

P1.335. Unequal Aging in Lung Cancer Survivors: Race, Place, and Post-Treatment Increases in Deficit Accumulation

Shuyan Qiu¹, Heejung Chae², Jiyu Sun³, Christine A. Garcia¹, Kui Son Choi^{3*}, **Eunji Choi^{1*}**

¹ Weill Cornell Medicine, New York, NY, USA. ² Seoul National University Bundang Hospital, Seongnam, South Korea ³ National Cancer Center, Goyang-si, South Korea *Equal contribution

Correspondence: euc4006@med.cornell.edu



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INTRODUCTION

Backgrounds

- Cancer treatment, including cytotoxic chemotherapy, is essential for disease control but causes unintended physical and cognitive decline and accelerate the accumulation of aging-related deficits and chronic conditions (Carroll JE, et al.)
- Whether post-treatment aging-related burden differs by race/ethnicity and neighborhood context remains poorly understood among lung cancer survivors.

Aims

- Evaluate longitudinal changes in aging-related deficit accumulation before and after treatment by race/ethnicity and neighborhood deprivation.

METHODS

Data: SEER-Medicare (2007-2020)

Outcome: 34-item deficit accumulation

- A validated approach to quantify aging-related multisystem clinical declines (Searle et al.; Kim et al.)
- Range (0-1), with a clinically meaningful increase defined as ≥ 0.02

Key exposures

- Race/ethnicity, and Asian subgroups
- Area deprivation index (ADI)

Method: Linear mixed-effects model

DISCUSSION AND CONCLUSION

Actionable Take Away Message

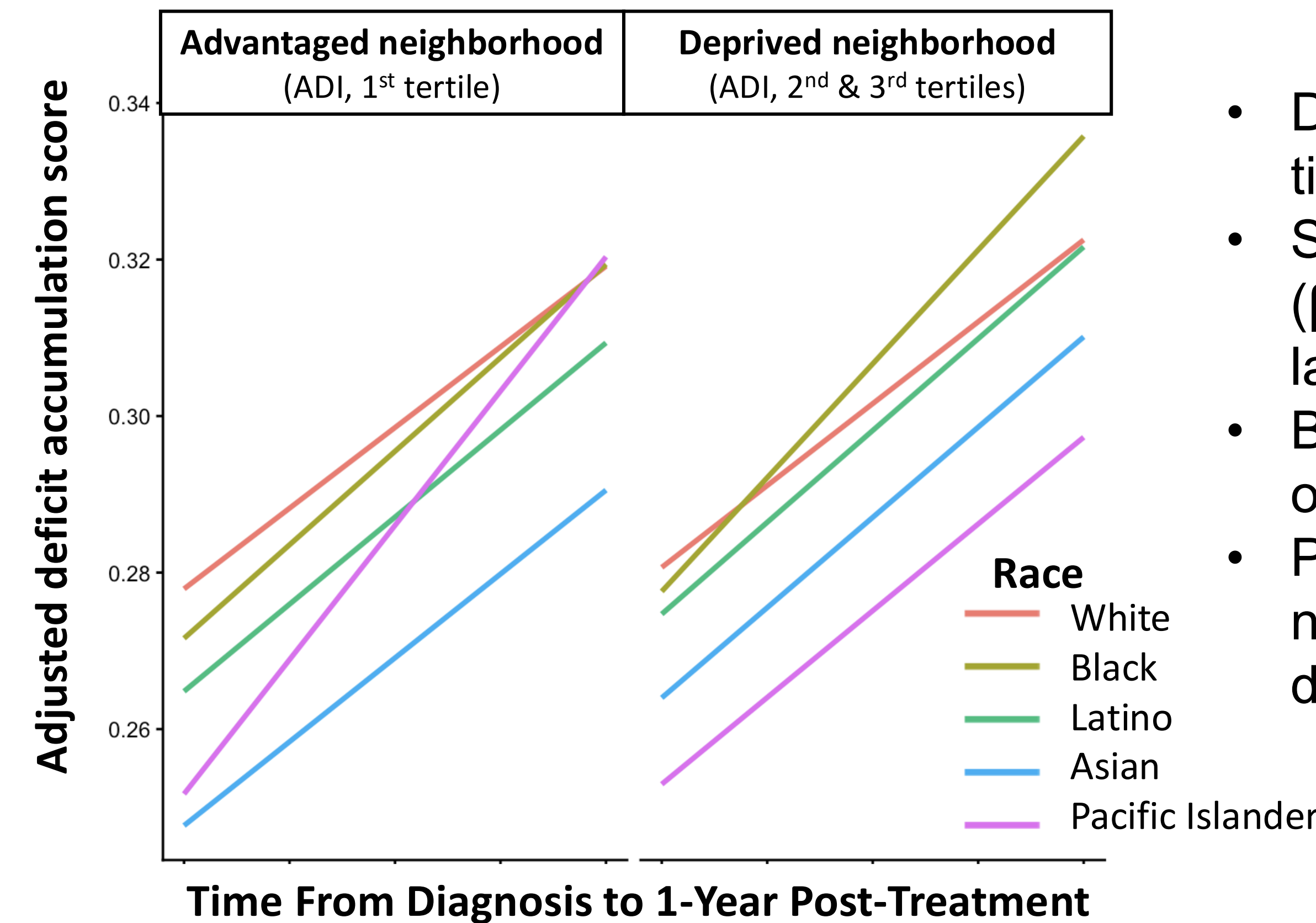
- Lung cancer diagnosis and treatment are associated with rapid increases in aging-related burden within one year.
- Racially minoritized individuals residing in more deprived neighborhoods accumulate significantly greater deficit after treatment, compounding pre-existing disadvantages and widening disparities at a critical survivorship window.

Future Direction for Research

- Understanding the clinical and contextual mechanisms underlying these disparities may inform tailored survivorship strategies to reduce aging-related burden and improve long-term outcomes among older lung cancer survivors.

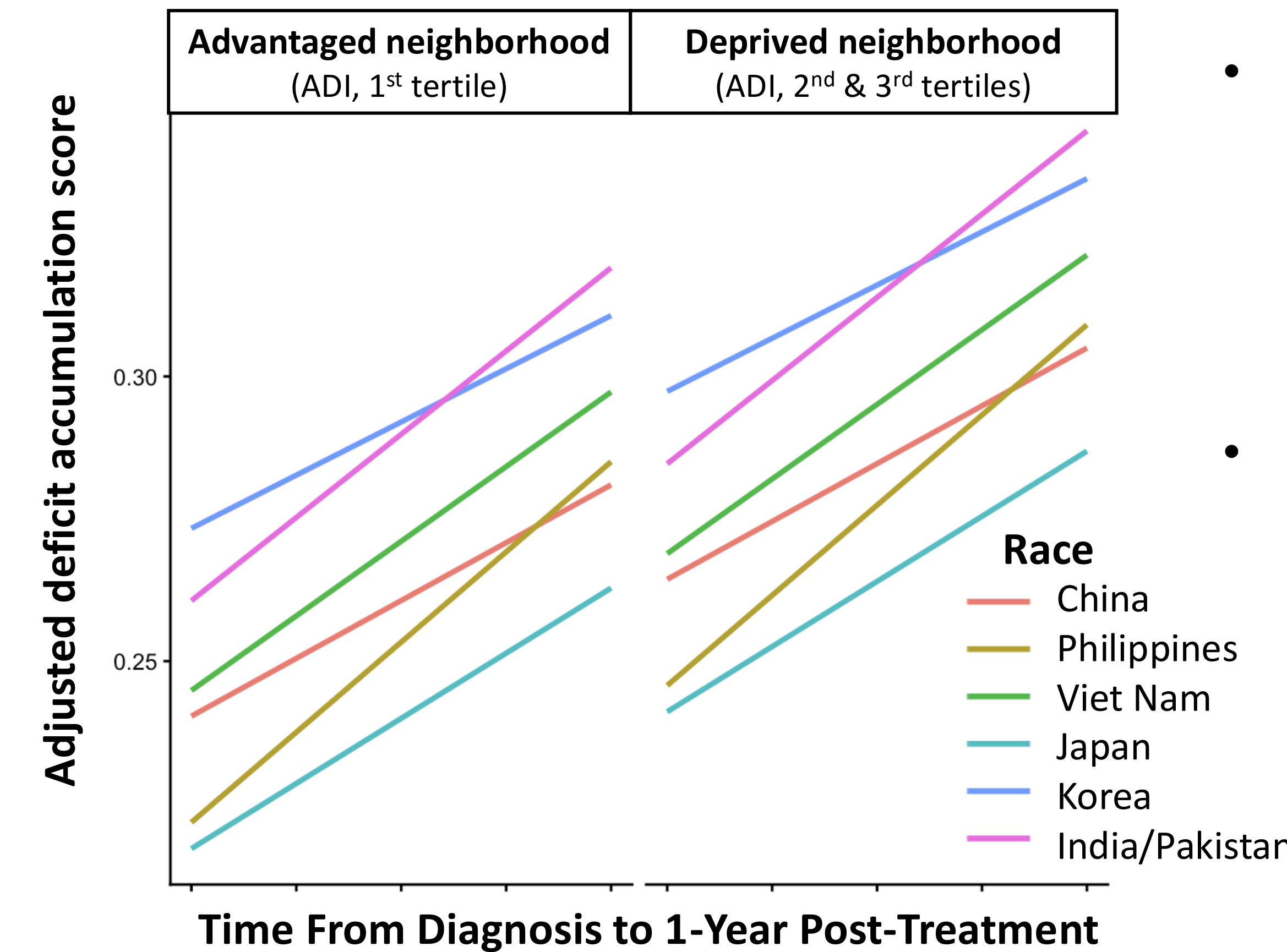
RESULTS

Fig 2. Longitudinal deficit accumulation among all lung cancer patients



- Deficit accumulation increased over time ($\beta=0.042$).
- Surgery ($\beta=0.057$) and chemotherapy ($\beta=0.053$) were associated with the largest increases.
- Black patients had greater increases over time ($\beta=0.015$).
- Patients residing in a more deprived neighborhoods showed higher overall deficit accumulation.

Fig 3. Longitudinal deficit accumulation among Asian American patients



- Within Asian subgroups, increases in deficit accumulation over time were most pronounced among Filipino ($\beta=0.023$), Indian/Pakistani ($\beta=0.018$), and Vietnamese ($\beta=0.012$) patients.
- Korean and Indian patients and those living in more deprived neighborhoods had higher overall deficit accumulation.

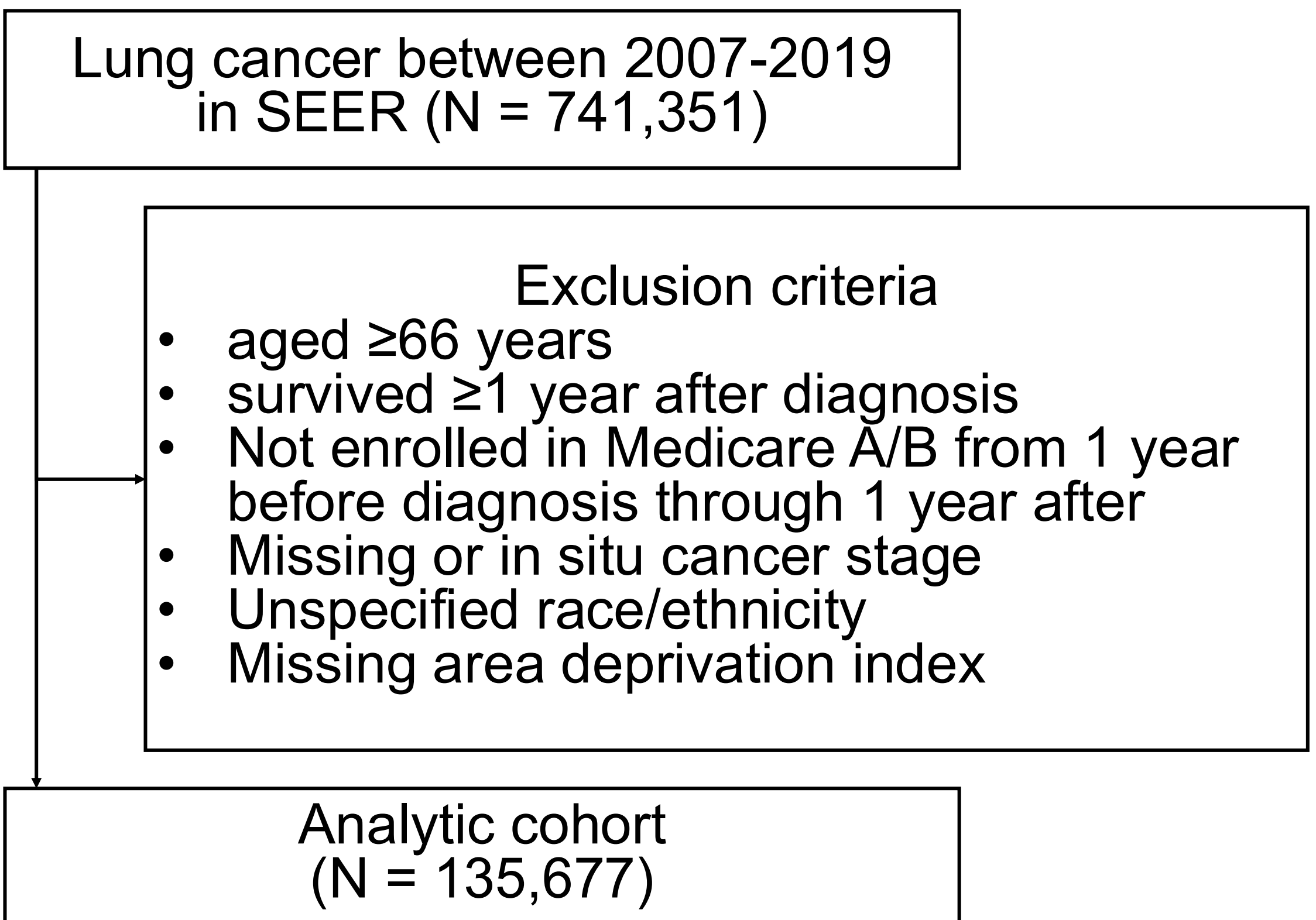


Fig 1. Flow diagram of cohort selection

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