

IMPLEMENTATION STRATEGIES FOR THE GUIDELINES FOR THE EARLY DETECTION OF BREAST CANCER IN BRAZIL

Estratégias de implementação das diretrizes para
a detecção precoce do câncer de mama no Brasil

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ABSTRACT

This research project aimed to identify strategies for implementing guidelines for early detection of breast cancer in Brazil. Regarding the specific objectives, it aimed to identify studies in the specialized literature on the difficulties and strategies for implementing the guidelines for early detection of breast cancer in the health systems of different countries; to evaluate the applicability of the results found in the Brazilian context; and to recommend priority actions in accordance with the implementation strategies of the guidelines to the organizations responsible for these processes in the public health context. A review of systematic reviews was carried out using the supporting policy relevant reviews and trial (SUPPORT) tools to assist in structuring searches and analyzing data. The databases used were PubMed/MEDLINE, Cochrane Library, Virtual Health Library (VHL)/Latin American and Caribbean Health Sciences Literature (Lilacs) and Embase from January 1, 2008 to May 1, 2018. The study of nine selected systematic reviews identified successful actions in developed and developing countries. The strategies identified were: promotion of leadership fronts committed to the implementation of the guidelines, better governance of health services close to the target audience, national mass dissemination campaign and patient navigation program.

KEYWORDS: early detection of cancer; breast neoplasms; public health policy.

RESUMO

Este projeto de pesquisa teve como objetivo geral identificar estratégias de implementação das diretrizes para a detecção precoce do câncer de mama no Brasil. Em relação aos objetivos específicos, propôs-se a identificar, na literatura especializada, estudos sobre as dificuldades e as estratégias de implementação das diretrizes para a detecção precoce do câncer de mama nos sistemas de saúde de diferentes países; a avaliar a aplicabilidade dos resultados encontrados no contexto brasileiro; e a recomendar ações prioritárias conforme as estratégias de implementação das diretrizes às organizações responsáveis por esses processos no âmbito da saúde pública. Foi realizada uma revisão de revisões sistemáticas utilizando as ferramentas *supporting policy relevant reviews and trial* (SUPPORT), para auxiliar na estruturação das buscas e na análise de dados. As bases de dados utilizadas foram PubMed/MEDLINE, Cochrane Library, Biblioteca Virtual em Saúde (BVS)/Literatura Latino-Americana e do Caribe em Ciências da Saúde (Lilacs) e Embase de 1º de janeiro de 2008 a 1º de maio de 2018. O estudo de nove revisões sistemáticas selecionadas identificou ações exitosas em países desenvolvidos e em desenvolvimento. As estratégias identificadas foram: fomento de lideranças comprometidas com a implementação das diretrizes, melhor governança dos serviços de saúde próximos ao público-alvo, campanha nacional de divulgação em massa e programa de navegação de pacientes.

PALAVRAS-CHAVE: detecção precoce de câncer; neoplasias da mama; políticas públicas de saúde.

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INTRODUCTION

Breast cancer is generally considered to have a good prognosis when diagnosed and treated early. However, mortality rates for this type of cancer remain high in Brazil, most likely because is still diagnosed in advanced stages. In Brazil, only 20% of breast cancer cases are diagnosed at an early stage¹. Women treated in the public health system have unfavorable outcomes compared to women treated in the private system, with worse disease-free and overall survival rates²⁻⁵.

The main strategies for breast cancer control are: primary prevention (identification and correction of preventable risk factors), secondary prevention (early detection and treatment) and tertiary prevention (rehabilitation and palliative care). Secondary prevention strategies promote a reduction in mortality rates and therefore receive attention from national health systems in general⁶. Mammography is the method of choice for screening standard-risk populations, with no clinical examination or technology being superior to it so far⁷.

Breast cancer screening programs require well-structured health systems, with assessment of the best cost-effectiveness and the availability of a wide range of management tools. About two decades ago, some developed countries implemented breast cancer screening programs, and nowadays show significant reductions in mortality from breast cancer⁸.

There has been a trajectory of breast cancer prevention and control actions in Brazil since the 1970s. It was during this period that the first initiatives to understand cancer as a major health problem emerged, to be contained by a planned government action⁹. This trajectory included the implementation of breast cancer control actions, activities, programs and policies and the elaboration of the Guidelines for the Early Detection of Breast Cancer in Brazil in 2015¹⁰.

Identifying possible barriers and the best strategies for the implementation of the guidelines for early detection of breast cancer in Brazil is relevant, as it pushes for improvements in the policy, potentially reducing the magnitude of this issue in the country. Challenges in implementing the guidelines may require changes at several levels, including: changes in the behavior of users and health professionals, organizational changes and changes in the health system. Strategies for achieving these changes are most likely to succeed if they address the barriers to their implementation. However, little is known about the effectiveness or about the different methods of identifying barriers and how to propose interventions to address them¹¹.

A structured investigation to identify those barriers can help ensure that none of them are underestimated. This requires a theoretical framework for systematically considering potential barriers and identifying and assessing evidence for the presence of potentially important barriers¹¹.

The present study aimed to identify strategies to assist policy makers and those who assist them in implementing the guidelines

for early detection of breast cancer in Brazil, focusing on what health systems in other countries that are being more successful in this policy — with better indicators — are adopting. To assist in the structuring of the data search and analysis, the SUPPORT tools were used, which were designed for evidence-informed policy-making (EIPM) based on the best available scientific evidence¹².

METHODOLOGY

This study carried out a review of systematic reviews, a type of study designed to provide a synthesis and integrate information from various studies in order to reduce uncertainty in decision-making and ensure that this process is supported by the best scientific evidence available¹³. For the development of this study, the SUPPORT toolset was adopted, which provides the basis for the elaboration of policies informed by scientific evidence¹¹.

In the first stage, the issue to be addressed was characterized and structured to motivate the detailing of its confrontation. In the second stage, effective strategies were identified to deal with the issue through structured search in the following indexed bases:

- PubMed/MEDLINE;
- Cochrane Library;
- Virtual Health Library (BVS)/Latin American & Caribbean Health Sciences Literature (Lilacs);
- Embase.

Regarding the search, the period was restricted from January 1, 2008 to May 1, 2018, because an extended period did not add to the number of publications of interest. Inclusion criteria were: year and period of publication; availability of the full systematic review article in English, Portuguese, French or Spanish; and use of descriptors. The search filter for systematic reviews used — with adaptations depending on the source — is detailed in Chart 1.

All articles found were randomly organized for analysis based on their abstracts. The information was arranged in a data extraction table. The main study question was: what are the barriers to overcome strategies for implementing early breast cancer detection guidelines in developed and developing countries? The articles were selected according to the PICO format, with P (problem) being the barriers to the implementation of early detection guidelines, I (intervention) being the strategies to overcome barriers, C (comparison) being the different strategies used in developing countries and O (outcome) being greater adherence to the guidelines.

After reading the selected texts, duplicate studies and those that did not meet the interest criteria were excluded, that is, those that did not explore the strategies to overcome barriers (Figure 1). Selection criteria were applied to the full text of potentially eligible

reviews, and the reliability of reviews that met all other selection criteria was assessed, as shown in Chart 2.

Fields used for data extraction in the studies were: lead author, year of publication, place of study, study reliability, objective(s), results, barriers, and implementation strategies. Details of the included articles can be found in Chart 3.

Examples of how the different implementation strategies worked in the locations studied, considering the different determinants of organizational change in the system, practitioners' practice, and users' use of health services¹¹, are shown in Chart 4. These actions, ultimately, aimed at increasing mammographic coverage rate and quality of services, optimizing time for diagnosis and treatment, and reducing morbidity and mortality.

DISCUSSION

These nine reviews summarize the evidence base that supports strategies for implementing guidelines aimed at early detection of breast cancer globally. Each location selected strategies considering the existing barriers, resources and health structure¹⁵.

The studies presented strategies for implementing early detection guidelines in the most vulnerable populations, such as low-income, low-educated individuals in developed countries, Latinos, Asians, Native Americans, Alaskan natives, African Americans. Patients in low- and middle-income countries face structural barriers that are similar to those faced by deprived patients in developed countries¹⁴⁻²².

Chart 1. Filtro de buscas para revisões sistemáticas usadas.

PubMed/MEDLINE
((Health Plan Implementation[mh] OR "Health Plan Implementation"[tiab] OR "barriers to implementation"[tiab] OR "implementation strategies"[tiab] OR health policy[mh] OR health polic*[tiab] OR guidelines as topic[mh] OR guideline*[tiab] OR barriers[tiab])) AND ((Early Detection of Cancer[mh] OR "early detection"[tiab] OR early diagnosis*[tiab]) AND ((Breast Neoplasms[mh] OR breast[tiab]) AND (neoplasm*[tiab] OR cancer*[tiab] OR tumour*[tiab] OR tumour*[tiab] OR onco*[tiab] OR carcinoma*[tiab]))) AND (Review[ptyp] AND "2008/05/07"[PDat]: "2018/05/04"[PDat] AND "humans"[MeSH Terms] AND (English[lang] OR French[lang] OR Portuguese[lang] OR Spanish[lang]))
Cochrane Library
(([mh "Health Plan Implementation"] or "Health Plan Implementation":ti,ab or "barriers to implementation":ti,ab or "implementation strategies":ti,ab or [mh "health policy"] or health polic*:ti,ab or [mh "guidelines as topic"] or guideline*:ti,ab or barriers:ti,ab) and (([mh "Early Detection of Cancer"] or "early detection":ti,ab or early diagnosi*:ti,ab) and (([mh "Breast Neoplasms"] or breast:ti,ab) and (neoplasm*:ti,ab OR cancer*:ti,ab OR tumour*:ti,ab or tumour*:ti,ab or onco*:ti,ab or carcinoma*:ti,ab)))
BVS/LILACS
(tw:("Health PlanImplementation" OR "implementação de planos de saúde" OR "implementación de planes de salud" OR "barrierstoimplementation" OR "barreiras para implementação" OR "barreras para laimplementación" OR "implementationstrategies" OR "estratégias de implementação" OR "estrategias de implementación" OR "healthpolicy" OR "políticas de saúde" OR "políticas de salud" OR guidelines OR guias OR barriers OR barreiras OR barreras)) AND (tw:("earlydetection" OR "earlydiagnosis" OR "detección precoce" OR "deteccionprecoz" OR "diagnóstico precoce" OR "diagnostico precoz")) AND (tw:("BreastNeoplasms" OR breast* OR "neoplasias da mama" OR "cancer de mama" OR mama)) AND (tw:(neoplas* OR cancer* OR tumour* OR tumour* OR onco* OR carcinoma*)) AND (instance:"regional") AND (db:("LILACS") AND year_cluster:("2011" OR "2009" OR "2013" OR "2012" OR "2016" OR "2010" OR "2015" OR "2014" OR "2008"))
Embase
('health care planning'/exp OR 'community health planning':ti,ab OR 'health and welfare planning':ti,ab OR 'health care planning':ti,ab OR 'health plan implementation':ti,ab OR 'health planning':ti,ab OR 'health planning councils':ti,ab OR 'health planning database':ti,ab OR 'health planning guidelines':ti,ab OR 'health planning organisations':ti,ab OR 'health planning organizations':ti,ab OR 'health planning support':ti,ab OR 'health planning technical assistance':ti,ab OR 'health priorities':ti,ab OR 'health resources':ti,ab OR 'health systems plans':ti,ab OR 'healthcare planning':ti,ab OR 'medically underserved area':ti,ab OR 'national health planning information center':ti,ab OR 'national health planning information center (u.s.)':ti,ab OR 'regional health planning':ti,ab OR 'regional medical programmes':ti,ab OR 'regional medical programs':ti,ab OR 'state health planning and development agencies':ti,ab OR 'state health plans':ti,ab OR 'strategic stockpile':ti,ab OR 'underserved neighborhood':ti,ab OR 'barriers to implementation':ti,ab OR 'implementation strategies':ti,ab OR 'health care policy'/exp OR 'health care policy':ti,ab OR 'health care reform':ti,ab OR 'health policy':ti,ab OR 'healthcare policy':ti,ab OR 'healthcare reform':ti,ab OR 'patient protection and affordable care act':ti,ab OR 'policy, health care':ti,ab OR 'practice guideline'/exp OR 'clinical practice guidelines':ti,ab OR 'guidelines':ti,ab OR 'guidelines as topic':ti,ab OR 'practice guideline':ti,ab OR 'practice guidelines':ti,ab OR 'practice guidelines as topic':ti,ab) AND ('early cancer diagnosis'/exp OR 'early cancer diagnosis':ti,ab OR 'early detection of cancer':ti,ab OR 'early diagnosis'/exp OR 'diagnosis, early':ti,ab OR 'early diagnosis':ti,ab) AND ('breast tumor'/exp OR 'breast gland tumor':ti,ab OR 'breast gland tumour':ti,ab OR 'breast mass':ti,ab OR 'breast neoplasms':ti,ab OR 'breast neoplasms, male':ti,ab OR 'breast tumor':ti,ab OR 'breast tumour':ti,ab OR 'female breast neoplasm':ti,ab OR 'female breast tumor':ti,ab OR 'female breast tumour':ti,ab OR 'mamma tumor':ti,ab OR 'mamma tumour':ti,ab OR 'mammary gland tumor':ti,ab OR 'mammary gland tumour':ti,ab OR 'mammary neoplasms':ti,ab OR 'mammary tumor':ti,ab OR 'mammary tumor cell':ti,ab OR 'mammary tumour':ti,ab OR 'mammary tumour cell':ti,ab OR 'unilateral breast neoplasms':ti,ab) AND [embase]/lim NOT ([embase]/lim AND [medline]/lim) AND (2008:py OR 2009:py OR 2010:py OR 2011:py OR 2012:py OR 2013:py OR 2014:py OR 2015:py OR 2016:py OR 2017:py OR 2018:py)

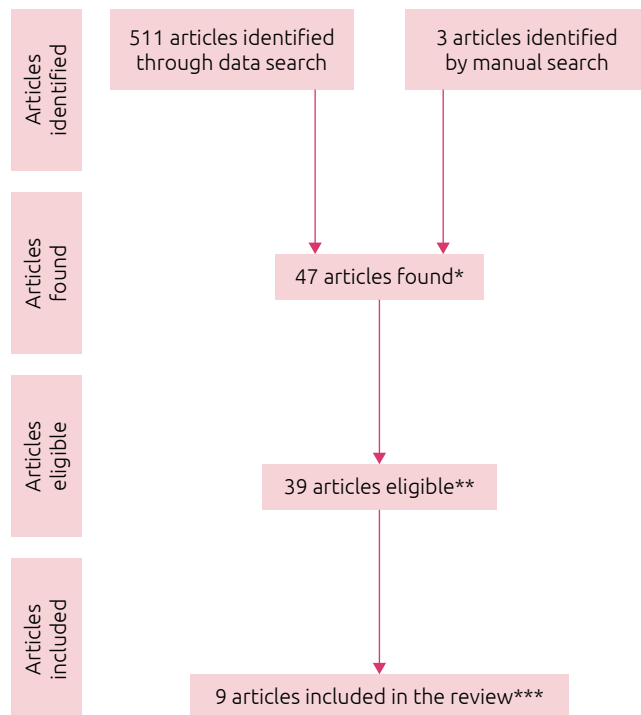
VHL: Virtual Health Library; Lilacs: Latin American and Caribbean Health Sciences Literature.

In peripheral countries, deprived urban populations, remote populations or indigenous people often cannot receive cancer care in a timely manner due to lack of awareness, fragmented and complex health systems, low socioeconomic status, cultural barriers and limited financial and human resources in public health institutions⁸. This helps in the applicability of the strategies identified in the study in the Brazilian scenario, prone to low adherence to early detection recommendations due to socioeconomic and cultural factors²³.

Limitations in applying the guideline implementation strategies in low- and middle-income countries may be related to issues such as scarcity or poor distribution of health professionals and insufficient availability of medical products and supplies, which are clearly not limited to the provision of breast health related services. Similarly, the issues associated with access to services and the ability (or inability) to finance them transcend the issues of this review due to being truly systemic²⁴.

Health organizations

Strategies for implementing guidelines at the health organization level have the following determinants: inadequate internal communication, inadequate processes and inadequate leadership. Examples of actions to reduce structural barriers and direct costs to patients and to involve leaders and experts in breast cancer in primary care educational activities were explored^{15-17,20-22}.



*By inclusion criteria, no duplicate articles; **only systematic reviews; ***by criteria of interest, strategies to overcome barriers.

Figure 1. Flowchart of the article selection process.

The studies^{15-17,20-22} evaluated interventions to facilitate the delivery of care services to the population. Interventions to reduce structural barriers and costs to the patient were addressed. Structural barriers are non-economic barriers that prevent access to guideline recommendations. Interventions to lower these barriers were explored, providing: services close to the target population; alternative service hours; mobile mammographs; convenient service locations such as schools, clubs, and churches; home visit; female health professionals; text messages to remember appointments, diagnostic and follow-up exams, and patient navigator.

Using a patient navigator facilitates the proper and efficient use of services. It is considered an indicator of quality in many health services in the United States, Canada and Europe and is still poorly studied in peripheral countries. The navigator is a health worker trained to be a case manager and serves as a link between patients and the system, health professionals and providers, bringing equity to vulnerable populations^{24,25}.

Bowser et al.¹⁶ reported greater adherence to the guidelines when female health professionals were involved in clinical care and imaging. This gender-related barrier for health professionals was very relevant for assessing the applicability of interventions in the Middle East and North Africa region.

Lu et al.¹⁷ identified studies proving the effectiveness of home visits by health professionals in countries such as Thailand, New Zealand, India, Pakistan, Bangladesh and Singapore. Women receive health education and letters or reminders to undergo screening. This approach increases adherence to other health care procedures, such as colposcopy and control of systemic arterial hypertension, diabetes mellitus and dyslipidemia.

The use of mobile mammographs aims to supply places with repressed demand and with a long wait for mammography, as well as to stimulate the screening and early diagnosis of breast cancer. There are several factors that can lead women to not get screened, including lack of time, fear of pain and embarrassment during the exam and, in some cases, the distance to go to a mammography service. Hence the importance of a continuous screening program combined with mobile mammographs^{14,17,18,20}.

Baron et al.¹⁵ evaluated studies that addressed reducing costs to patients as an effective action to promote adherence to guidelines in the United States, such as performing regular screening mammograms by the target population or mammograms for diagnosis. The use of vouchers, reduced co-participation, reimbursements and state insurance coverage were exemplified.

Sabatino et al.¹⁹ conducted an update of systematic reviews that recommend the engagement of active leadership and breast cancer specialists working in educational groups with patients and primary care health professionals. Interactive education programs addressing the advantages of adhering to the guidelines promote continuous improvement in the quality of breast health processes.

Chart 2. SUPPORTing Policy relevant Reviews and Trials (SUPPORT) Summary Checklist for judgment about how much confidence to place in a systematic review.

Study:	
Date:	
Section A: Methods used to identify, include and critically evaluate studies	
A.1 Were the criteria used to decide studies included in the reported review?	
<p>The authors specified:</p> <ul style="list-style-type: none"> - Types of Studies - Participants/contexts/population - Intervention(s) - Result(s) <p>Coding guide - check the answers above: YES: All four should be yes. Comments (please note important limitations or uncertainties)</p>	Yes Partially No
A.2 Was the search for evidence reasonably comprehensive?	
<p>The following was ensured:</p> <ul style="list-style-type: none"> - Language bias avoided (no language-based inclusion restriction) - No inclusion restriction based on publish status <p>Relevant databases searched (including PubMed/MEDLINE + Cochrane Library)</p> <ul style="list-style-type: none"> - Reference lists verified in the articles included - Contacted Authors/Experts <p>Coding guide — check the answers above: YES: All five should be yes. PARTIALLY: The relevant databases and reference lists are both checked. Comments (please note important limitations or uncertainties)</p>	Yes Partially No
A.3 Is the review reasonably up to date?	
<p>Have the researches been conducted recently enough that it is unlikely to find newer researches or to alter the results of the review?</p> <p>Coding guide: Consider how many years have passed since the last research (for example, if it was more than 10 years ago, the review is unlikely to be up to date) and if there are any ongoing researches</p> <p>Comments (please note important limitations or uncertainties)</p>	Yes Partially No
A.4 Was there bias in the selection of articles avoided?	
<p>The authors specified:</p> <ul style="list-style-type: none"> - Explicit selection criteria - Independent full-text screening by at least two reviewers - List of included studies provided - List of excluded studies provided <p>Coding guide — check the above: YES: All four should be yes. Comments (please note important limitations or uncertainties)</p>	Yes Partially No
A.5 Did the authors use appropriate criteria to assess the risk of bias in the analysis of the included studies?	
<ul style="list-style-type: none"> - The criteria used to assess the risk of bias have been reported - A table or summary of the evaluation of each study included for each criterion was reported - Sensitive criteria focusing on risk of bias (not other study qualities such as accuracy or applicability) were used <p>Coding guide — check the above: YES: All three should be yes. Comments (please note important limitations or uncertainties)</p>	Yes Partially No
A.6 General - How should you use the methods used to identify, include and critically evaluate studies?	
<p>The summarized assessment score A relates to the five questions above. If “No” or “Partially” is used for any of the above questions, the review is likely to have important limitations. Examples of important limitations may include not reporting explicit selection criteria and not providing a criterion for including studies or assessing the risk of bias in the included studies. Comments (please note important limitations or uncertainties)</p>	<ul style="list-style-type: none"> - Major limitations (limitations that are important enough that the review results are unreliable and should not be used in the policy summary) - Important limitations (limitations important enough to search for another systematic review and to interpret the results of that review with caution if another review cannot be found) - Reliable (minor limitations only)

Continue...

Chart 2. Continuation.

Section B: Methods used to analyze findings	
B.1 What are the characteristics and results of included studies reported as reliable?	
<ul style="list-style-type: none"> - Been there: Independent data extraction by at least two reviewers - A table or summary of participant characteristics, interventions and outcomes for included studies - A table or summary of the results of the included studies. Coding guide — check the above: YES: All three should be yes. Comments (please note important limitations or uncertainties)	Yes Partially No Not applicable (e.g., no studies included)
B.2 Regarding the methods used by reviewers to analyze the results of the included studies, were they reported?	
Comments (please note important limitations or uncertainties)	Yes Partially No Not applicable (e.g., no studies included)
B.3 Did the review describe the extent of heterogeneity?	
<ul style="list-style-type: none"> - Did the review ensure that the included studies were similar enough to make sense to combine them, to split the included studies sensibly into homogeneous groups, or to reasonably conclude that it did not make sense to combine or group the included studies? - Did the review discuss to what extent there were significant differences in the results of the included studies? - If a meta-analysis was performed, were the I^2, the χ^2 test for heterogeneity, or other appropriate statistics reported? Comments (please note important limitations or uncertainties)	Yes Partially No Not applicable (e.g., no studies included)
B.4 Have the results of relevant studies been combined (or not combined) appropriately in relation to the primary issue that the review addresses and the available data?	
How was data analysis carried out? <ul style="list-style-type: none"> - Descriptive, only - Vote count based on effect direction - Vote count based on statistical significance - Description of effect size range - Meta-analysis - Meta-regression - Other: Specify - Not applicable (e.g.: no studies or no data) How were the studies weighted in the analysis? <ul style="list-style-type: none"> - Equal weights (this is done when vote count is used) - By quality design or study (this is rarely done) - Inverse variance (this is done in the anamnesis analysis) - Number of participants - Other: Specify - Not clear - Not applicable (e.g.: no studies or no data) Did the review address the errors in the analysis unit? <ul style="list-style-type: none"> - Yes, it took into account the grouping (for example, intracluster correlation coefficient used) - No, but the issue of errors in the analysis unit has been recognized - No mention of the problem - Not applicable — no clustered studies or studies included Coding guide — check the above: If narrative OR vote counting (where quantitative analysis would have been possible) OR inadequate table, graph or meta-analysis OR analysis unit error not addressed (and should have been), the likely answer is NO. If considered appropriate and the graphic analysis, the appropriate weights and the extent of heterogeneity were taken into account, the likely answer is YES. If there are no studies/no data: NOT APPLICABLE If you are unsure: CAN'T SAY/PARTIALLY Comments (please note important limitations or uncertainties)	Yes Partially No Not applicable (e.g., no studies included)

Continue...

Chart 2. Continuation.

B.5 Does the analysis examine the extent to which specific agents can explain the differences between included studies?	
<ul style="list-style-type: none"> - The factors pointed out by the authors should be considered as explanatory factors described clearly? - Was a sensible method used to explore the extent to which key factors explained heterogeneity? - Descriptive/textual - Meta-regression - Graphic - Others Comments (please note important limitations or uncertainties)	Yes Can't say/Partially No Not applicable (e.g.: few studies with no major differences in the results of the included studies or the included studies were so different that it would make sense to explore the heterogeneity of the results)
B.6 Overall, how would you rate the methods used to analyze findings related to the primary issue addressed in the review?	
A pontuação da avaliação resumida B relaciona-se com as cinco perguntas desta seção, referentes à análise. Se a opção "Não" ou "Parcialmente" for usada para qualquer uma das cinco perguntas anteriores, a revisão provavelmente terá limitações importantes. Exemplos de grandes limitações podem incluir não relatar características críticas dos estudos incluídos ou não relatar os resultados dos estudos incluídos. Use comentários para especificar se é relevante, para marcar a incerteza ou necessidade de discussão	<ul style="list-style-type: none"> - Major limitations (limitations that are important enough that the review results are unreliable and should not be used in the policy summary) - Important limitations (limitations important enough to search for another systematic review and to interpret the results of that review with caution if another review cannot be found) - Reliable (minor limitations only)
Section C: Review reliability overall assessment	
C.1 Are there any other aspects of the review not mentioned before that leads you to question the results?	
	<ul style="list-style-type: none"> - Additional Methodological Issues <ul style="list-style-type: none"> - Interpretation - Robustness - Conflicts of interest (from review authors or included studies) <ul style="list-style-type: none"> - Other - No other quality issues identified
C.2 Based on the assessments of the above methods, how would you rate the reliability of the review?	
<ul style="list-style-type: none"> - Major limitations (exclude); briefly (and politely) state the reasons for excluding the review by completing the following sentence: This review has not been included in this policy summary for the following reasons: Comments (briefly summarize any key messages or useful information that may be extracted from the review for analysis by policy makers or managers): - Important limitations; briefly (and politely) state the most important limitations by editing the following sentence, if necessary, and specifying the important limitations: This review has important limitations. - Reliable; carefully note any comments that should be noted regarding the reliability of this review by editing the following sentence if necessary: This is a systematic review of good quality, with only minor limitations. 	

Health professionals

Actions to increase adherence by health professionals to early detection guidelines revolve around the following pillars: knowledge, competence, attitudes and motivation to change. Professionals performing the first care procedures on women are not always able to detect and manage cases of breast disease and/or to be aware of guidelines²³.

The following are recommended for the training of health professionals: dissemination of educational materials; educational activities or visits to reference units for breast cancer diagnosis and treatment; dissemination of information about the severity of the problem, including relevant comparisons; presence of expert leaders; dissemination of information aimed to motivate health professionals to change their practices; financial or other incentives; reducing the burden of the changes in practices^{16,17,19,21}.

Peterson et al.¹⁸ studied systematic reviews that assessed the impact of communication between health professionals and patients on adherence to early detection of breast cancer. In general, the results suggested that professional recommendation was necessary but not sufficient for optimal adherence to early detection guidelines. Studies that examined the quality of communication indicated that information and shared decision-making were more closely related to behavior favoring recommendations. Training professionals on communication is an effective tool for improving adherence to recommendations.

The training of primary care health professionals, as a tool to improve patient flow to the breast health care line, should be supported by managers and involve breast cancer specialists²⁶. The study conducted by researchers at Imperial College London, in collaboration with the Ministry of Health's Oswaldo Cruz Foundation's Center for Health Knowledge and Data Integration

Chart 3. Details of the studies included in the review.

Main author	Country of publication	Year	Countries involved	Population involved	Study reliability	Sample (N) of articles included in the study	Objective(s)	Results
Baron RC ¹⁴	United States	2008	United States, Canada, England, Italy, Australia, China, Singapore, Israel	American Indians, Alaskan natives, Asian population, Hispanic Latino population and African American population; low-income, low-educated population in developed countries	Reliable	124	Customer-driven demand-focused interventions to increase early detection	Benefits: customer reminders (written or spoken messages, phone calls, etc.); small media (posters, booklets, pamphlets, newsletter); individualized education (individual information over the phone or in person to remove barriers) Benefits: improve service structure (flexible hours, easily accessible places); alternative services (mobile mammographs, transportation, dependent care, limiting the number of return appointments); allowances to remove examination barriers (co-participation, refunds, vouchers, etc.)
Baron RC ¹⁵	United States	2008	United States, Canada, England, Italy, Australia, China, Singapore, Israel	American Indians, Alaskan natives, Asian population, Hispanic Latino population and African American population; low-income, low-educated population in developed countries	Reliable	25	Customer-driven access-focused interventions to increase early detection	Providing a female health professional; Quality healthcare services (confirmation of appointments, patient follow-up, improved doctor-patient relationship, appropriate language and encouragement); Health services in places and at times that are most convenient to the population; Demystification of fear of the disease; diagnostic tests and treatment.
Bowser D ¹⁶	United States	2017	United States, Canada, Mexico, Puerto Rico, Israel, Iran, Jordan, Saudi Arabia, Qatar, Egypt, Spain, Switzerland, Turkey, Korea, Thailand, Malaysia, Samoa	Latinos, Asians and African Americans; Jews, Arabs; low-income and low-educated population in developed countries.	Reliable	55	To identify barriers and enablers that impact access to early detection both globally and more specifically in the Middle East and North Africa (MENA) region, with a specific focus on Egypt, Jordan, Oman, Saudi Arabia, United Arab Emirates (UAE) and Kuwait, with a specific focus on the health system	Employing a combination of multiple strategies is more likely to succeed than single interventions; Effectiveness of community-based or workplace-based group education programs increases when additional support is provided, such as exam and consultation scheduling assistance and mobile screening services; Combining training of health professionals can help overcome language and cultural barriers; Culturally sensitive media campaigns and mailed print materials may be ineffective.
Lu M ¹⁷	Canada	2012	United States, Canada, England, Australia, Thailand, Korea, Vietnam, China, Japan, Philippines, India, Pakistan, Bangladesh, Cambodia	Asians	Reliable	18	Knowledge on the effectiveness of existing intervention strategies to improve early detection in Asian women	Employing a combination of multiple strategies is more likely to succeed than single interventions; Effectiveness of community-based or workplace-based group education programs increases when additional support is provided, such as exam and consultation scheduling assistance and mobile screening services; Combining training of health professionals can help overcome language and cultural barriers; Culturally sensitive media campaigns and mailed print materials may be ineffective.

Continue...

Chart 3. Continuation.

Main author	Country of publication	Year	Countries involved	Population involved	Study reliability	Sample (N) of articles included in the study	Objective(s)	Results
Peterson EB ¹⁸	United States/ Qatar	2016	United States, France, Israel	North American, Latin American, French, Israeli	Reliable	35	To analyze studies that focused on the role of provider-patient communication in early detection behavior	There is overwhelming evidence that provider recommendation significantly improves early detection rates; Studies that examined the quality of communication are heterogeneous in method, operation, and results, but suggested that information and shared decision making had a significant relationship with tracking behavior; Intervention studies were equally heterogeneous and showed positive results from communication interventions on screening behavior.
Sabatino SA ¹⁹	United States	2012	United States, Canada, England, Italy, Australia, China, Singapore, Israel	American Indians, Alaskan natives, Asian population, Hispanic Latino population and African American population; low-income, low-educated population in developed countries	Reliable	45	Effectiveness of interventions to increase early detection: nine systematic updates to the Community Preventive Services Guide	Recommendations for individual and group education, customer reminder, reduction of direct costs, provider assessment and feedback, and reduction of structural barriers.
Spadea T ²⁰	Italy/ Netherlands	2010	United States, Switzerland, Italy, England, Spain	Americans, Europeans; low-income, low-educated population in developed countries	Reliable	29	Effectiveness of interventions to promote breast and cervical cancer care among lower socioeconomic groups	Tailor-made organized programs with cost-reducing interventions (e.g, offering free trials and eliminating geographic barriers), greater involvement of primary care physicians, and individually tailored proactive communication, addressing the barriers
Task Force ²¹	United States	2016	United States, Canada, England, Italy, Australia, China, Singapore, Israel	American Indians, Alaskan natives, Asian, Hispanic Latino, and African American populations; low-income, low-educated population in developed countries	Reliable	88	Recommend multicomponent interventions based on strong scientific evidence of effectiveness in increasing early detection	Multicomponent interventions combine two or more intervention approaches: Interventions to increase community demand: customer reminders, customer incentives, small media, mass media, group education, individualized education; Interventions to increase community access: reducing structural barriers, reducing direct costs to the customer; Interventions to increase the offer of service providers: provider evaluation and feedback, provider incentives, reminders to service providers; Multicomponent interventions can be coordinated through health care systems delivered in community settings or both.
Uy C ²²	United States	2017	United States, England, Spain, Malaysia, Israel	North American, European, Asian	Reliable	9	To evaluate the effect of text message interventions on early detection	Benefit from text messaging interventions, with a moderate increase in early detection rates.

(Fiocruz), found that the highest level of governance and increased health coverage in primary care in Brazilian municipalities are associated with reduced mortality²⁶. The family health strategy can be a good context for initiating organized breast cancer screening in Brazil, contributing to the strengthening of the guidelines.

Healthcare Users

There are multiple barriers for users to get breast cancer care. The nine studies addressed these barriers and strategies for implementing early detection guidelines¹⁴⁻²². Prioritized actions are based on the following determinants: knowledge, competence,

attitudes, access to care and motivation to change. Users may not recognize the effectiveness of the guidelines or agree with the recommendations for fear of the disease or lack of awareness of breast cancer issues. Economic, social, cultural or religious barriers make it difficult to change user behavior and seek effective care for early detection¹⁴⁻²².

Reliable and accessible information on the problem should be sought, for example, using mass media, small media (leaflets, posters, newsletters) and community health professionals; reduce financial or physical barriers to care by using appointment and exam reminders, flexible appointment and exam times, mobile

Chart 4. Strategies for implementing early breast cancer detection guidelines.

Level	Determinants		Actions
Health organizations	Inadequate internal communication	The necessary communication between different levels of the health system may be lacking.	Structured reference sheets; involvement of breast cancer specialists in primary care education activities; patient navigator use.
	Inadequate processes	Patient referral and counter-referral processes may not be appropriate for the implementation of the guidelines.	Process redesign to facilitate appropriate and efficient use of services (continuous quality improvement); patient navigator use.
	Inadequate leadership	There may be insufficient leadership to implement the guidelines.	Identification of effective leaders; expert engagement; establishment of leadership systems.
Health professionals	Knowledge	Healthcare professionals may not be aware of the likely impacts of early detection guidelines.	Dissemination of educational materials.
	Competence	Healthcare professionals may not feel competent or may not have competence.	Educational activities or visits to reference units for the diagnosis and treatment of breast cancer.
	Attitudes	Health professionals may not agree that the implementation of the guidelines is effective.	Disclosure of information about the severity of the problem, including relevant comparisons; presence of opinion leaders and breast cancer experts.
	Motivation to change	Health workers cannot be motivated to change their practices.	Dissemination of information designed to motivate healthcare professionals to change their practices; financial or other types of incentives; reducing the burden of changing practices.
Health users	Knowledge	People may not be aware of the likely impacts of the early detection guidelines.	Dissemination of reliable and accessible information, for example using mass media, small media (flyers, posters, newsletters), community health workers, patient navigator.
	Competence	People may not recognize the effectiveness of the guidelines.	Provision of training and support; patient navigator use.
	Attitudes	People may not agree that implementing the guidelines is important due to fear of the disease or lack of awareness of the issue of breast cancer.	Disclosure of information about the severity of the problem, including relevant comparisons; patient navigator use.
	Access to care	People may not have access to the types of operations that are effective for early detection due to financial, social, cultural or religious constraints.	Reduction of financial or physical barriers to care; appointment and exam reminders; mobile mammographs; female health professionals; patient follow-up; better doctor-patient relationship, with proper language and encouragement; demystification of fear of the disease, the diagnostic tests and the treatment; flexible consultation and examination times; conscious employer; patient navigator use.
	Motivation to change	People may not be motivated to change their behaviors, for example by seeking effective care for early detection.	Dissemination of information designed to motivate people to, for example, seek care or undergo the recommended tests; use of financial or material incentives; patient navigator use.

mammographs; improve the doctor-patient relationship with appropriate language and encouragement; demystifying the fear of the illness, of the diagnostic tests and of the treatment; make the employer aware; provide financial or material incentive; make use of the patient navigator¹⁴⁻²².

The patient navigator, a trained healthcare professional, facilitates the handling of patients in the healthcare system, helping them to overcome institutional, socioeconomic and personal barriers to healthcare access. Provides services such as scheduling diagnostic and follow-up appointments, facilitating referrals from the health system, and coordinates communication between patients and health professionals. This professional helps patients receive timely medical care and reduce care delays and missed follow-up rates²⁵.

A program for early detection of breast cancer should be accepted by the public to assist with expected outcomes, such as 70% mammographic coverage rate, timely diagnosis and treatment, and reduced mortality rate. Adherence to the programs is associated with public motivation and awareness. The low

awareness rate in most developing countries is alarming and interventions to raise public awareness are needed²⁷.

CONCLUSIONS

The three contexts and the respective strategies identified in the most relevant literature which are applicable in Brazil are:

- organizational changes in the system: fostering leadership committed to the implementation of the guidelines, better governance of health services close to the target audience, flexible hours, patient navigation program and use of mobile mammographs, where appropriate;
- in the practice of health professionals: engagement of breast cancer specialists in primary care to optimize the training of health professionals and users;
- in the use of health services by users: national campaign for mass dissemination of guidelines involving multiple actors from the Ministry of Health, state and municipal health departments, civil and medical organizations.

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