

The Effect of Wildfires on Children's Mental Health: A Systematic Review

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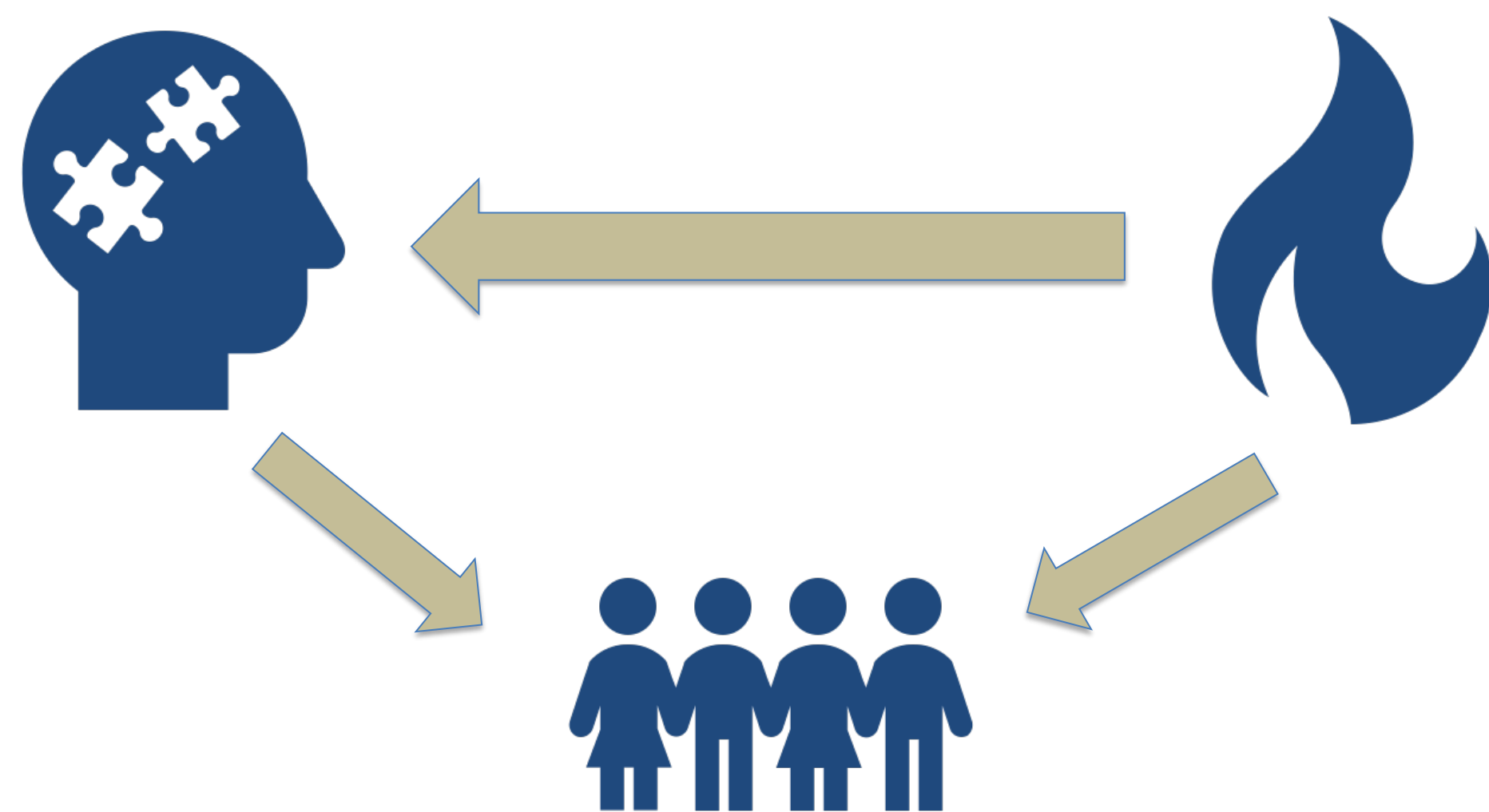
Objective

The Navigation Guide methodology was applied to determine whether there was an association between wildfire exposure and adverse mental health outcomes in children

Background

Exposure

- As the climate changes, and the world becomes hotter and dryer, and wildfires are occurring more frequently
- Duration, geographic reach, and impact of climate-based natural disasters are all increasing
- Damages compounded by lack of social safety net in disaster settings



Outcome

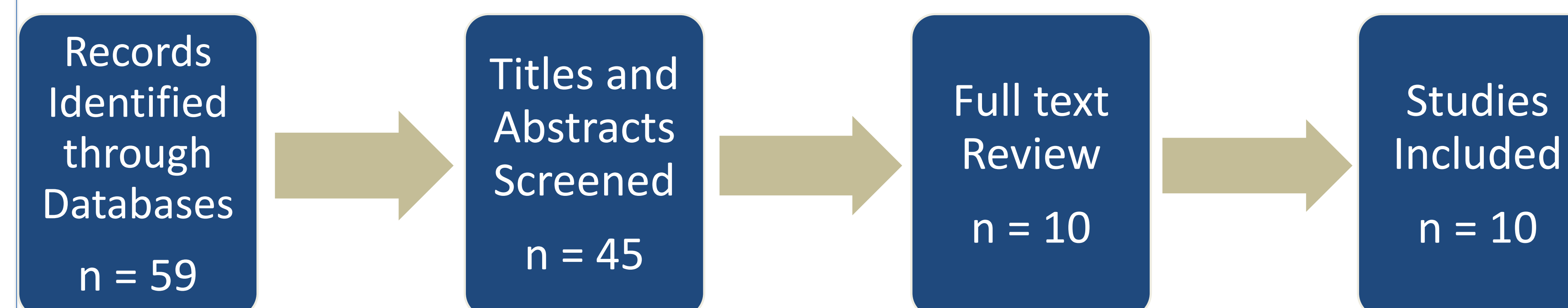
- Large body of evidence surrounding wildfires and mental health, particularly in the occupational sphere
- Elevated rates of anxiety, acute stress disorders like PTSD, sleep disruptions, anti-social behaviors, and other psychological distress symptoms
- High risk perception associated with wildfires
- Limited studies focusing on children's experience despite magnified vulnerability

Methods

The Navigation Guide methodology was utilized to:

- specify the study question
- select the evidence
- rate the quality and strength of the evidence

Study Selection



Results

Risk of Bias

	High risk	Moderately High	Moderately Low	Low
Recruitment	■	■	■	■
Blinding	■	■	■	■
Confounding	■	■	■	■
Exposure Assessment	■	■	■	■
Incomplete Outcome Data	■	■	■	■
Selective Reporting	■	■	■	■
Conflict of Interest	■	■	■	■
Other Bias	■	■	■	■

High risk ■ Moderately High ■ Moderately Low ■ Low ■

Quality of Evidence:

Parameters of Consideration:

Downgrading: Risk of bias, Indirectness, Inconsistency, Imprecision, Publication bias

Upgrading: Large magnitude of effect, Dose response, Confounding minimizes effect

Overall Low Quality

Strength of Evidence:

Parameters of Consideration:

- Quality of body of evidence
- Direction of effect estimate
- Confidence in effect estimate
- Other compelling attributes

Overall Inadequate Evidence

Conclusions

Based on the evaluation and the Navigation Guide criteria, it was concluded that there is **inadequate** evidence of an association between wildfire exposure and adverse mental health outcomes. This finding is subject to reasonable remaining uncertainty.

Recommendations

- Increased research focusing on children's self-report of mental health effects
- Standardization of mental health studies
- Increased community resilience strategies to fortify social safety net
- Investment in disaster recovery and mental health resources

Studies Included in this Review

- Brown, M. R. G., et al. (2019a) PM 30630501
- Brown, M. R. G., et al. (2019b) PM 31543839
- Drolet, J. L., et al(2020). ISSN18812473
- Felix, E., et al. (2015) PMID 25822609
- Jones, R., et al. (2002). ISSN01454455
- Lewis, K., et al. (2015). doi:10.1007/s10826-013-9838-7
- McDermott, B., et al. (2005) PMID 15830823
- Papadatou, D., et al. (2012) PMID 22298431
- Pujadas Botey, A., et al(2014). doi:10.1007/s10826-013-9802-6
- Sprague, C. M., et al. (2014) doi:10.1007/s10566-014-9285-7

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