

Feasibility of risk-prediction model-based recruitment for population-based lung cancer screening in Flanders

Annemiek Snoeckx^{1,2}, Charlotte Theuns², Amber Gerris², Guido Van Hal²,
Jan De Lepeleire³, Jan P. Van Meerbeeck^{1,2}

¹ Antwerp University Hospital, Antwerp/BE ² University of Antwerp, Antwerp/BE ³ KU Leuven, Leuven/BE



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Conference on Lung Cancer

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BACKGROUND & RATIONALE

- Lung cancer is the leading cause of cancer-related death worldwide and in Belgium.
- Annual low-dose CT screening reduces lung cancer mortality in high-risk populations.
- ZORALCS evaluates the feasibility of population-based lung cancer screening in Flanders, Belgium.

STUDY DESIGN & METHODS

- Design:** 4-year prospective, monocentric, population-based implementation study
- Region:** South-East Region of Antwerp
- Target population:** all residents aged 55-74 years
- Invitations:** 25,883 invitation letters sent between March 2025 and March 2026
- Reminder letters:** simplified reminder letter after 2 months
- Eligibility assessment:** through an online recruitment platform using two risk prediction models: PLCO_{m2012} and/or HUNT
- Intervention:** annual low-dose CT screening
- Image reading:** experienced radiologists with AI as a second reader - volumetry
- Management:** nodule management recommendation European Society of Thoracic Imaging

BASELINE RESULTS

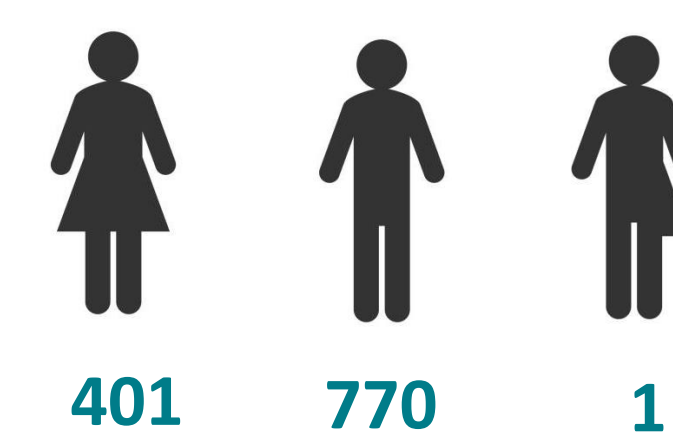
RECRUITMENT



Strong engagement through digital pathways and risk-model-based eligibility assessment

SCREENED COHORT

Median age: 66



36.1%
currently
smoking



63.9%
used to
smoke

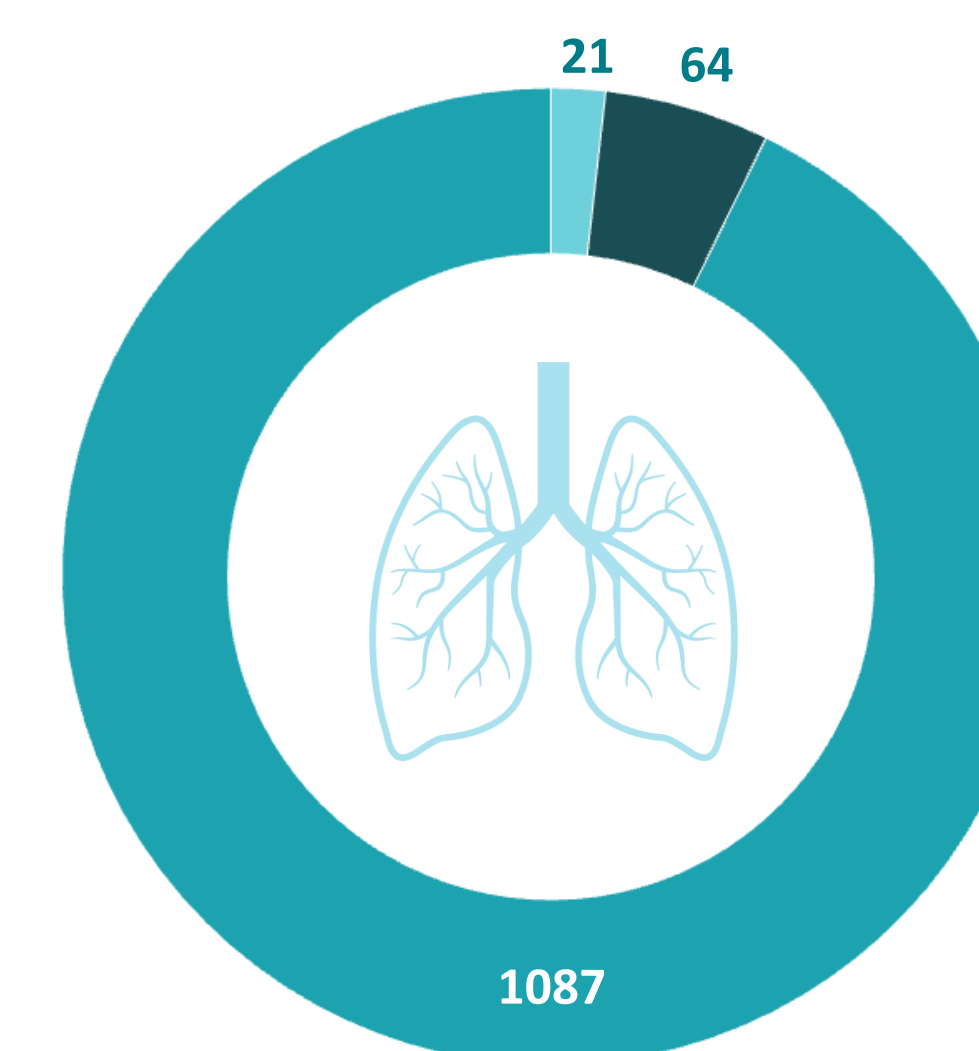


48.5%
low
educational
level



51.5%
high
educational
level

BASELINE LDCT OUTCOMES



- Normal** results: 1,087/1,172 (92.7%)
- Indeterminate** results – requiring 1/3/6 month follow-up: 64/1,172 (5.5%)
- Abnormal** results – diagnostic work-up: 21/1,172 (1.8%)
- Reported incidental findings:** 13/1,172 (1.1%)

SMOKING CESSATION



ZORALCS participants joined the **TAMIRO-STOP** smoking cessation study



Embedded cessation support for people who currently smoke or who quit within the past year

Randomisation between minimal and intensive intervention



Minimal intervention
Brief motivational interview + written materials



Intensive intervention
Minimal intervention +
Smoking cessation expert + nicotine replacement therapy – all free of charge

KEY MESSAGES

FEASIBLE APPROACH

Population-based risk-based low-dose CT screening is feasible in a real-world Flemish setting

SIMILAR RESULTS

Preliminary findings align with other European pilots, e.g. HANSE trial

DIGITAL PROCESS

Created barriers but revealed where participants dropped out, enabling targeted re-engagement

INVOLVEMENT OF PRIMARY CARE

Primary care played a supportive and practical role strengthening participant support and engagement

FUTURE

SCREENING ROUND 2

Screening round 2: 2026-2027 continued low-dose CT screening and surveillance

EXTERNAL VALIDATION

Results linkage with Belgian Cancer Registry in 2027

DEFINITIVE CLINICAL OUTCOMES

expected from Q3 2027