agencies
  - Health service costs
  - Business and government agents



## Method

- Protocol has been registered by the PROSPERO, reference **CRD42021222797**.
- Follows Population, Exposure, and Outcome (PEO) framework.
- Five databases, MedLine, EMBASE, EconLit, CINAHL and Scopus, were searched.
- Searched grey literature along with the databases.
- A two step process of study selection coordinated by Covidence software.
- Developed a risk of bias (ROB) tool.



## Quality Assessment

Domain	Potential Question	Scoring Criteria	CASP*	SIGN*	NICE*	JBI*	NOS*
	Did the study address a clearly focused issue?	Yes/No/Unclear	x	x			
<b>Selection</b>	Is the source population or source area well described?	Yes/No/Unclear			x		
<b>Exposure</b>	Was the exposure accurately measured to minimise bias?	Yes/No/Unclear	x	x	x	x	x
<b>Outcome assessment</b>	Was the outcome accurately measured to minimise bias?	Yes/No/Unclear	x		x	x	
	Were the outcomes (cost) clearly defined?	Yes/No/Unclear		x			
<b>Confounding</b>	Have the authors identified all important confounding factors?	Yes/No/Unclear	x	x	x	x	x
	Have they taken account of the confounding factors in the design and/or analysis?	Yes/No/Unclear	x	x			x
<b>Lost to follow-up</b>	Was the follow up of subjects complete enough?	Yes/No/Unclear	x			x	x
	Was the follow up of subjects long enough?	Yes/No/Unclear	x		x	x	x
<b>Analysis</b>	Was appropriate statistical analysis used?	Yes/No/Unclear	x	x	x	x	
<b>Selective reporting</b>	Were all measured outcomes reported?	Yes/No/Unclear					
<b>Conflict of interest</b>	Do we know who the study was funded by?	Yes/No/Unclear		x			
	Can the results be applied to the local population?	Yes/No/Unclear	x				
	Do the results of this study fit with other available evidence?	Yes/No/Unclear	x				

\*CASP (Critical Appraisal Skills Programme); \*SIGN (Scottish Intercollegiate Guidelines Network); \*JBI (Joanna Briggs Institute); \*NICE (National Institute for Health and Care Excellence); and \*NOS (Newcastle-Ottawa Scale).



## Search Result

Databases	No. of studies found primarily	No. of duplicates removed	No. of studies left after deduplication
MedLine	879	16	863
EMBASE	1,393	186	1,207
CINAHL	328	3	325
EconLit	49	2	47
Scopus	3,732	782	2,950
<b>Total</b>	<b>6,381</b>	<b>989</b>	<b>5,392</b>

- **3493 studies** are on Covidence for reviewing the title and abstract.
- **27 studies** relevant for full-text review.
- Grey Literature.



## **Expected Outcome**

- Includes the most comprehensive list of studies to date.
- A conclusive evidence to date on the societal, economic cost of residential fire to individuals, business agents and government.
- Provides important information on societal costs to planning and policy makers.



## Reference

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