EUROPEAN COMMISSION
JOINT RESEARCH CENTRE
Directorate F – Health and Food
Disease Prevention

EUROPEAN COMMISSION INITIATIVES ON CANCER SCREENING, DIAGNOSIS AND CARE

European guidelines on cancer prevention, screening and diagnosis:

Draft systematic review protocol on invitation strategies to organised, population-based, cancer screening programmes

Purpose of the document: for stakeholders' consultation

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General structure

Healthcare Question	**Which is the available empirical evidence on invitation strategies to organised, population-based breast, colorectal and cervical cancer screening programmes?**
Objective	To inform the European Commission Initiatives Breast, Colorectal and Cervical Cancer guidelines' healthcare questions on invitation strategies by identifying and presenting up-to-date information regarding the participants, interventions, and study outcomes evaluated.
Design	Scoping review of the evidence. A scoping review is a type of evidence synthesis that aims to systematically identify and map the breadth of evidence available on a particular topic, field, concept, or issue, often irrespective of source (i.e., primary research, reviews, non-empirical evidence) within or across particular contexts (Munn 2022). We will conduct the scoping review according to recent guidance and adhere to the Preferred Reporting Items for SRs and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) (Munn 2022; Tricco 20218).
Eligibility criteria	**Participants (P):** Asymptomatic individuals at average risk of developing breast, colorectal or cervical cancer eligible for participating in organised, population-based cancer screening programmes. Studies reporting results from other populations will only be included if a separated analysis is available for these specific populations.

	Concept (C): The concept of a scoping review is the topic that the scoping review will explore (Munn 2022). The concept of interest in this review will be the range of invitation strategies and outcomes considered in research studies evaluating the effects of these interventions in cancer screening programmes. The European Cancer Guidelines are developed in the context of organised, population-based cancer screening programmes. Thus, any of the interventions below will be considered as added to a centralised call/recall system for participation in screening. **Interventions:** a. Letter b. Letter with GP signature c. Letter followed by phone call d. Letter followed by written reminder e. Letter followed by face to face intervention f. Letter followed by automated phone call g. Letter followed by personalised phone call h. Letter followed by SMS notification i. Automated phone call j. E-mail k. Letter with fixed appointment l. Advanced notification letter m. Decisions aids n. Educational intervention o. SMS notification p. Social network dissemination q. National awareness campaign r. Sending of the self-sampling kit
	Comparators (C): We will consider: a. No intervention b. Any of the interventions above
	Subgroups: The following sub-populations will be separately evaluated (if possible): – First participation in screening (prevalent screening)

	– Subsequent participation in screening (incident screening) Target population will be classified as: – General population – Vulnerable population (socially disadvantaged groups, non-native speakers, individuals with disabilities, individuals with obesity, individuals from the LGBTQI+ community, and certain religions who do not accept colonoscopy)
	Outcome(s): – Participation in screening – Awareness of information – Accessibility to information – Informed decision making – Confidence with decision making – Satisfaction with decision making
	Study design: We will include randomised clinical trials or observational evidence, including but not limited to: standalone randomised clinical trials, nested randomised trials in large cohorts, cohort studies, before-after studies, single-arm add-on studies. Existing systematic reviews will be used as a secondary source of evidence. Non-comparative studies and studies reported only as (conference) abstracts will be excluded.
	Context The setting of interest should be representative of organised, population-based cancer screening programmes. Therefore, those studies explicitly / exclusively performed within an opportunistic screening model will not be considered. Studies should also be representative of community practice. Thus, settings not generalizable to primary care or restricted to specialised care will be excluded.
Search strategy	**Sources:** We will systematically identify the potentially relevant studies through a structured search strategy in relevant medical literature databases. We will use electronic algorithms introducing a combination of controlled

	vocabulary and search terms in the following databases: i) MEDLINE (accessed through Ovid); ii) EMBASE (accessed through Ovid); iii) CINAHL (accessed through EBSCO); iv) SOCIAL SCIENCE CITATION INDEX (accessed through WEB OF SCIENCE) and v) PsycINFO (accessed through EBSCO). We will adapt the search algorithms to the requirements of each database, and we will use validated filters to retrieve appropriate designs as needed. We will also review references of included studies and ask guideline panellists for additional relevant studies that could potentially fulfil our eligibility criteria. We will report in appendices, the complete search algorithms designed for each database, the hits retrieved, and the reasons for the exclusion of studies at the full-text review.
	Data management We will use EndNote web software to create a database for the management of the search results and deduplication of citations.
Study selection	We will systematically retrieve the relevant studies according to eligibility criteria described above. One reviewer will screen the search results based on the title and abstract. Another reviewer will cross check a random selection of 20% of the total number of hits. Two reviewers will independently confirm eligibility based on the full text of the relevant articles. In case of disagreement, they will reach consensus by discussion or involving a third reviewer. We will report the result of this process with a PRISMA flowchart.

Data mapping	One reviewer will extract the main characteristics of included studies in a tabulated format. Another reviewer will cross-check the extracted data.
	
	The following information will be extracted for each study when available in the reports:
	
	– General information: author, year, citation
	– Study objective
	– Study design: RCT or observational (prospective or retrospective cohort)
	– Population:
	  ○ Type of cancer
	  ○ Type of screening programme (organised, non-organised/opportunistic)

	○ Inclusion criteria ○ Exclusion criteria ○ Number of included participants ○ First / subsequent participation ○ Type of population (general, vulnerable) – Intervention – Comparator – Outcomes – Setting: Study location (country(ies), region).