Methodological challenges when using co-design in health research: A systematic integrative review

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Review question

What are the methodologies, instruments, and methodological challenges when conducting co-design in health research?

Secondary review questions are: In what health areas is co-design used? What are the main barriers, facilitators, and outcomes when using co-design in health research?

Searches

The following databases will be searched: MEDLINE/PubMed, Web of Science, PsycINFO, and CINAHL, from inception to May 31, 2023.

Reference lists of included articles will be hand-searched.

Studies published in English, Spanish, and Portuguese will be considered.

Search strategy will be composed of two main search bundles: Co-design AND Health research. Preliminary search strategy provided as an attachment.

Types of study to be included

The review will consider empirical original studies (e.g., intervention studies, cohort studies, clinical trials) that use qualitative, quantitative or mixed-methods studies embracing co-design approaches. All types of methodologies will be considered, as long as a co-design approach is used.

Condition or domain being studied

There is increasing evidence and interest in using co-design approaches when conducting research with patients, family carers, and professionals. The purpose of these approaches is to work together with end-users in the co-design of appropriate research, services, resources, policies, and other health-related outcomes. In health research, the use of co-design gives end-users and participants a voice in the research process.

Research co-design is defined as meaningful end-users' engagement that occurs across all stages of the research process, from the research planning phase to the dissemination of research findings (Slattery et al., 2020). It embraces a distinct set of principles and practices for conducting research, allowing a better understanding of problems, and involving participants in the definition of research objectives, strategies, and solutions. It implies the active involvement of a diverse range of participants and stakeholders in exploring, developing, and testing responses to shared challenges

(Blomkamp, 2018).

Participants/population

The focus of this systematic integrative review is on the use of co-design in health research. Therefore, no restriction or specificity will be applied in the selection of articles with respect to participants/population.

Inclusion: Any participants in relation to health research (e.g., patients, family members, informal caregivers, healthcare professionals, volunteers, healthcare managers, healthcare policymakers).

Intervention(s), exposure(s)

Studies using co-design approaches in health research.

Comparator(s)/control

Not applicable.

Context

Any health context.

Main outcome(s)

This review will reveal the methodologies and instruments used in health research when embracing co-design approaches. It will also allow the identification of (i) methodological challenges, (ii) barriers and facilitators, (iii) outcomes (e.g., quality of the reporting, methodological outcomes), and (iv) health contexts, when using co-design.

Measures of effect

Not applicable.

Additional outcome(s)

Not applicable.

Measures of effect

Not applicable.

Data extraction (selection and coding)

The articles retrieved from of the literature searches will be imported into Rayyan and any duplicates will be removed. Data will be independently extracted by two reviewers (M.M.F., and A.F.R.) and validated by other two reviewers (S.M.P., and P.H.M.). Titles, headings, keywords, and abstracts will be screened for a multiple combination of MeSH and free terms associated with co-design and health research. Conflicts will be resolved by a consensus discussion among the four reviewing authors. References of included studies for potential additional publications will be screened.

Data sheets will be used to extract data from the studies. Data will be extracted into a structured data form that will be purposely built for this study. This form will be based on and adapted from PICOS's (Methley et al., 2014; Eriksen and Frandsen, 2018): P = Population (any population in health research), I = Intervention/exposure/phenomenon of Interest (co-design approaches in health research), C = Context/Comparison (any health context), O = Outcomes (methodological outcomes), S = Study Design (All types of methodologies will be considered, as long as a co-design approach is used). Descriptive data will include authors, year of publication, country where the study was developed, year of the study, design, type of population (e.g., patients, family members, informal caregivers, healthcare professionals, volunteers, healthcare managers, healthcare policymakers), and number of participants in the study.

Risk of bias (quality) assessment

The methodological rigor of the included studies will be evaluated following the 9-item tool developed by Hawker et al. (2002). This tool has been widely used in the review literature since the nine questions are easily scored to assess the quality of the study and can be transformed into a quantitative scale. Quality appraisal of included articles will be conducted by two researchers (M.M.F. and P.H.M.) and validated by the other two reviewers (A.F.R. and S.M.P.).

As mentioned in section 26., to minimize bias, two researchers (M.M.F. and A.F.R.) will screen retrieved articles. This will be validated by the two other researchers (P.H.M. and S.M.P). Articles will initially be screened by titles and abstract, followed by full-text reading of selected articles. Selected articles will be read full by two researchers independently (M.M.F. and S.M.P.) to identify eligible studies; any doubts will be discussed until reaching consensus among all the four researchers (M.M.F., A.F.R., P.H.M. and S.M.P.).

Strategy for data synthesis

A narrative synthesis will be undertaken and guided by Popay et al. (2006). Data synthesis will be performed by one researcher (P.H.M.) and discussed until reaching consensus among the four researchers (M.M.F., A.F.R., P.H.M. and S.M.P.). Main themes are defined a priori and aligned with the research questions as follows: (i) methodologies and instruments; (ii) methodological challenges; (iii) barriers and facilitators, (iv) outcomes (e.g., quality of the reporting, methodological outcomes), and (v) health contexts, when using co-design.

All authors will work together to produce a comprehensive set of synthesized findings. The systematic literature review and narrative synthesis will be reported in accordance with the Preferred Reporting Items for Systematic Review and Meta-Analyses (PRISMA) guidelines in its most recent version.

Analysis of subgroups or subsets

Not applicable.

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Type and method of review

Methodology, Narrative synthesis, Systematic review

Anticipated or actual start date

31 May 2023

Anticipated completion date

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Conflicts of interest

None known

Language

English

Country

Portugal, Spain

Stage of review

Review Ongoing

Subject index terms status

Subject indexing assigned by CRD

Subject index terms

MeSH headings have not been applied to this record

Date of registration in PROSPERO

10 June 2023

Date of first submission

30 May 2023

Stage of review at time of this submission

Stage	Started	Completed
Preliminary searches	Yes	No
Piloting of the study selection process	Yes	No
Formal screening of search results against eligibility criteria	No	No
Data extraction	No	No
Risk of bias (quality) assessment	No	No
Data analysis	No	No

The record owner confirms that the information they have supplied for this submission is accurate and complete and they understand that deliberate provision of inaccurate information or omission of data may be construed as scientific misconduct.

The record owner confirms that they will update the status of the review when it is completed and will add publication details in due course.

Versions

10 June 2023

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