The Uses and Applications of the Area Deprivation Index

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Introduction

- The COVID-19 pandemic exposed healthcare inequities regarding race, ethnicity, and income.[1]

- NASEM[*] recommended the use of the Social Vulnerability Index (SVI), a disadvantage index from the CDC, for equitable allocation of COVID-19 vaccines.[2]

- Disadvantage indices (DIs), like SVI and the Area Deprivation Index (ADI), measure socioeconomic disadvantage through variables like income and education.[3] 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 19th, 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.
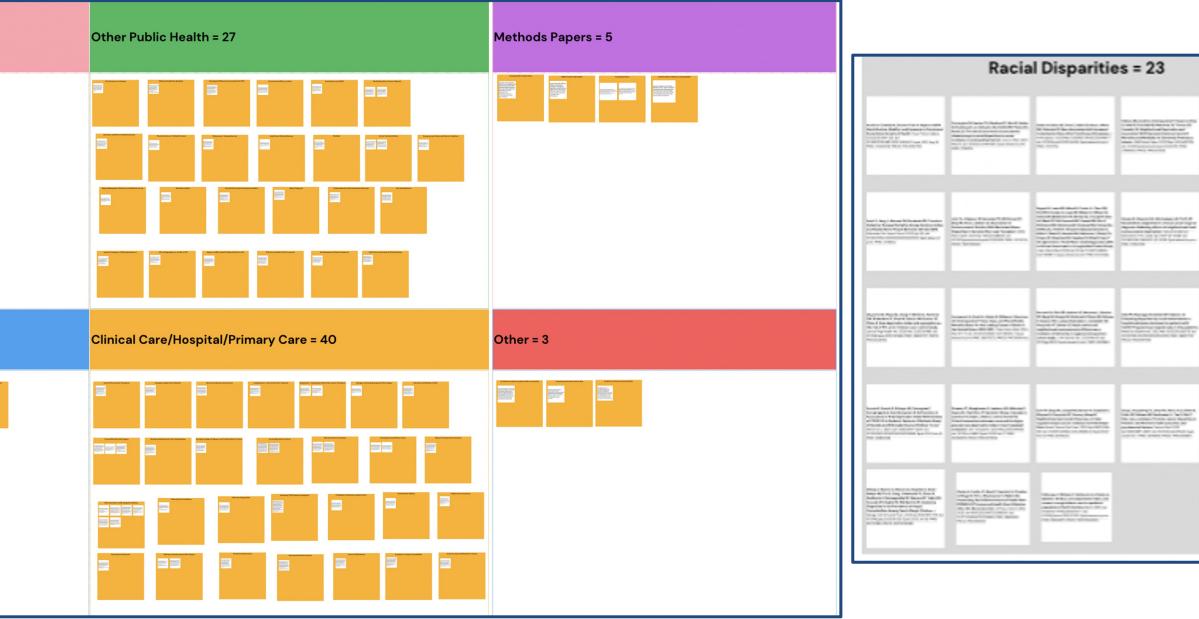

Above: a completed entry about postpartum readmission in our ADI Extraction Tool.

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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