Costing digital health implementation efforts in hospitals: a qualitative framework analysis of semi-structured interviews

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Introduction

Economic evaluations determine the relative value for money of health innovations and are important for decision makers when allocating scarce resources. However, implementation strategies require additional resourcing which is typically not accounted for in published economic evaluations. This study sought to understand current practices for capturing the costs associated with implementing digital health initiatives in hospital settings, where the complexities of technology and systems present unique challenges for implementation efforts.

Methods

Design

- Qualitative exploratory and descriptive approach
- Semi-structured interviews
- Interview guide informed by literature review [1] and piloted

Participants

- Purposive sampling approach
- Local, national, or international
- Works in academia, government, clinical or health services
- Expertise in implementation science, health economics and/or digital health

Data analysis

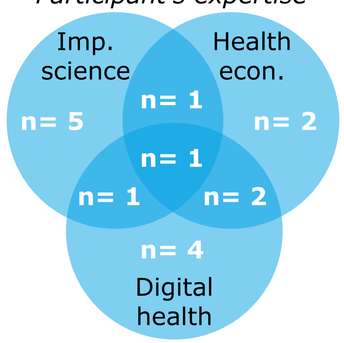
- Framework analysis [2]
- Using a hybrid inductive/ deductive thematic analysis to elicit key concepts related to the research question

Findings

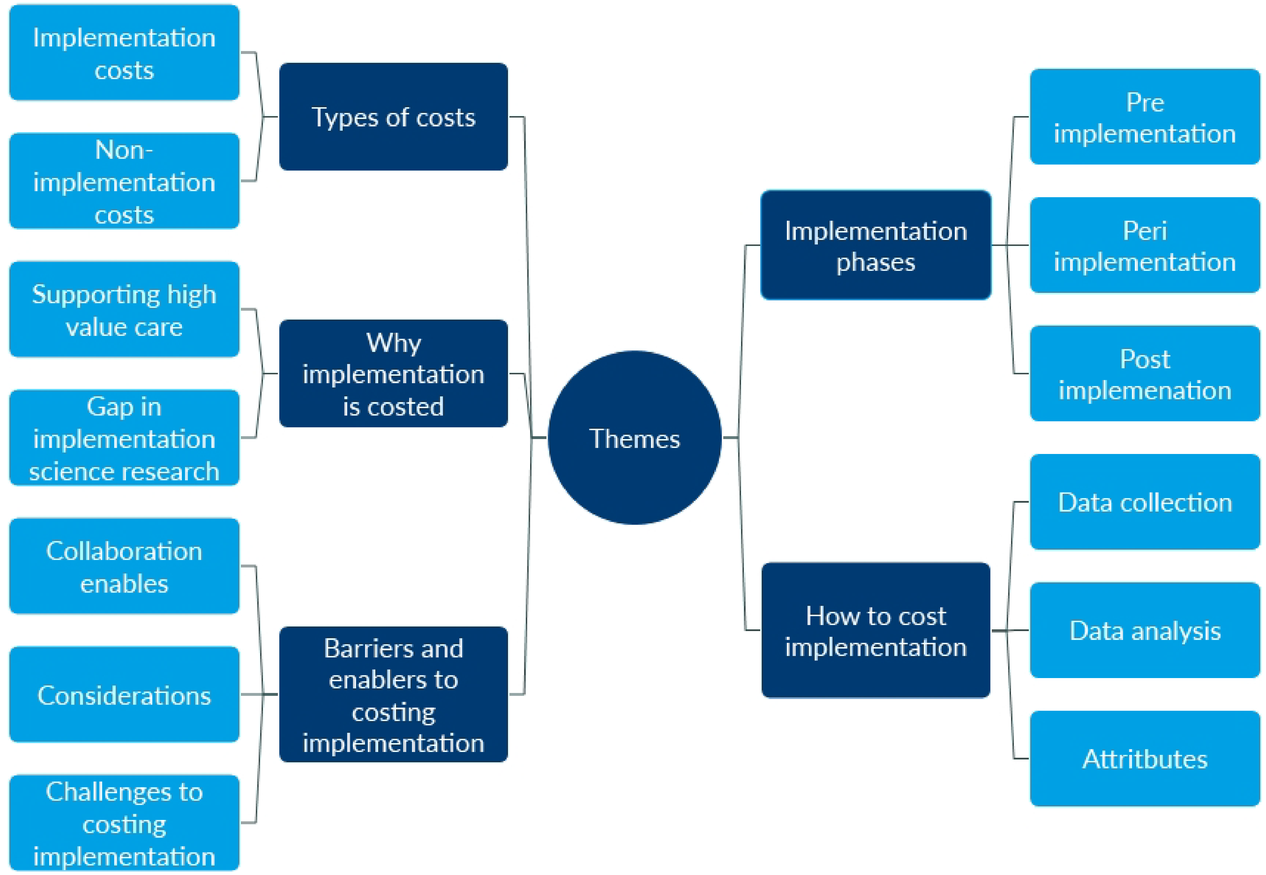
Participant characteristics (n=16)

Majority of participants were female (n= 10), worked in academia (n= 14), and were located domestically in Australia (n= 14).

Participant's expertise



Five key themes were elicited from the data, see figure to the right. Broadly, interviewees recognised implementation costs as important but only some costs were considered in practice due to inconsistencies in terminology and the perceived ill-defined boundaries of implementation. Implementation costs were typically recorded to support the delivery of high value care. A variety of methods were used to collect and analyse implementation costs in practice. Multidisciplinary collaboration facilitated this process, but the burden of collecting the necessary data was highlighted.



Conclusion

Understanding current practices for capturing implementation costs of digital health initiatives provides opportunities to improve practice and progress research in this space. Ongoing research should establish appropriate methodology for costing implementation efforts within digital health, and healthcare settings more broadly.

Acknowledgements

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[1] Donovan, T., Abell, B., Fernando, M. et al. Implementation costs of hospital-based computerised decision support systems: a systematic review. Implementation Sci 18, 7 (2023). https://doi.org/10.1186/s13012-023-01261-8

[2] Gale, N.K., Heath, G., Cameron, E. et al. Using the framework method for the analysis of qualitative data in multi-disciplinary health research. BMC Med Res Methodol 13, 117 (2013). https://doi.org/10.1186/1471-2288-13-117

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