

P1.028: Potential Benefits and Harms of Lung Cancer Screening in Argentina



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INTRODUCTION

Argentina:

- Lung cancer is the leading cause of cancer mortality
- There is no official recommendation on lung cancer screening (LCS) in Argentina
- Experts' recommendations are based on the NLST criteria

Objective: project the potential benefits and harms of different national LCS strategies with low-dose computed tomography (LDCT) in Argentina

METHODS

Design: Modeling study

- Argentina’s version of CISNET’s lung natural history model, *LuCID-Sim*

We modeled 26 annual screening scenarios for the 1960 birth cohort, including:

1. NLST criteria:
 - Age 55–74
 - ≥ 30 pack-year smoking history
 - Currently smoke or ≤15 years since quitting (YSQ)
2. USPSTF 2021 criteria:
 - Age 50–80
 - ≥ 20 pack-year smoking history
 - Currently smoke or ≤15 years since quitting
3. American Cancer Society (ACS) 2023 criteria:
 - Age 50–80
 - ≥ 20 pack-year smoking history

RESULTS

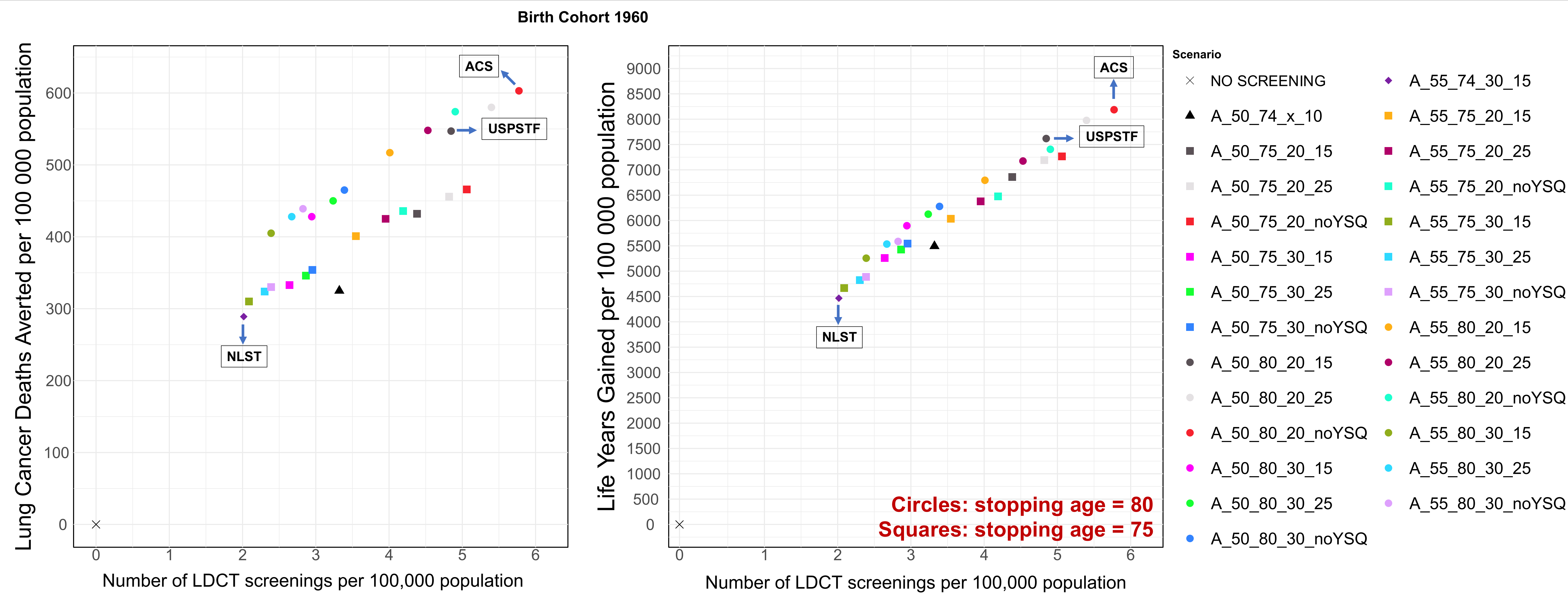


Figure 1: Number of LDCT screens versus number of lung cancer deaths averted (left panel) and versus the life-years gained (right panel). Scenarios represented as: A=annual screening; Age at screening initiation; Age at screening cessation; Minimum pack-years smoked to be eligible for screening; Maximum years since quitting smoking. A_50_74_x_10: NELSON study eligibility criteria.

NLST criteria

- 14.2% would be eligible for LCS
- 289 lung cancer deaths (LCD) averted and 4,466 life-years gained (LYG) per 100,000 population
- Relative reduction in lung cancer mortality: 7.7%
- 38 overdiagnosed cases per 100,000 population

USPSTF 2021 recommendation

- 25.2% would be eligible for LCS
- 547 LCD averted and 7,618 LYG per 100,000 population
- Relative reduction in lung cancer mortality: 14.6%
- 95 overdiagnosed cases per 100,000 population

ACS criteria

- 25.6% would be eligible for LCS
- 603 LCD averted and 8,187 LYG per 100,000 population
- Relative reduction in lung cancer mortality: 16.1%
- 107 overdiagnosed cases per 100,000 population

DISCUSSION AND CONCLUSION

- LCS could substantially reduce lung cancer mortality in Argentina
- At a given screening volume, extending screening to age 80 averted the most lung cancer deaths, followed by relaxing YSQ criteria
- However, these strategies increased overdiagnosis and resource use
- Lowering the starting age from 55 to 50 did not improve screening performance
- These findings support revisiting Argentina’s current LCS recommendation

REFERENCES & ACKNOWLEDGEMENTS



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Artificial Intelligence (AI) Use Disclaimer

No generative AI tools were used in the preparation of this poster.