

# Evaluation of the effectiveness of recruitment methods for prophylactic examinations in groups of high-risk cancer patients

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## Introduction

Literature data indicate that the use of appropriate recruitment methods for prevention programs has an impact on the recruitment and cost effectiveness of these programs. In Poland, the effectiveness of active recruitment methods for preventive screening programs in high-risk cancer groups, which would include gene mutation carriers, has not been evaluated so far.

## Objective

The aim of the study was to assess the telephone, postal and combined (letter invitation and subsequent telephone invitation in the absence of responses to a letter invitation) method of invitations to preventive programs in groups of patients at high risk of developing malignant tumors, including recruitment and cost effectiveness.

## Material and methods

The research was carried out in the following groups of patients:

Group I, 93 males with a BRCA1 gene mutation; Group II, 199 women with a BRCA1 gene mutation; Group III, 1497 women with the pedigree diagnosis of HBC or HBO; Group IV, 419 women with the pedigree diagnosis of HNPCC or LOFCC. In each of the examined groups (Group I-IV), participation in preventive examinations (recruitment effectiveness) depending on the form of the invitation was determined and the economic effectiveness of the patient invitation methods was evaluated.

## Results

1. The telephone invitation is characterized by the highest recruitment and economic efficiency in all the examined groups (Group I-IV) in comparison to other methods of invitations.
2. Invitation by the letter method is characterized by the lowest recruitment effectiveness and indirect economic effectiveness in all examined groups (Group I-IV).
3. Invitation by the combined method is characterized by similar recruitment effectiveness to the telephone method and is associated with the highest costs incurred in all examined groups (Group I-IV).
4. In the group of women, who carry BRCA1 gene mutation, the highest economic efficiency was observed using all the tested methods and the highest recruitment efficiency using the telephone and letter method.
5. The lowest recruitment effectiveness is observed in the group of patients with pedigree diagnosis HNPCC or LOFCC implemented through a letter invitation.
6. The highest recruitment costs are observed in the group of males, carriers of the BRCA1 gene mutation using the combined method.

## Conclusions

1. The type of invitations method used affects the effectiveness of recruitment for preventive examinations.
2. The type of invitations method used has an impact on the cost effectiveness of recruitment for preventive examinations.
3. Telephone methods should be a recommended way of inviting patients from high-risk cancer groups for prophylactic examinations.
4. In groups of high-risk cancer patients, it is possible to increase economic efficiency and probably recruitment by introducing new methods of invitations using correspondence via email (e-mail) and short message service via mobile telephony (SMS). In this case, the combined method can potentially have an advantage over other methods. Further studies on the effectiveness of these methods are necessary.