

Purpose: Explore relationship of **sociodemographic factors** and **surgical timing** for patients with craniosynostosis

Background

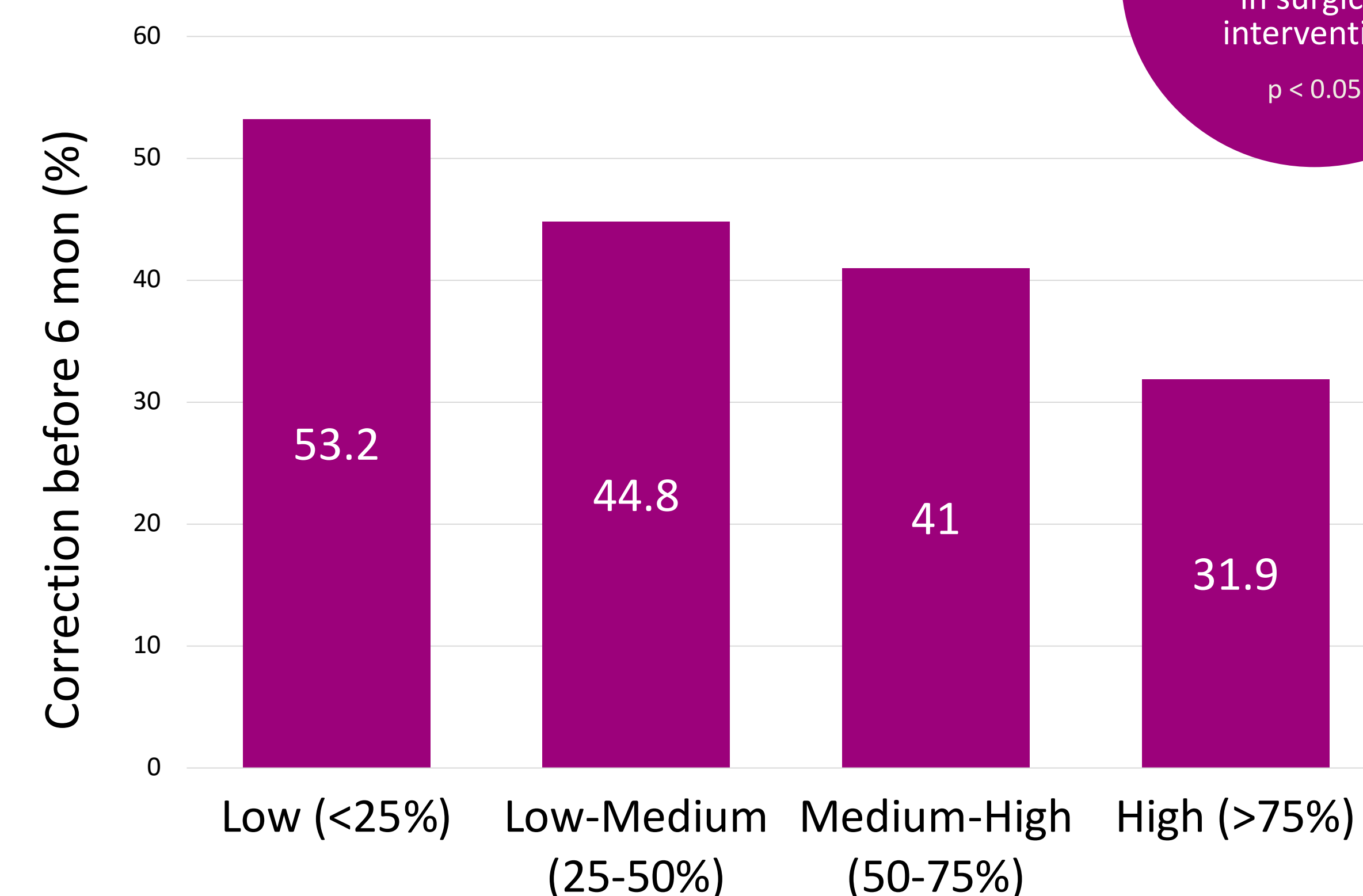
- Prompt identification of craniosynostosis expedites workup and interventions
- Sociodemographic factors may influence access to craniofacial care
- Early surgical correction of craniosynostosis is associated with minimally invasive approaches, smaller incisions, shorter operative time, decreased intra-operative blood loss, shorter hospital stay, faster recovery, fewer post-operative complications.

Methods

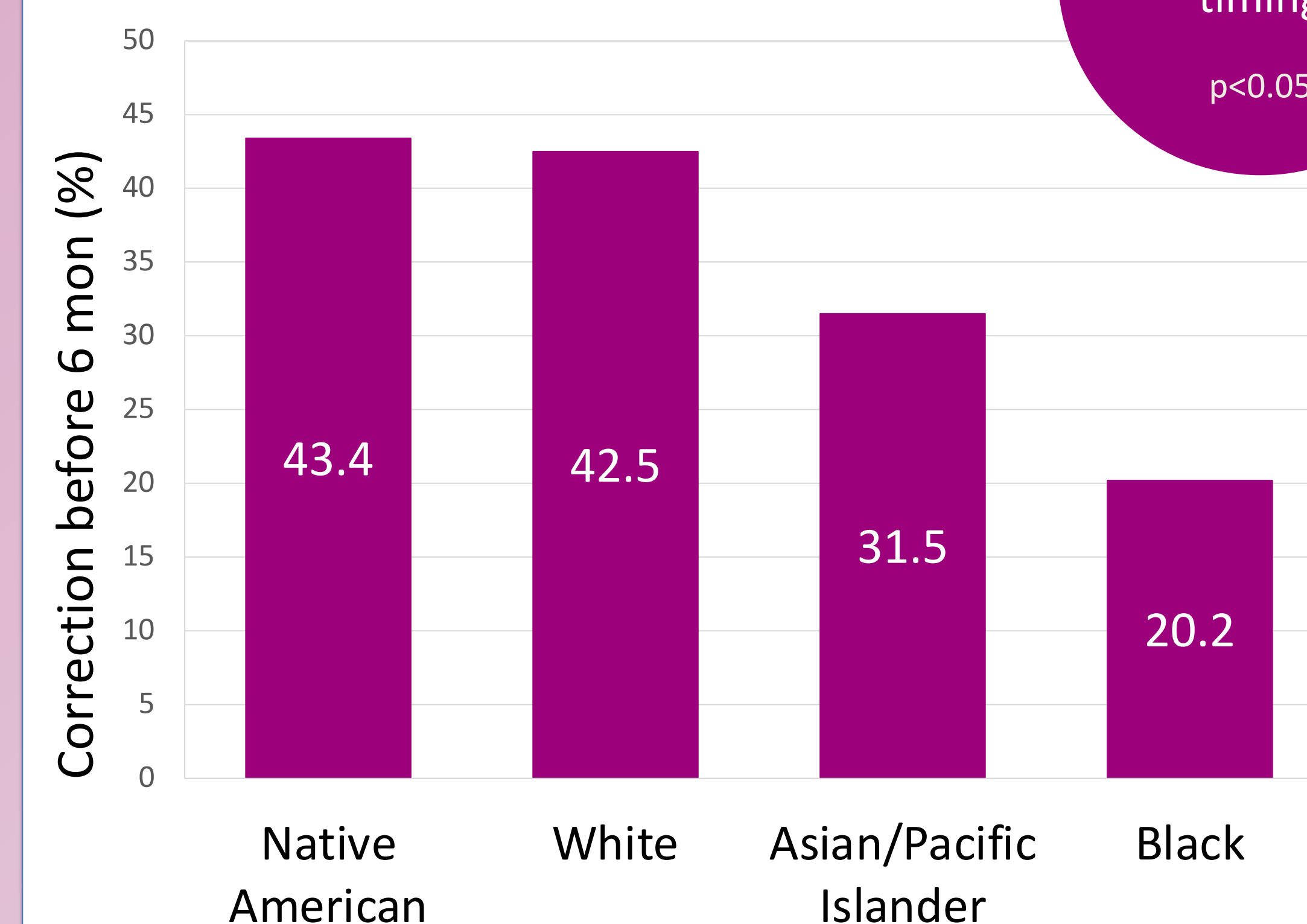
- Retrospective analysis of ***Epic Cosmos Data***, integrates deidentified patient records from Epic across the nation
- All patients from **2013 to 2023** with a history of craniosynostosis surgery (n = 3,571)
- Stratified by ***sociodemographic groups*** of interest
- Cohorts included surgical correction: ***before vs after*** 6 months of age.
- Analyzed with **χ^2 and Fisher's Exact Test**

Results

SVI and Surgical Timing



Race and Surgical Timing



Sociodemographic Groups

SVI

Low (<25%)
Low-Medium (25-50%)
Medium-High (50-75%)
High (>75%)

Race

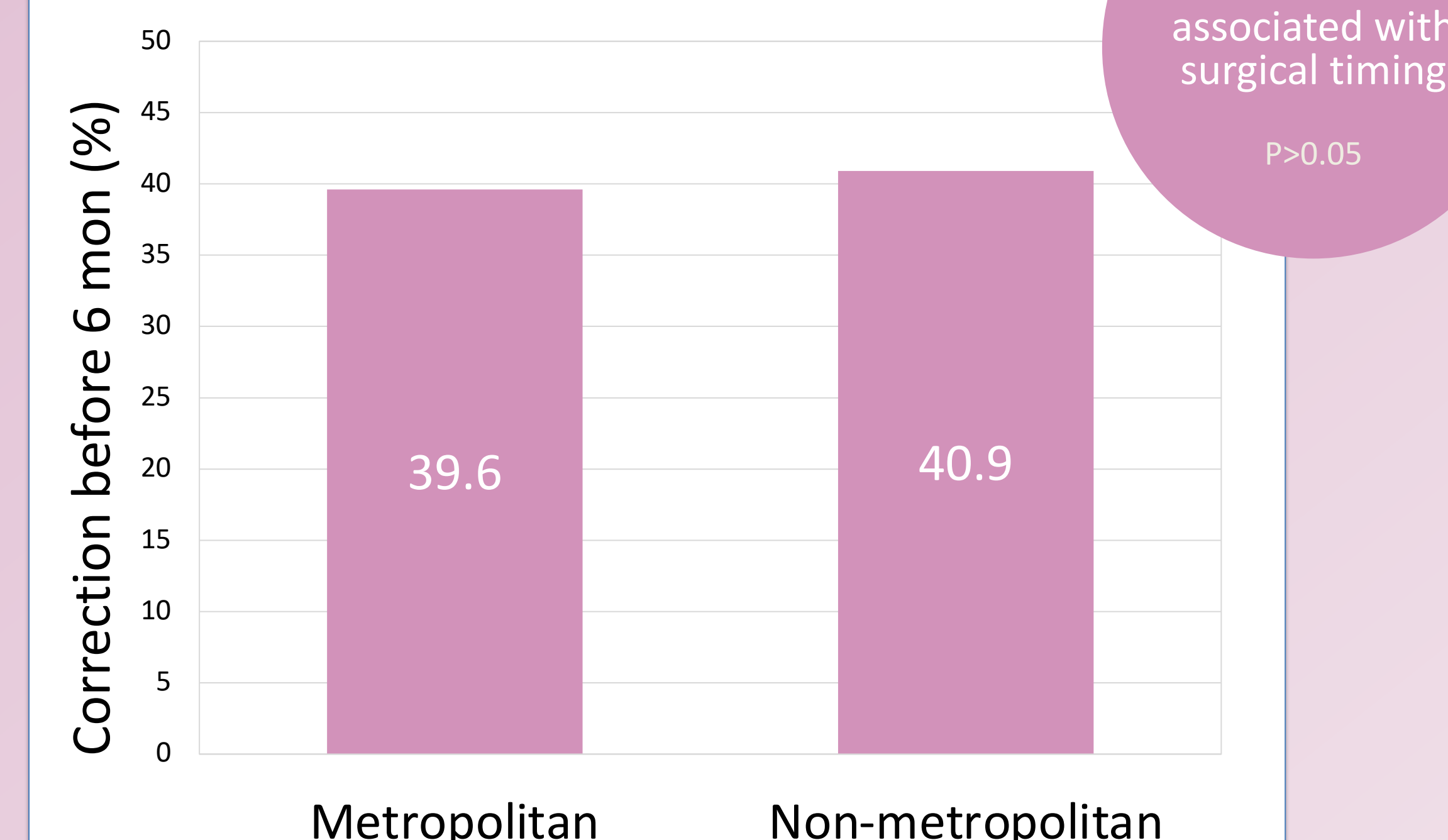
Black
White
Native American
Asian/Pacific Islander

Urbanicity

Metropolitan
Non-metropolitan

Social Vulnerability index (SVI) is a metric created by the CDC utilizing census data to quantify the vulnerability of communities to hazards such as adverse health events. This was grouped by quartile. Race was categorized as Black, White, Native American, and Asian/Pacific Islander. Urbanicity was defined by USDA rural commuting codes designated as metropolitan or non-metropolitan.

Urbanicity and Surgical Timing



Conclusion and Discussion

Social vulnerability index and ***race*** are associated with ***timing of craniosynostosis surgery***.

Earlier surgical correction of craniosynostosis, before 6 months of age, is associated with more favorable outcomes and fewer complications.

Targeted interventions to identify patients at risk for delays:

- Utilizing SVI as a screening tool
- Educating pediatricians and health care professionals in high-risk communities
- Easy referral patterns to ACPA teams
- Accessible communication with team coordinators
- Awareness of existing barriers to care

SVI-targeted interventions aim to identify existing community disparities and potential barriers to care that may impede early identification, timely referrals, and earlier surgical correction, with the ultimate goal of optimizing outcomes and mitigating potential complications for this patient population.