



EUROPEAN COMMISSION
JOINT RESEARCH CENTRE

Directorate F - Health, Consumers & Reference Materials (Ispra)
Health in Society

European Commission Initiative on Breast Cancer (ECIBC): European guidelines on breast cancer screening and diagnosis

QUESTION	
Should a personalised telephone call plus a letter vs. an automated telephone call plus letter be used for inviting asymptomatic women to organised breast cancer-screening programmes?	
POPULATION:	asymptomatic women invited to organised breast cancer-screening programmes
INTERVENTION:	a personalised telephone call plus a letter
COMPARISON:	an automated telephone call plus letter
MAIN OUTCOMES:	Participation rate; Informed decision making; Satisfaction with the decision making process
SETTING:	Organised mammography screening programmes
PERSPECTIVE:	National health system
BACKGROUND:	<p>Breast cancer screening is a public health initiative that requires an effective system of communication at every step of the process, from initial information and invitation, to confirmation that all is well and invitation to the next round, or occasionally recall for further tests and, even less frequently, notification that cancer has been found. An important function of the communication system, is to create seamless continuity between the steps of the process.</p> <p>The steps at which communication is necessary may be summarised as follows. Firstly, informing a defined target population about the screening programme offered and providing opportunities for participation in that programme. Next communicating throughout the process of screening, including feedback of results, recall for further tests in some cases, and in a minority of cases, progressing to diagnosis of cancer and development of a treatment plan. All communication methods need to be evaluated and continuously updated and improved in the light of medical and technical advances.</p> <p>Communication methods need to be appropriate to the variety of circumstances that may arise from screening. For example, a woman diagnosed with breast cancer has a right to discuss the matter in some detail with health professionals in a supportive environment. A woman found not to have breast cancer may be pleased to receive a letter informing her of that outcome and advising her on the recognition of breast cancer symptoms until the next round, plus information on when that will be.</p> <p>Anxiety and stress levels among women undergoing breast cancer screening and diagnosis can be greatly ameliorated by timely and appropriate communication. This in turn can impact on the likelihood of their future participation in screening.</p>
CONFLICT OF INTEREST:	<p><u>Management of Conflicts of Interest (Col):</u> Cols for all Guidelines Development Group (GDG) members were assessed and managed by the Joint Research Centre (JRC) following an established procedure in line with European Commission rules. GDG member participation in the development of the recommendations was restricted, according to Col disclosure. Consequently, for this particular question, the following GDG members were recused from voting: Edoardo Colzani, Axel Gräwingholt and Elsa Perez Gomez; Miranda Langendam, as external expert, was also not allowed to vote, according to the ECIBC rules of procedure.</p>

ASSESSMENT

Problem

Is the problem a priority?

JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
<ul style="list-style-type: none"> ○ No ○ Probably no ○ Probably yes ● Yes ○ Varies ○ Don't know 	<p>Breast cancer is one of the most common forms of cancer and the leading cause of death in women in Europe (1). The implementation of mammography screening programmes has been identified as an effective public health intervention to reduce breast cancer mortality (2). Several studies have demonstrated a reduction in mortality for breast cancer in Europe after the implementation of population-based breast cancer screening programmes (3). For these reasons, mammography screening is a well-established public health intervention in Europe and elsewhere (4).</p> <p>For cancer screening programmes to bring about reductions in breast cancer mortality, a substantial proportion of the population must participate. Programmes with low uptake can be ineffective and can promote inequalities in health-services. For these reasons, the participation rate is a key parameter to assess both the impact of the screening programme and its acceptability among the target population.</p> <p>However the participation rates to mammography screening in Europe are in many cases far from the acceptable standard (4).</p> <p>Effective communication, balancing patients' autonomy when making a decision (informed choice) with promoting uptake is therefore important (5).</p>	

Desirable Effects

How substantial are the desirable anticipated effects?

JUDGEMENT	RESEARCH EVIDENCE					ADDITIONAL CONSIDERATIONS						
<ul style="list-style-type: none"> ○ Trivial ○ Small ● Moderate ○ Large ○ Varies ○ Don't know 	Outcomes	№ of participants (studies) Follow up	Certainty of the evidence (GRADE)	Relative effect (95% CI)	Anticipated absolute effects* (95% CI) <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th data-bbox="1045 1003 1213 1156">Risk with automated telephone calls + letter</th> <th data-bbox="1213 1003 1430 1156">Risk difference with personalized telephone calls + letter</th> </tr> </thead> <tbody> <tr> <td data-bbox="1045 1156 1213 1383">Study population</td> <td data-bbox="1213 1156 1430 1383"></td> </tr> <tr> <td data-bbox="1045 1237 1213 1383">22.785 per 100.000</td> <td data-bbox="1213 1237 1430 1383">4.557 more per 100.000 (4.101 fewer to 17.544 more)</td> </tr> </tbody> </table>		Risk with automated telephone calls + letter	Risk difference with personalized telephone calls + letter	Study population		22.785 per 100.000	4.557 more per 100.000 (4.101 fewer to 17.544 more)
Risk with automated telephone calls + letter	Risk difference with personalized telephone calls + letter											
Study population												
22.785 per 100.000	4.557 more per 100.000 (4.101 fewer to 17.544 more)											
	Participation rate					Only one outcome available (participation rate). The GDG judged that the desirable effects are moderate.						
	311 (1 RCT) ¹											
	 VERY LOW ^{a,b}											
	RR 1.20 c (0.82 to 1.77)											
	^{1.} Fortuna RJ, Idris A, Winters P, Humiston SG, Scofield S, Hendren S, Ford P, Li SX, Fiscella K. Get screened: a randomized trial of the incremental benefits of reminders, recall, and outreach on cancer screening. J Gen Intern Med; 2014.											

- a. Study conducted in the USA, outside Europe and very specific population (include only women past due for mammography).
- b. Small number of events and wide confidence interval: the 95%CI does not exclude a relevant increase or a decrease of participation rate.
- c. The order of the intervention and the comparison was "flipped" so now the RR reads as 1.20; CI: 0.82 to 1.27 (before the flipping the RR was 0.83; CI: 0.56 to 1.22).

Undesirable Effects

How substantial are the undesirable anticipated effects?

JUDGEMENT	RESEARCH EVIDENCE					ADDITIONAL CONSIDERATIONS					
<ul style="list-style-type: none"> ○ Large ○ Moderate ○ Small ● Trivial ○ Varies ○ Don't know 	Outcomes	№ of participants (studies) Follow up	Certainty of the evidence (GRADE)	Relative effect (95% CI)	Anticipated absolute effects* (95% CI) <table border="1" data-bbox="1045 532 1430 912"> <thead> <tr> <th data-bbox="1045 532 1215 686">Risk with automated telephone calls + letter</th> <th data-bbox="1215 532 1430 686">Risk difference with personalized telephone calls + letter</th> </tr> </thead> <tbody> <tr> <td data-bbox="1045 686 1215 912">Study population 22.785 per 100.000</td> <td data-bbox="1215 686 1430 912">4.557 more per 100.000 (4.101 fewer to 17.544 more)</td> </tr> </tbody> </table>		Risk with automated telephone calls + letter	Risk difference with personalized telephone calls + letter	Study population 22.785 per 100.000	4.557 more per 100.000 (4.101 fewer to 17.544 more)	<p>The GDG judged that the undesirable effects are trivial.</p>
Risk with automated telephone calls + letter	Risk difference with personalized telephone calls + letter										
Study population 22.785 per 100.000	4.557 more per 100.000 (4.101 fewer to 17.544 more)										
<p>1. Fortuna RJ, Idris A, Winters P, Humiston SG, Scofield S, Hendren S, Ford P, Li SX, Fiscella K. Get screened: a randomized trial of the incremental benefits of reminders, recall, and outreach on cancer screening. J Gen Intern Med; 2014.</p> <ul style="list-style-type: none"> a. Study conducted in the USA, outside Europe and very specific population (include only women past due for mammography). b. Small number of events and wide confidence interval: the 95%CI does not exclude a relevant increase or a decrease of participation rate. c. The order of the intervention and the comparison was "flipped" so now the RR reads as 1.20; CI: 0.82 to 1.27 (before the flipping the RR was 0.83; CI: 0.56 to 1.22). 											

Certainty of evidence

What is the overall certainty of the evidence of effects?

JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
<ul style="list-style-type: none"> ● Very low ○ Low ○ Moderate ○ High ○ No included studies 		

Values

Is there important uncertainty about or variability in how much people value the main outcomes?

JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
<ul style="list-style-type: none"> ○ Important uncertainty or variability ○ Possibly important uncertainty or variability ● Probably no important uncertainty or variability ○ No important uncertainty or variability ○ No known undesirable outcomes 	No systematic review was conducted.	The GDG judged that there is probably no important uncertainty or variability on how much women value the main outcomes.

Balance of effects

Does the balance between desirable and undesirable effects favor the intervention or the comparison?

JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
<ul style="list-style-type: none"> ○ Favors the comparison ○ Probably favors the comparison ○ Does not favor either the intervention or the comparison ● Probably favors the intervention ○ Favors the intervention ○ Varies ○ Don't know 		The GDG judged that the balance of effects probably favours the intervention.

Resources required

How large are the resource requirements (costs)?

JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
<ul style="list-style-type: none"> ● Large costs ○ Moderate costs ○ Negligible costs and savings ○ Moderate savings ○ Large savings ○ Varies ○ Don't know 	<p>No systematic review was conducted.</p> <p>Phillips et al. (6) conducted a pragmatic randomized controlled trial to compare the following interventions:</p> <p>Automated telephone call + letter:</p> <p>The cost reported by Phillips 2015 was USD 3.28 (2011-2012 price value) per woman.</p> <p>Reference:</p> <p>Phillips L, et al. Improving breast and colon cancer screening rates: a comparison of letters, automated phone calls, or both. <i>J Am Board Fam Med.</i> 2015; 28(1): 46-54.</p>	<p>Previous considerations made by the GDG in a similar question (PICO 9: Should letters vs. no invitation to organised screening be used for inviting asymptomatic women to breast cancer screening programmes?):</p> <p>Invitation Letter</p> <p><i>Indirect evidence: An Italian Technical Report, based on data from four healthcare organisations, reported a median cost of EUR 4.6 per one invited woman (including a letter with the appointment date and the call centre service that manages the appointment dates) (2007 value) (7)</i></p> <p>Previous considerations made by the GDG in a similar question (PICO 9: Should letters plus a phone call to remind vs. no invitation to organised screening be used for inviting asymptomatic women to breast cancer screening programmes?):</p> <p>Phone call to remind</p> <p><i>The GDG discussed that the phone call alone does not have a significant cost. However, the GDG judged that human resource costs of addressing questions from, including the potential need to refer questions to another individual with content knowledge to answer question, adds a significant cost.</i></p> <p><i>The GDG noted that the duration and therefore human resource costs are dependent on who is making the phone calls. If the phone call is made by a health professional there may be more questions and increased time required for phone calls than if it is an administrator who does not have content expertise to answer questions.</i></p> <p><i>The GDG also noted that at present women are more informed about breast cancer screening than when the study was conducted in 2004. They may therefore have more questions and the phone calls will take more time than in the study.</i></p> <p>The GDG discussed about the possible variability of costs according to different settings and specific circumstances, considering that the variability is probably going from large to very large costs. The GDG judged that there are large costs.</p> <p>Reference:</p> <p>Mantellini P, Biagi C D'Angelo D Falini P Lippi G Martello G (2012). <i>La prevenzione del tumore della mammella. I costi dello screening. Un'analisi in logica activity based.</i></p>

Certainty of evidence of required resources

What is the certainty of the evidence of resource requirements (costs)?

JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
<ul style="list-style-type: none"> ○ Very low ● Low ○ Moderate ○ High ○ No included studies 	<p>No systematic review was conducted.</p> <p>The quality of the evidence is low due to serious indirectness. The study of Phillips et al (6). was conducted in the USA in a non-organized screening population target for both colorectal and breast cancer screening. Screening is offered opportunistically by primary care practices with lower participation rates (<40% in the study) than the observed in organized screening programmes in Europe. In addition, the cost of collecting telephone numbers was not included in the analysis of cost</p> <p>Reference:</p> <p>Phillips L, et al. Improving breast and colon cancer screening rates: a comparison of letters, automated phone calls, or both. J Am Board Fam Med. 2015; 28(1): 46-54.</p>	<p>The GDG judged that the certainty of the resource evidence was low due to indirectness. Costs from Italy may not be representative of other countries.</p>

Cost effectiveness

Does the cost-effectiveness of the intervention favor the intervention or the comparison?

JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
<ul style="list-style-type: none"> ○ Favors the comparison ● Probably favors the comparison ○ Does not favor either the intervention or the comparison ○ Probably favors the intervention ○ Favors the intervention ○ Varies ○ No included studies 	<p>No systematic review was conducted</p>	<p>The GDG judged that the intervention is probably not cost/effective.</p> <p>The automated telephone call is cheaper.</p>

Equity

What would be the impact on health equity?

JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
<ul style="list-style-type: none"> ○ Reduced ○ Probably reduced ● Probably no impact ○ Probably increased ○ Increased ○ Varies ○ Don't know 	<p>No systematic review was conducted.</p>	<p>The GDG judged that the intervention will probably have no impact on equity.</p>

Acceptability

Is the intervention acceptable to key stakeholders?

JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
<ul style="list-style-type: none"> <input type="radio"/> No <input type="radio"/> Probably no <input checked="" type="radio"/> Probably yes <input type="radio"/> Yes <input type="radio"/> Varies <input type="radio"/> Don't know 	<p>No systematic review was conducted.</p>	<p>The GDG considered that probably a personalised telephone call is more satisfactory than and automated one.</p> <p>The GDG judged that the intervention is probably acceptable to key stakeholders.</p>

Feasibility

Is the intervention feasible to implement?

JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
<ul style="list-style-type: none"> <input checked="" type="radio"/> No <input type="radio"/> Probably no <input type="radio"/> Probably yes <input type="radio"/> Yes <input type="radio"/> Varies <input type="radio"/> Don't know 	<p>No systematic review was conducted.</p>	<p>The GDG judged that the intervention is not easible to implement.</p>

SUMMARY OF JUDGEMENTS

	JUDGEMENT						
PROBLEM	No	Probably no	Probably yes	Yes		Varies	Don't know
DESIRABLE EFFECTS	Trivial	Small	Moderate	Large		Varies	Don't know
UNDESIRABLE EFFECTS	Large	Moderate	Small	Trivial		Varies	Don't know
CERTAINTY OF EVIDENCE	Very low	Low	Moderate	High			No included studies
VALUES	Important uncertainty or variability	Possibly important uncertainty or variability	Probably no important uncertainty or variability	No important uncertainty or variability			No known undesirable outcomes
BALANCE OF EFFECTS	Favors the comparison	Probably favors the comparison	Does not favor either the intervention or the comparison	Probably favors the intervention	Favors the intervention	Varies	Don't know
RESOURCES REQUIRED	Large costs	Moderate costs	Negligible costs and savings	Moderate savings	Large savings	Varies	Don't know
CERTAINTY OF EVIDENCE OF REQUIRED RESOURCES	Very low	Low	Moderate	High			No included studies
COST EFFECTIVENESS	Favors the comparison	Probably favors the comparison	Does not favor either the intervention or the comparison	Probably favors the intervention	Favors the intervention	Varies	No included studies
EQUITY	Reduced	Probably reduced	Probably no impact	Probably increased	Increased	Varies	Don't know
ACCEPTABILITY	No	Probably no	Probably yes	Yes		Varies	Don't know
FEASIBILITY	No	Probably no	Probably yes	Yes		Varies	Don't know

TYPE OF RECOMMENDATION

Strong recommendation against the intervention ○	Conditional recommendation against the intervention ●	Conditional recommendation for either the intervention or the comparison ○	Conditional recommendation for the intervention ○	Strong recommendation for the intervention ○
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CONCLUSIONS

Recommendation

The ECIBC's Guidelines Development Group suggests not using a personalised telephone call plus a letter over an automated telephone call plus a letter for inviting asymptomatic women between the ages of 50-69 (in whom screening is strongly recommended) to attend organised population-based breast cancer screening programmes (conditional recommendation, very low certainty of the evidence).

Justification

Overall justification

The GDG made a conditional recommendation against the intervention, because it was judged as not feasible to implement and because of the large cost.

Detailed justification

Resources required

The GDG judged that the intervention requires large costs.

Feasibility

The GDG judged that the intervention is not feasible to implement.

Subgroup considerations

None identified.

Implementation considerations

None identified

Monitoring and evaluation

None identified

Research priorities

Satisfaction and informed decision making outcomes need to be addressed.

REFERENCES SUMMARY

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4. Ponti A, Anttila A, Ronco G, Senore C, Basu P, Segnan N et al. (IARC). Cancer screening in the European Union. Report on the implementation of the Council Recommendation on cancer screening (second report). Brussels: European Commission; 2017.
5. Giordano L, Rowinski M, Gaudenzi G, Segnan N. What information do breast cancer screening programmes provide to Italian women?. *European Journal of Public Health*; 2005.
6. Phillips L, Hendren S, Humiston S, Winters P, Fiscella K.. Improving breast and colon cancer screening rates: a comparison of letters, automated phone calls, or both. *Journal of the American Board of Family Medicine : JABFM*; 2015.
7. Mantellini P, Biagi C, D'Angelo D, Falini P, Lippi G, Martello G,. La prevenzione del tumore della mammella. I costi dello screening. Un'analisi in logica activity based.. 2012.