

P1.035: Beyond Eligibility: Participant Characteristics Associated with Potential Over-Screening and Overdiagnosis in Lung Cancer

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INTRODUCTION

- Lung cancer screening in high-risk individuals with low-dose CT improves survival
- Enrolment of individuals with limited life expectancy may identify clinically insignificant cancers, potentially decreasing effectiveness and efficiency screening
- Further exploration of over-screening and overdiagnosis is required

METHODS

Design: Retrospective cohort study within the SUMMIT lung cancer screening trial (NCT03934866)

Over-screening: Death within 5 years of enrolment

Overdiagnosis: Non-lung cancer death within 5 years of a stage I or II lung cancer diagnosis

Association of over-screening and overdiagnosis with participant characteristics including age (≤ 70 vs. > 70), smoking pack years, gender and Charlson comorbidity index (CCI) were explored by multivariable logistic regression

DISCUSSION AND CONCLUSION

Actionable Take Away Message

- Eligibility criteria do not capture life-expectancy risk
- Age and CCI could be used to flag participants for more explicit informed consent
- Other cancers, non-malignant respiratory and cardiovascular remain leading causes of death in screening cohorts

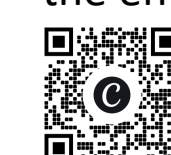
Future Direction for Research

- Further research and validation of risk factors could support an individualized risk calculator, akin to ePrognosis, to inform consent discussions prior to screening enrolment

REFERENCES & ACKNOWLEDGEMENTS

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Disclosures

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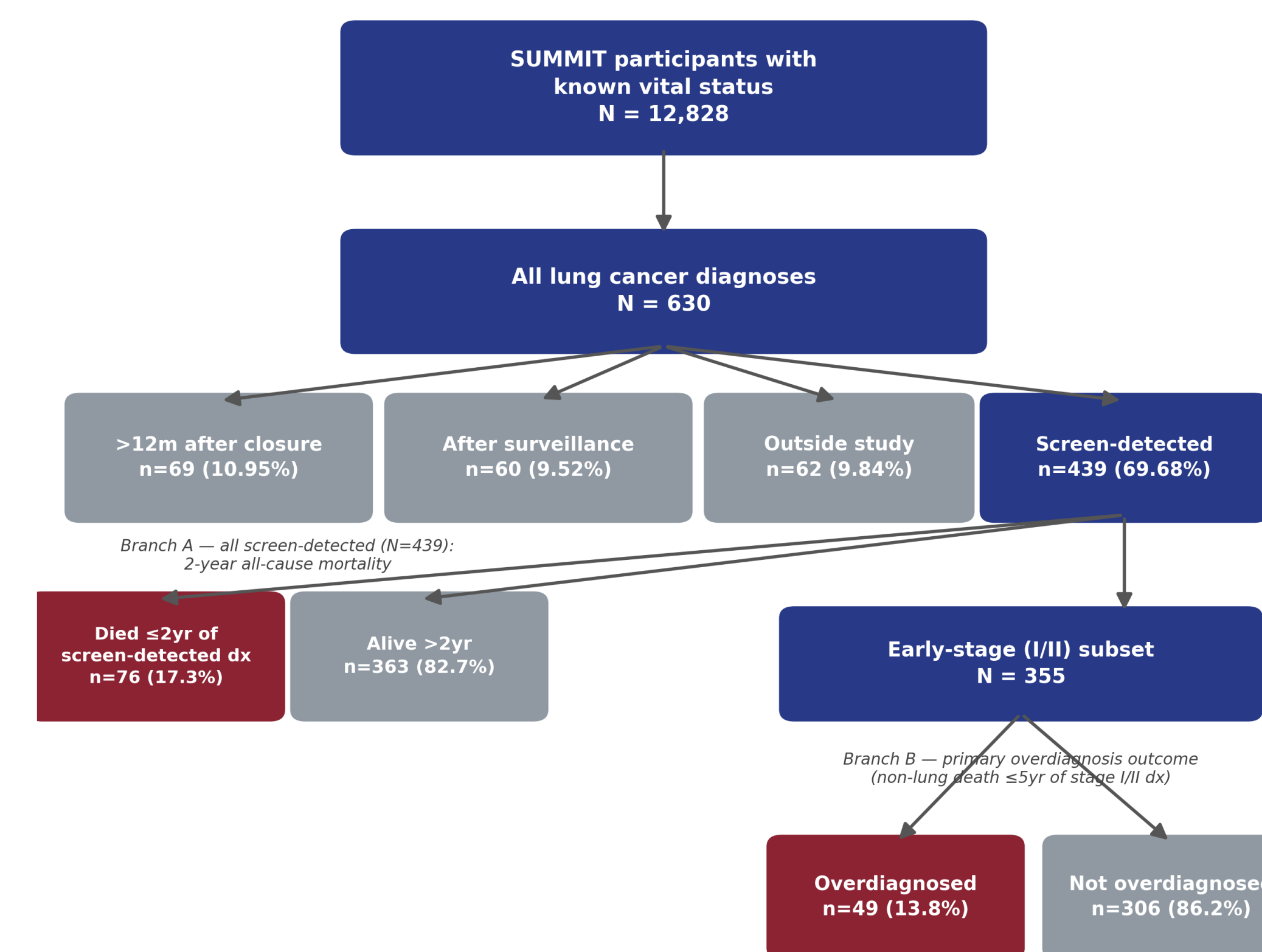
RESULTS

12,828 participants were included (median follow-up 6.5 years from consent and 4.6 years from diagnosis).

Over-screening: Age > 70 (OR 2.41), sex (OR 0.66, female vs. male), pack-years (OR 1.53), and CCI ≥ 5 (OR 2.63) were independently associated

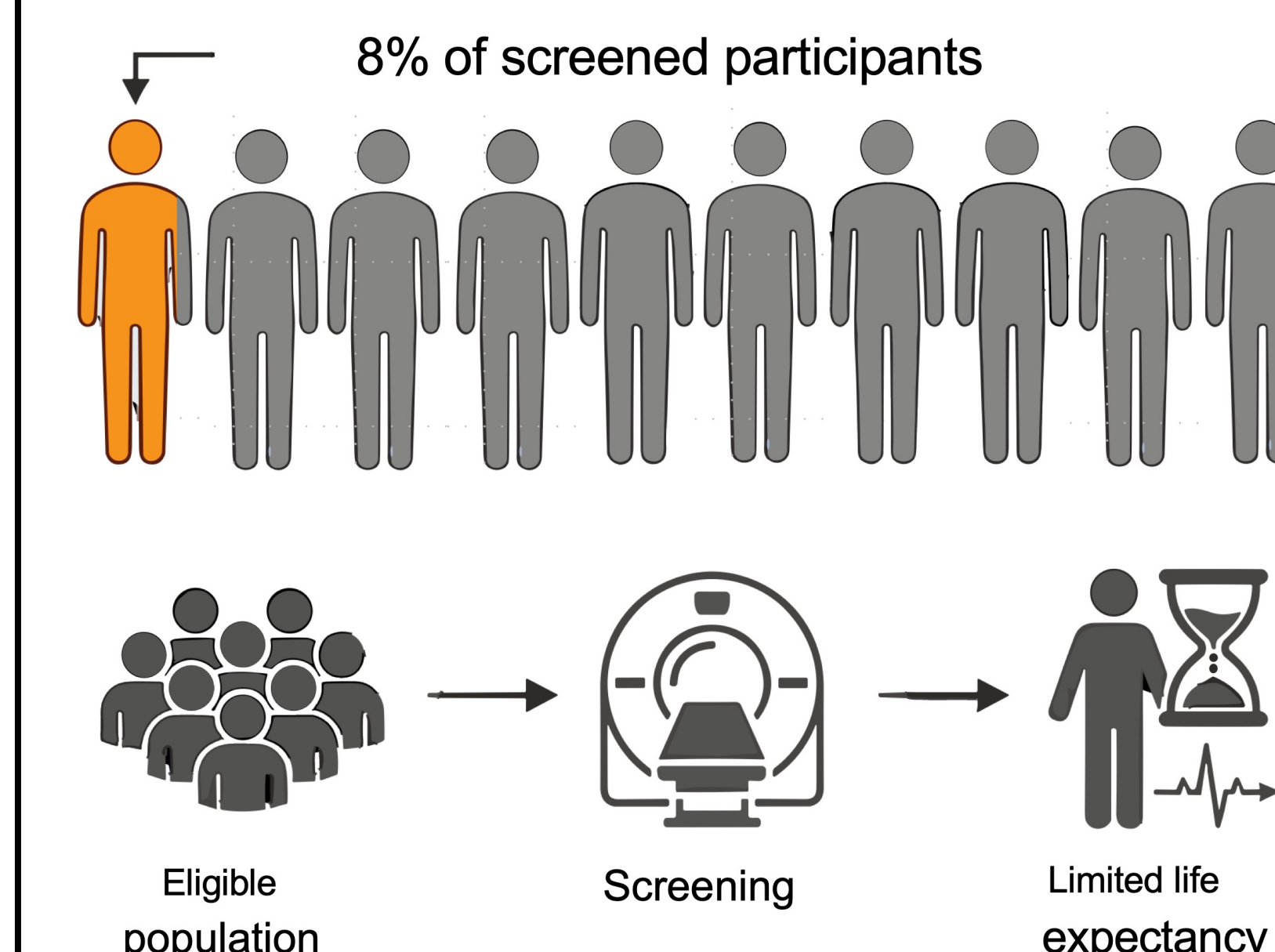
Overdiagnosis: Age > 70 (OR 2.09) and female sex (OR 0.44) were significantly associated

Figure 1. Cohort flow and definition of outcomes



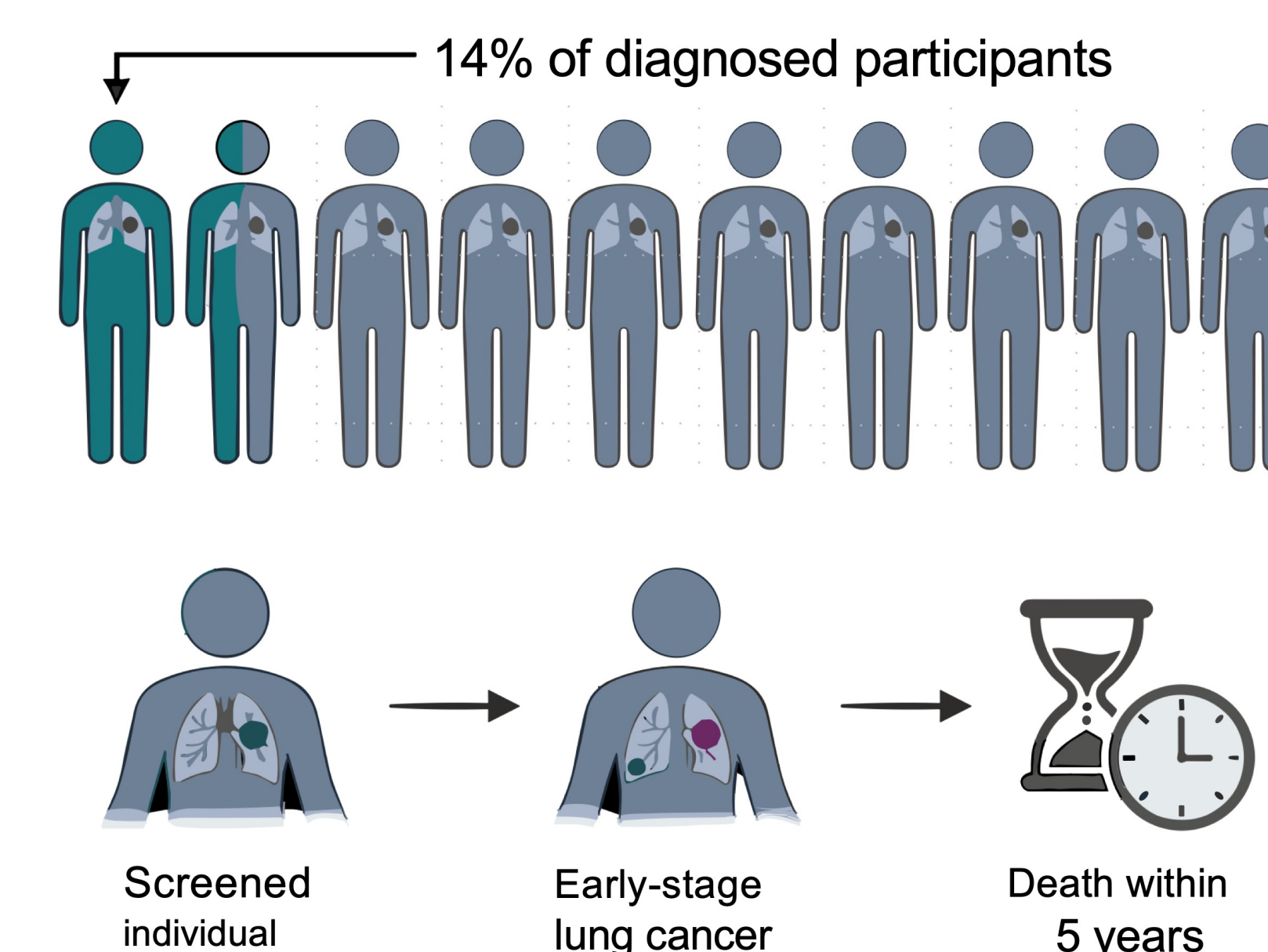
Over-screening

Enrolling individuals in lung cancer screening who have limited life expectancy (die within 5 years of enrollment).



Overdiagnosis

Participants diagnosed with early-stage lung cancer through screening but die within 5 years of diagnosis.



Cause of death for participants with screen detected lung cancer stratified by over-screening

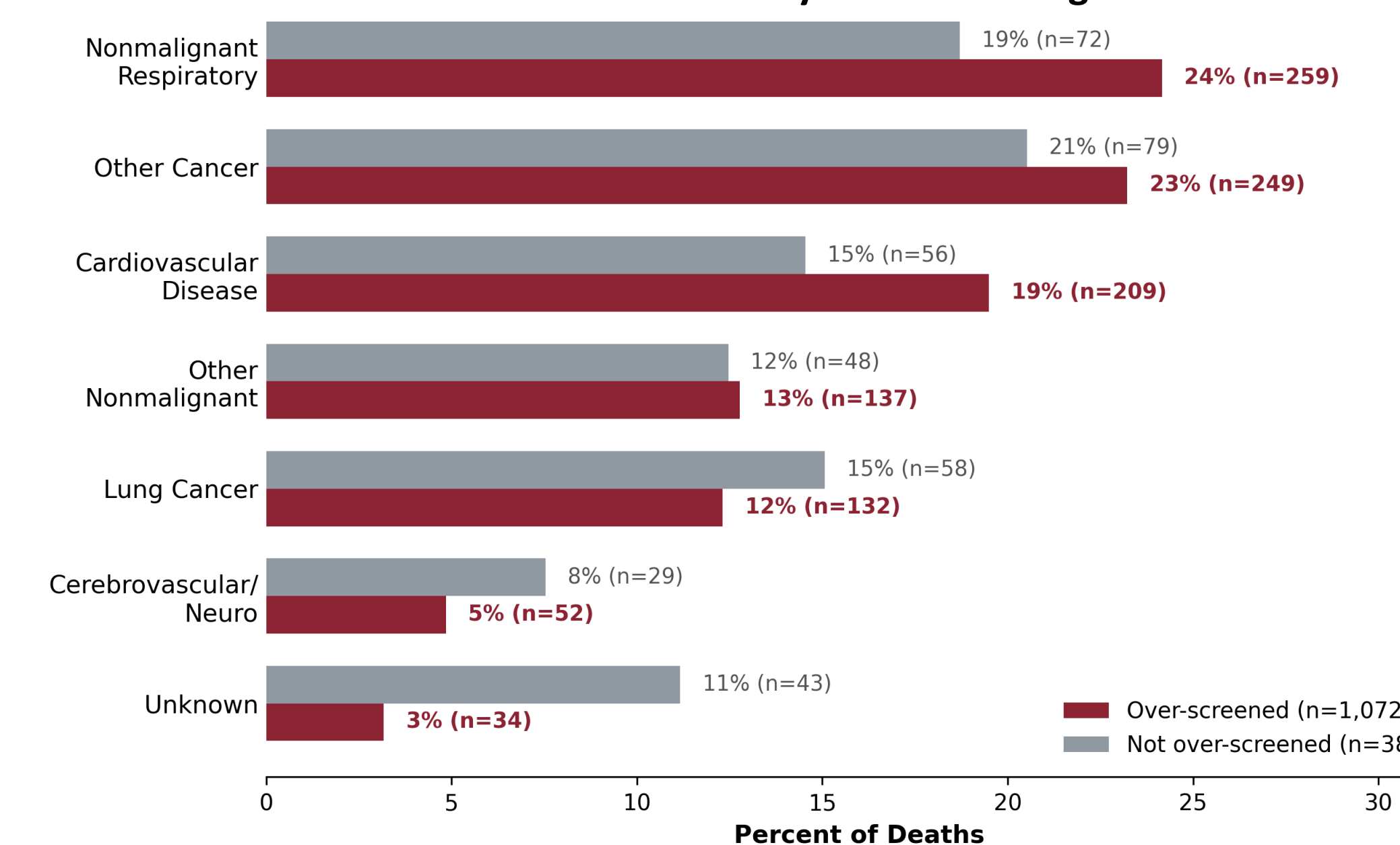


Figure 2. Non-lung causes accounted for most deaths in both groups

Factors associated with over-screening and overdiagnosis in lung cancer screening

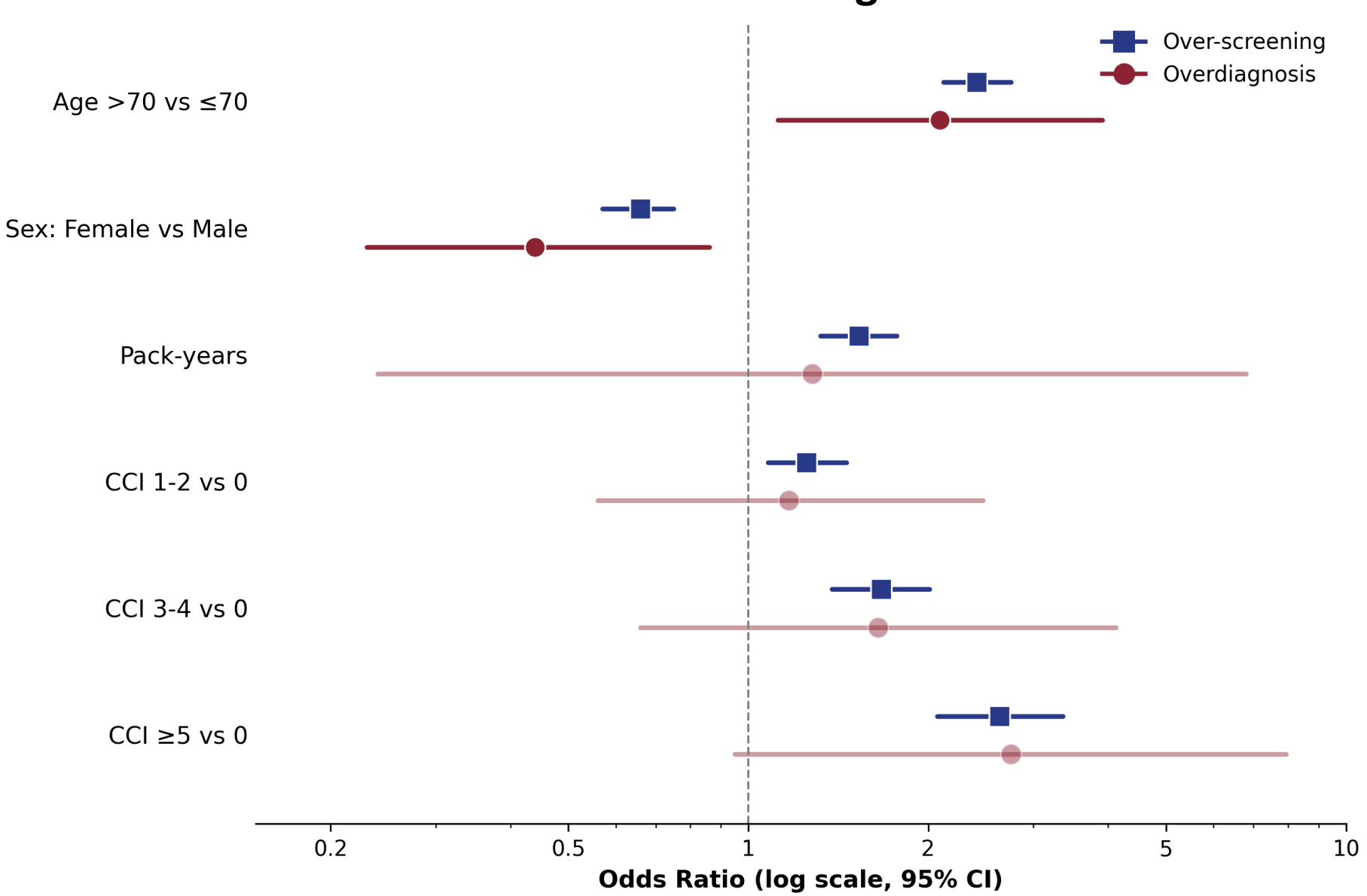


Figure 3. Odds ratios (95% CI) for over-screening and overdiagnosis