

Background

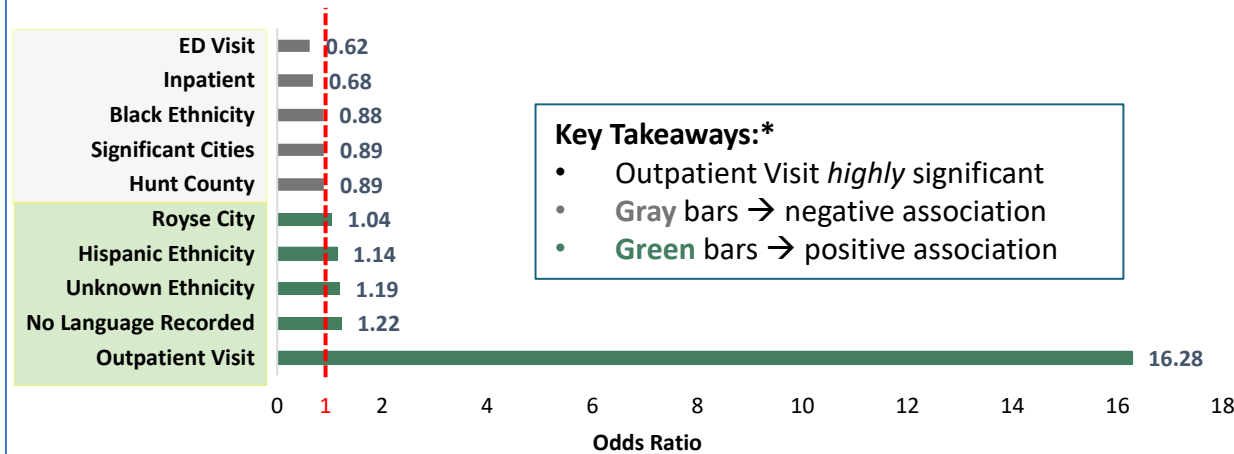
- ❖ Prenatal and postpartum visits are integral to ensuring the health of mother and child during and after pregnancy
- ❖ However, over half of the patients served by PCHP during a two-year period did not attend a prenatal or postpartum visit per HEDIS standards, respectively
- ❖ Identifying at-risk patients is therefore crucial to better serving the patient population
- ❖ **Objective:** Develop two risk predictive models to identify the likelihood of prenatal and postpartum visits (per HEDIS parameters)

Methods

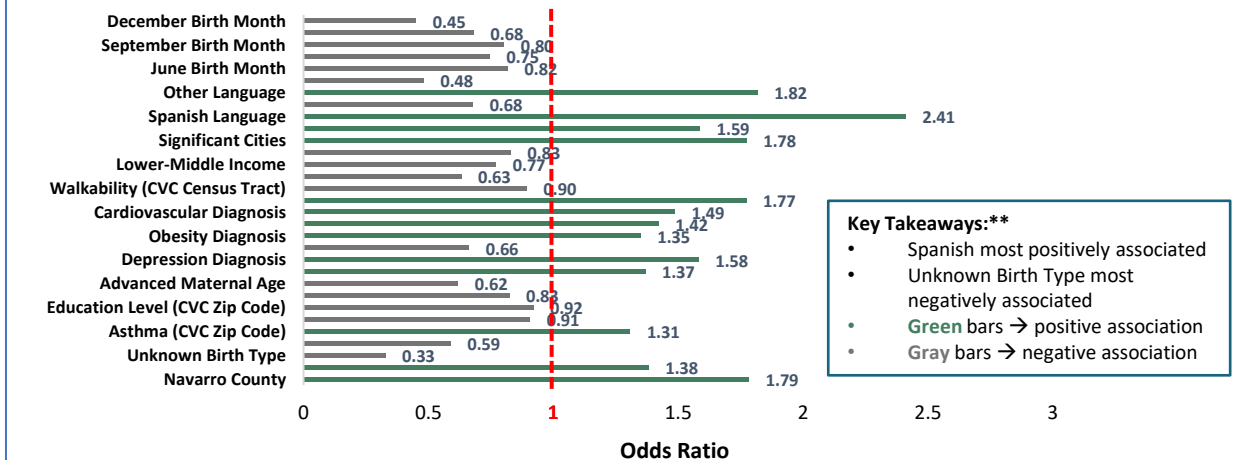
- ❖ **Data Sources:** Parkland Community Health Plan (PCHP) Claims, Member Demographics, Member Enrollment, & PCCI's Community Vulnerability Compass (CVC)
- ❖ **Outcomes:** Whether a patient attended a prenatal visit (prenatal model) or a postpartum visit (postpartum model)
- ❖ **Timeline:** Jan. 1, 2023 - Dec. 31, 2024
- ❖ **Study Design:** Observational study
- ❖ **Analysis:** Statistical and machine learning models, including Principal Component Logistic Regression & Logistic Regression

Actionable Data-Insights & Visualizations

Top Positive and Negative Contributing Features to Prenatal Visit Attendance



Significant Features Contributing to Postpartum Visit Attendance



Results

- ❖ 55% of patients had no prenatal visits within 42 days of eligibility (16,831 out of 30,602)
- ❖ 58% of patients had no timely visits within 7-84 days postpartum (13,231 out of 22,812)
- ❖ Of 22,241 patients overlapping between cohorts, only 16% (3,573) had at least one timely prenatal or postpartum visit
- ❖ Prior outpatient visits and language were strongest features associated with timely prenatal and postpartum visit, respectively
- ❖ Prenatal model performed better
- ❖ **Next Steps:** Examine new features and models to improve accuracy

Selected Models

Cohort	Model	Accuracy
Prenatal	Principal Component Logistic Regression	84.45%
Postpartum	Logistic Regression	63.66%

*Significant Cities (prenatal): Anna, Balch Springs, Caddo Mills, Campbell, Commerce, Fate, Forney, Greenville, Heath, Italy, Kaufman, Mesquite, Quinlan, Rockwall, Royse City, Scurry, Seagoville, Sunnyvale, Terrell, Wolfe City, Wylie
 **Significant Cities (postpartum): Allen, Anna, Ferris, Josephine, McKinney, Melissa, Royse City, Wolfe City