Implementation strategies for web-based applications for screening: a scoping review

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Introduction

Screening is an effective primary prevention strategy in healthcare as it enables early detection of a disease. However, uptake of screening remains low.[1] Many delivery methods for screening have been developed and found to be effective in increasing uptake of screening including using web-based applications. Many studies have shown that web-based applications for screening are effective in increasing the uptake of health screening among the population.[2] However, not much is known about effective implementation of web-based applications for screening in the real-world setting. Implementation strategies are methods or techniques used to enhance the adoption, implementation, and sustainability of evidence-based interventions.[3] Implementation strategies are important as they allow us to understand how to implement an evidence-based intervention. Therefore, a scoping review to identify the various implementation strategies for web-based applications for screening appears appropriate.

Objective

This scoping review aimed to identify:
(1) Implementation strategies to implement web-based applications for screening
(2) Implementation frameworks used for implementing web-based applications for screening
(3) Outcome measures of implementation strategies
(4) Implementation strategies that were effective

Materials and methods

This scoping review was conducted based on Arksey O'Malley's framework. After identifying the review question, two researchers independently screened and selected relevant literature from PubMed, Embase, Cochrane, CINAHL, PsycINFO, ISRCTN registry, OpenGrey, ClinicalTrials.gov, World Health Organization International Clinical Trials Registry Platform and Web of Science. This was followed by charting of the data using a standardized form. Finally, a researcher collated, summarized, and reported the results quantitatively and qualitatively based on the review objectives.

Discussion/Conclusion

There is a dearth of literature on implementation of web-based applications for screening. The development of implementation strategies was done without using any implementation theories or frameworks in most studies. There is a need to conduct more research in development and evaluation of implementation of web-based screening applications.

References

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Results

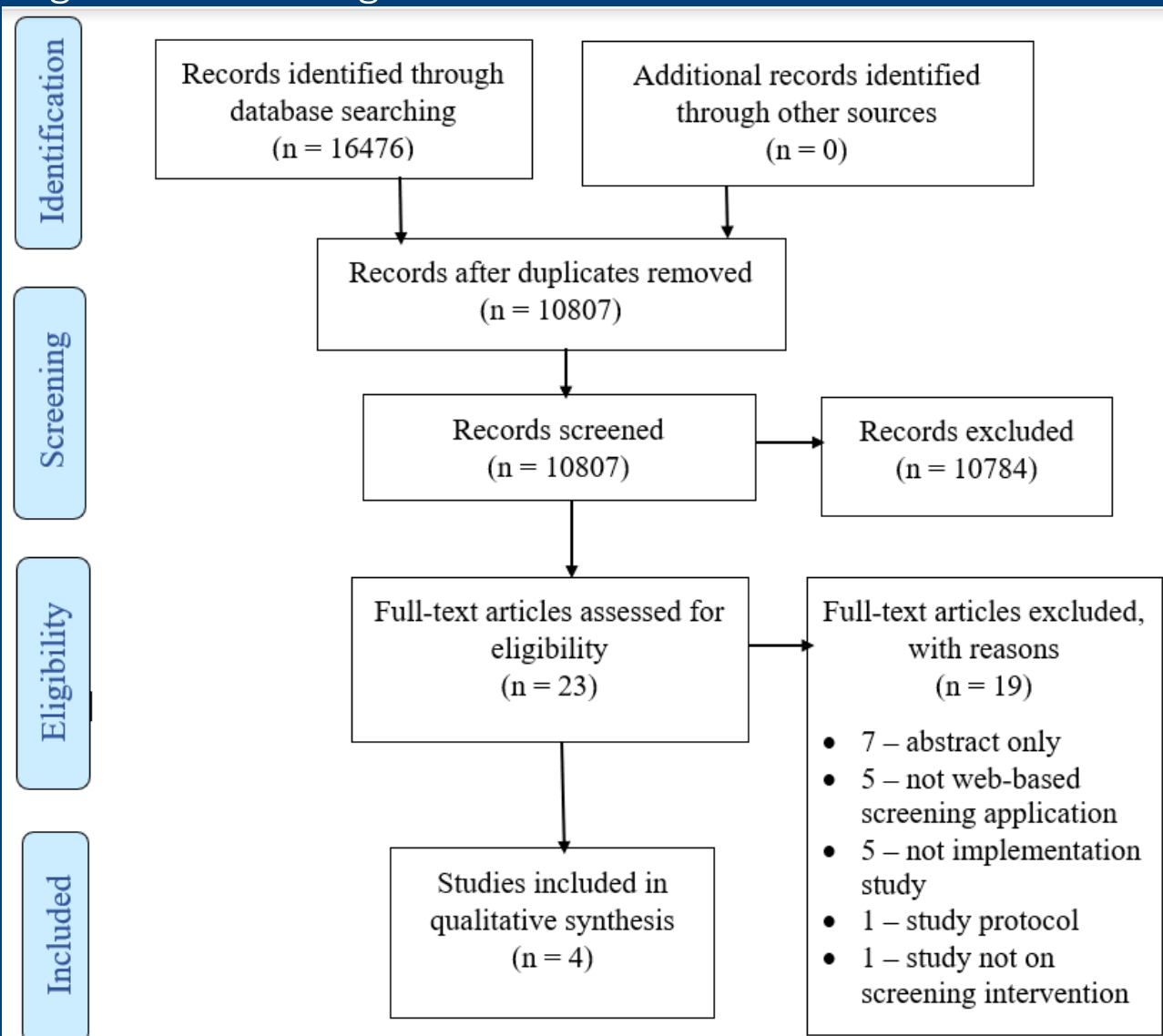Figure 1. Flow diagram of selection of studies

Table 1. Characteristics of included studies

Authors	Year	Intervention	Study population	Methods	Duration
Webb et al.[4]	2018	Health and lifestyle screening app.	Health care providers and patients.	Mixed-methods.	2 months
Diez-Canseco, F. et al.[5]	2018	A web-based mental health screening app.	Health care providers and patients.	Mixed-methods.	9 weeks
Krist et al.[6]	2014	A web-based health risk assessment tool.	Health care providers and patients.	Mixed-methods.	10 months
Scribano et al.[7]	2011	Computerized intimate partner violence screening.	Health care providers and patients.	Mixed-methods.	15 months

Figure 2. Effective implementation strategies

Clinical champions   Facilitation   Educational meetings   Quality improvement meetings

Many studies were excluded because they focused on the effectiveness and not on implementation of web-based applications. Facilitation was the most cited implementation strategy used followed by reminders, clinical champions, educational meetings and materials. Only 2 studies used implementation frameworks to guide the evaluation of their studies. Common outcome measures for implementation strategies were feasibility, fidelity and penetration.

Acknowledgement