

Albin Mahovkic^{1,2}, Kirill Neumann¹, Trond-Eirik Strand³, Gulser Caliskan², Oluf Dimitri Røe^{4,5}, Haseem Ashraf^{1,2}

¹Akershus University Hospital, Lørenskog/NO, ²University of Oslo, Oslo/NO, ³UiT – The Arctic University of Norway, Tromsø/NO, ⁴NTNU – Norwegian University of Science and Technology, Trondheim/NO.

⁵Levanger Hospital, Levanger/NO

Correspondence: albin.mahovkic@ahus.no

INTRODUCTION

Successful implementation of lung cancer screening depends on effective recruitment strategies and feasible eligibility criteria.

In this study, we evaluated recruitment for a Norwegian pilot lung cancer screening study and assessed the factors that can affect participation in the program.

METHODS

All residents aged 60-79 years (n=125,094) in the Akershus region, Norway, were invited to participate. Invitations were sent digitally whenever possible (n=106,598). A subset of the digitally active population (n=10,000) was randomized to receive the invitation either through a digital mailbox or by postal letter. Participants who were not digitally active received the invitation by postal letter.

The digitally active population in our study was defined as individuals who used digital services and a mobile telephone.

Interested participants who wished to enroll in the study completed the PLCom2012_{NoRace} questionnaire and eligibility was subsequently assessed.

Eligibility was defined as ever-smoking status with either high-risk $\geq 2.6\%$ 6-year lung cancer risk based on PLCOm2012_{NoRace} and/or ≥ 35 pack-years.

Eligible individuals were randomized to intervention (CT scans) or control. Due to funding constraints, only 1,000 eligible participants could be screened.

Predictors of participation were assessed using regression analysis.

RESULTS

- A total of 13,306 participants (10.6%) consented to participate in the study. Median age of participants were 68.6 years and 46.7% were females.
- The most preferred invitation method was the digital mailbox, with 16.1% of invitees providing consent, compared with 7.2% of those invited by letter and 2.6% of those invited by SMS.

DISCUSSION AND CONCLUSION

Digital invitation (digital mailbox + SMS) increased participation compared with postal invitation, from 7.2% to 11.2%.

This effect was even more pronounced when participants invited by SMS were excluded as digitally active, increasing the consent rate from 11.2% to 16.1%.

Increasing age, male sex and greater distance to screening center significantly affected willingness to participate in the study.

Male participants had significantly higher attendance rates, whereas greater distance to screening center was associated with higher rate of non-attendance.

REFERENCES & ACKNOWLEDGEMENTS



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The authors used Microsoft 365 Copilot for grammar editing. No study data, analyses, or conclusions were generated or modified using artificial intelligence. The authors reviewed and revised all output and take full responsibility for the final content.

RESULTS

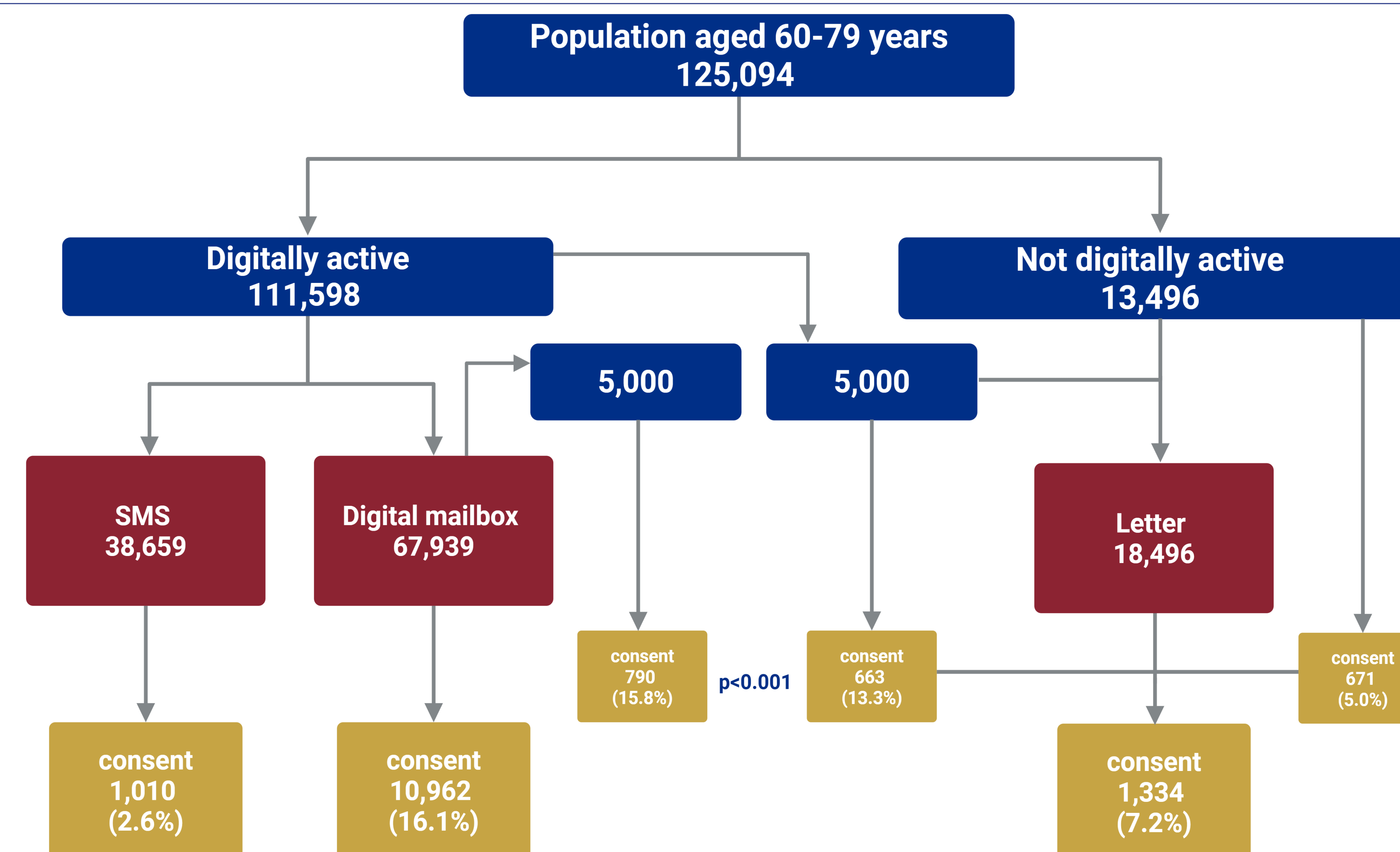


Figure 1: Overview participation by invitation method

Table 1: Analysis of independent variables for participants a) registered to study and b) assigned to CT group

	Registered to study (n=125,093*)		Randomized to CT (n=1,250)	
	OR (95% CI)	P-value	OR (95% CI)	P-value
Invitation				
Letter	<i>Reference</i>		-	-
Digital mailbox	2.25 (2.12-2.39)	<0.001	-	-
SMS	0.32 (0.29-0.35)	<0.001	-	-
Age, years	0.964 (0.960-0.967)	<0.001	0.98 (0.95-1.00)	0.086
Sex				
Female	<i>Reference</i>		<i>Reference</i>	
Male	1.13 (1.09-1.17)	<0.001	1.49 (1.12-1.99)	0.006
Distance, km	0.997 (0.996-0.998)	<0.001	0.984 (0.974-0.992)	<0.001
Pack-years	-	-	1.00 (0.99-1.01)	0.645

* Distance data were missing for one participant