

# The Uses and Applications of the Area Deprivation Index Penn Medical Ethics & HEALTH POLICY Amelia Becerra, COL '26 and Zion Abebe, COL '26 Faculty Advisor: Harald Schmidt, PhD Department of Medical Ethics and Health Policy, Perelman School of Medicine, University of Pennsylvania

### Introduction

- The COVID-19 pandemic exposed healthcare inequities regarding race, ethnicity, and income.<sup>1</sup>
- NASEM<sup>\*</sup> recommended the use of the Social Vulnerability Index (SVI), a disadvantage index from the CDC, for equitable allocation of COVID-19 vaccines.<sup>2</sup>
- Disadvantage indices (DIs), like SVI and the Area Deprivation Index (ADI), measure socioeconomic disadvantage through variables like income and education.<sup>3</sup> ADI scores range from 1-100 with higher values indicating greater disadvantage.
- Quick adoption and implementation of DIs resulted in a lack of understanding of their impact on reducing structural racism and discrimination.
- The purpose of our study was to extract the uses of SVI and ADI in published, peer-reviewed literature. This section of the study looks at ADI.

# **Methods**

- On PubMed, we ran a search for "Area Deprivation Index" in ALL FIELDS and filtered results by Most Recent (circa May 19<sup>th</sup>, 2023) and Full Text.
- An average of ten papers were analyzed weekly, with specific components of each being recorded based on the listed categories.
- Once both individuals completed their own data extraction, a "battleship" exercise took place to reconcile differences. End results were added to the ADI Master Extraction Sheet.
- Each paper was sorted on a Canva board using broad categories based on Columns O-S. The categories were further divided based on the primary area ADI was used in (or specific application).

#### Results

- As of now, we have looked at 80 papers but our research is ongoing.
- In the broad categories, we found:
  - 0 papers in "Natural Disaster"
  - 27 papers in "Other Public Health"
  - 5 papers in "COVID-19"
  - 40 papers in "Clinical Care"
  - 5 papers in "Methods"
  - 3 papers in "Other"
- We determined that 23 papers explicitly used ADI to look at racial disparities.

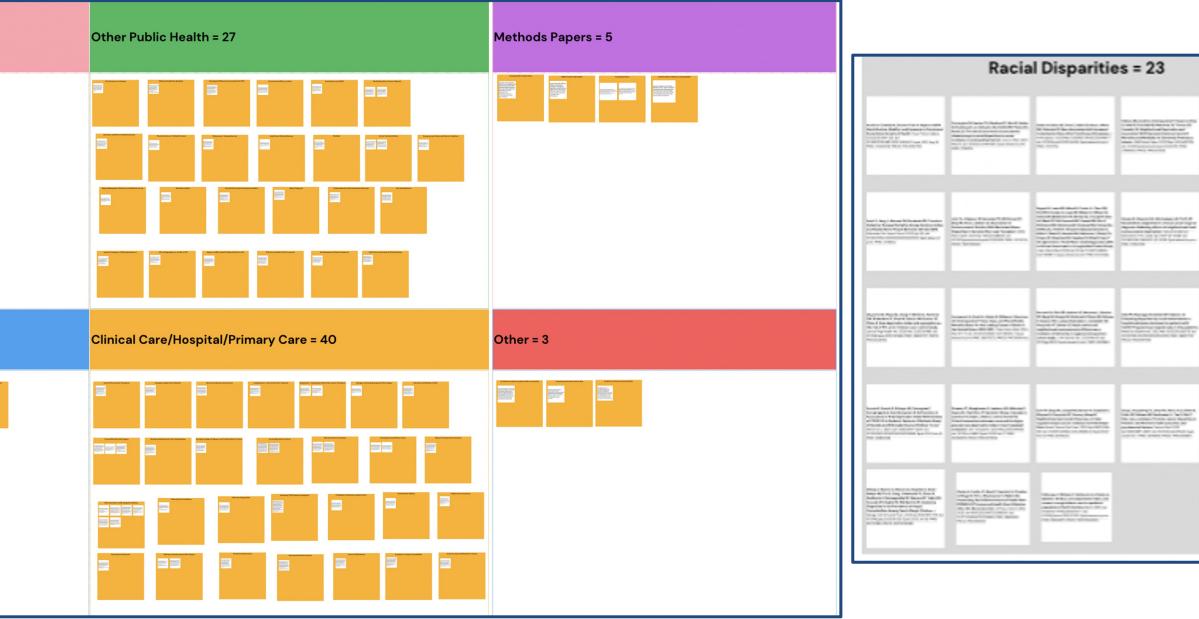
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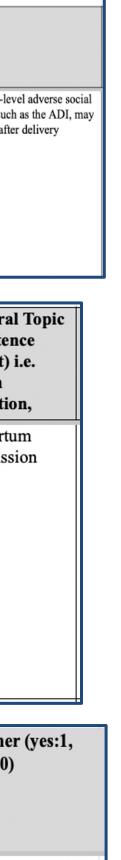
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ed entry about postpartum readmission in our ADI Extraction Tool.



**Above**: our Canva board with the sorted ADI papers, a separate category emphasizing racial disparities. The papers that provide direct interventions are marked by an asterisk.



## Conclusion

- It seems to be a common practice to use ADI in the clinical care or public health setting, as opposed to the other settings like natural disasters and COVID-19 where SVI is mostly used.
- Although race is not a variable directly measured by ADI, many studies use the disadvantage index to help capture racial and ethnic disparities.
- There was a significant increase in the use of ADI when looking at income or racial disparities over the past few years (even within the ten-week research period). This indicates the potential use of ADI in reducing structural racism and discrimination.

## References

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# Acknowledgements

- We would like to thank Dr. Harald Schmidt for his amazing mentorship and for the opportunity to work on this research project.
- We would like to acknowledge the Penn Undergraduate Research Mentorship (PURM) coordinators and the Center for Undergraduate Research and Fellowships (CURF) for funding this project and providing us with this invaluable experience.
- Lastly, we would like to thank our fellow student researchers -Max Brody and Aayush Kapri.