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"Barriers to preventative Cancer Screening in the Latina Population: A Multi-Dataset Analysis of All of Us and the Louisiana Tumor Registry"

Background: Latina women in the U.S face persistent disparities in cervical and breast cancer screening rates, often leading to delayed diagnoses and poorer outcomes. While structural barriers such as access to care and insurance status are well documented, recent studies highlight the role of language barriers to screening uptake. The NIH *All of Us* Research Program provides a unique dataset of biological, clinical, and social data from over one million participants. This examines these barriers nationally using *All of Us* and compares trends with tumor stage at diagnosis from the Louisiana Tumor Registry (LTR) to evaluate external validity and uncover region-specific disparities.

Hypothesis: Latina participants will report more cultural and language barriers and lower screening rates, correlating with later stage cancer diagnoses in the LTR data.

Methods: Latina and non-Latina participants were stratified by EMR-documented screening procedures (Pap smears, mammograms), which were identified using ICD and CPT codes. Language barriers were identified from *All of Us* survey responses. Language barriers include speaking a non-English language at home. Screening patterns in *All of Us* were compared to stage at diagnosis data in the LTR for Latina patients to assess consistency between national and regional outcomes. We will cross tabulate screening uptake by barrier status to evaluate whether reported barriers are associated with lower screening rates. Barriers and screening outcomes will be analyzed using Poisson regression in Python to adjust for age, language, and insurance status.

Results: Latina women had significantly lower breast and cervical cancer screening rates compared with White and Black women. Language barriers were associated with significantly lower cervical cancer screening uptake ($p=0.002$), while breast cancer screening differences by language status were not statistically significant. Cancer incidence did not differ significantly by language status, though there was a possible trend toward higher cervical cancer incidence among women with language barriers. The LTR data showed breast cancers were more likely to be regional at diagnosis. Cervical cancers more often localized but has the highest unstaged rates, indicating disparities in diagnostic workup and quality of care.

Conclusion: This study may help clinicians better understand and address sociocultural barriers to care, informing, targeted interventions to improve cancer screening and outcomes in Latina populations.