



Scoping review on health-related spillover effects in families: Initial data on common illnesses, associated costs, and methodological approaches

Tho TH. Dang^{1,2}, Angeli M. Tabinga^{1,2}, Hannah Beilby³, Natalie Barker⁴, Luke R. Johnson^{1,2}, Haitham Tuffaha³, Luke B. Connelly^{3,5}, Angela M. Maguire^{2,6}

1. Gallipoli Medical Research, Greenslopes Private Hospital, Greenslopes, QLD Australia;

2. The University of Queensland, Faculty of Medicine, Herston, QLD Australia;

3. The University of Queensland, Centre for the Business and Economics of Health, St Lucia, QLD Australia;

4. The University of Queensland, UQ Library, Herston, QLD Australia;

5. University of Bologna, Department of Sociology and Business Law, Bologna, Italy;

6. Department of Veterans' Affairs, Health Branch, Brisbane City, QLD Australia.

Background

Following service many veterans are subject to service- and age-related injury and illness which affect not only the veteran but also their family members who act as (informal) carers. Consequently, there is increasing interest in the importance of health-related spillover effects (HRSEs) in families [1], i.e. the effect of one family member's health status on other family members (or family system functioning).

The aim of this review was to identify methodological challenges and conceptual issues in estimating and explaining the effects of illness, especially chronic illness, informal care and healthcare interventions, on caregiving and non-caregiving family members.



Methods

The Participants, Concept, Context framework was used to develop the search strategy, and specify the selection criteria, for the review. Eligible studies were published in English, and indexed in four databases (PubMed, APA PsycINFO, CINAHL Complete and EconLit) from 1 January 2017 to 20 March 2023.

Quantitative, qualitative, and mixed-methods studies that focused on measures, methods, mechanisms, mediators, or moderators of HRSEs in families were included. The findings were reported using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews [2].

Discussion and Conclusion

Carer effects are widespread and important to consider in decision-making for various types of diseases and interventions. These data provide an updated review of measures and methods (to March 2023) and provide a new perspective on considering mechanisms, mediators, and moderators of HRSEs.

These data provide emerging evidence suggesting that chronic illnesses with significant externalising behaviours (e.g., dementia and substance use disorders) have higher levels of caregiver burden; and thus higher HRSEs.

Results

Search Results

- 91 studies met the inclusion criteria
- 30% focused on HRSEs in caring for mental and behavioural disorders (dementia research was the largest focus);
- Other care recipients' conditions included Alzheimer's disease, cancer, multiple sclerosis, stroke, diabetes, and traumatic brain injury.

Economic value of informal care (3 studies)

- **Europe (33 countries):** Time cost of informal care A\$838.2 billion (2016), representing 3.6% of Europe's GDP;
- **United States:** Memory-related diseases A\$136.4 billion (2011); Alzheimer's disease A\$86.7 billion (2020) (10% of the total disease economic burden);
- **Australia:** No data reported.

Annual informal care costs

- **Cancer:** A\$39,095
- **Activities of daily living dependence:** A\$51,474
- Estimated using the opportunity cost method (most common approach).

Mechanisms, moderators and mediators relevant to HRSEs

- We identified six mechanisms (at individual, formal care and societal levels); as well as mediating and moderating factors as illustrated in Figure 1.

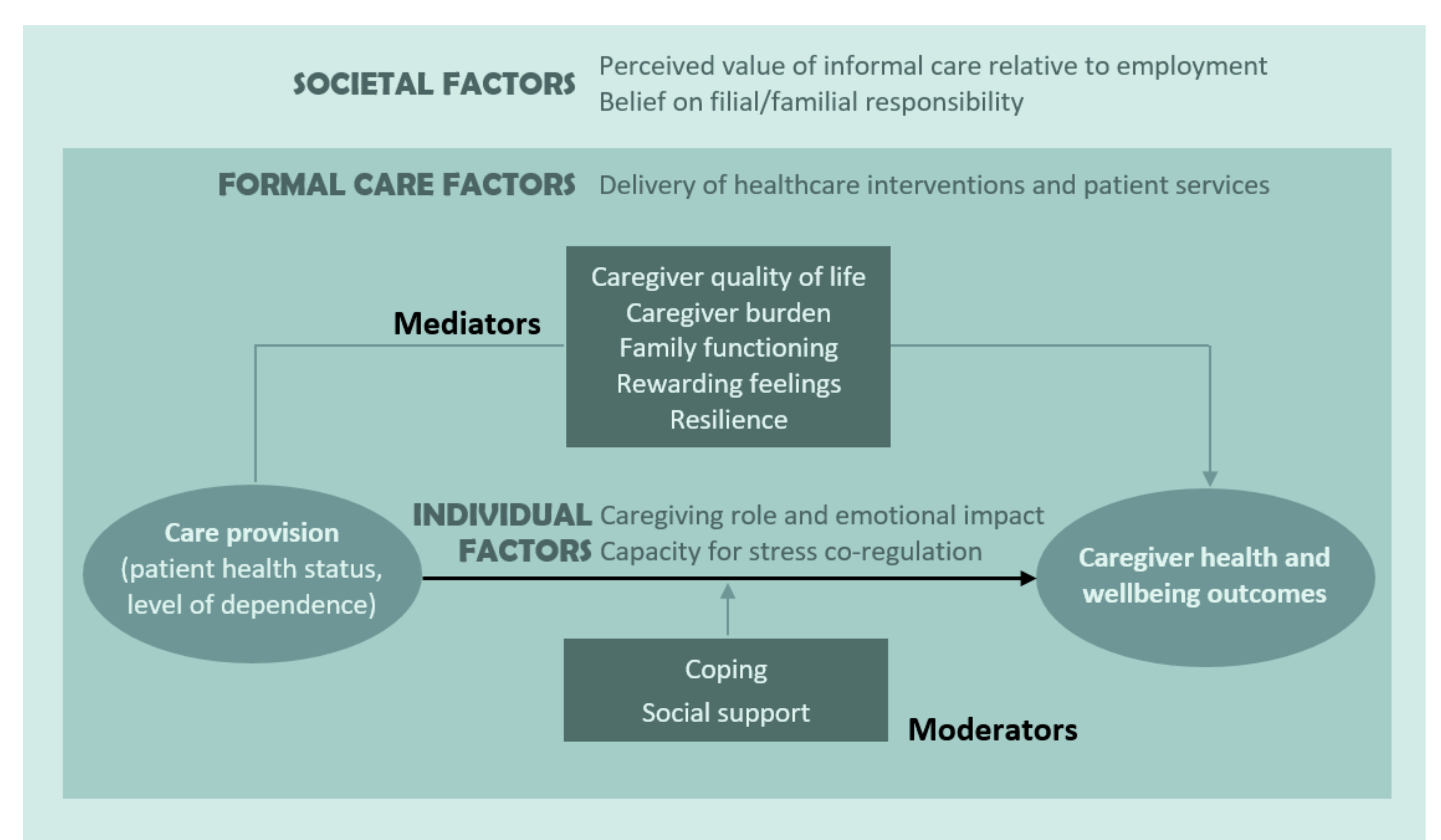


Figure 1. Factor framework relevant to HRSEs in families

References

- [1] Robinson SK, Meisnere M, Phillips Jr RL, McCauley L, National Academies of Sciences E, Medicine. Person-centered, family-centered, and community-oriented primary care. Implementing High-Quality Primary Care: Rebuilding the Foundation of Health Care: National Academies Press (US); 2021.
- [2] Tricco AC, Lillie E, Zarin W, et al. PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and explanation. Ann Intern Med. Oct 2 2018;169(7):467-473.

Supported by

