Association Between Mobile Clinic Use and Patient Health and Demographic Characteristics

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Background

- Amid the COVID-19 pandemic, the need to avoid an influenza and COVID-19 "twindemic" led to the deployment of socially distanced, **drive-through mobile vaccination clinics.**
- However, few studies have determined **whether social determinants of health (SDOH) influence the use of mobile drive-through clinics vs static clinics for immunizations in children.**

Objectives

The aims of this study were to:
1. Describe the demographic and clinical distribution of pediatric patients who sought immunizations in drive-through mobile vaccination clinics compared to traditional, static clinics, and
2. Determine whether the use of mobile immunization clinics were associated with social determinants of health.

Study Design and Methods

- **Retrospective Cohort Study**
- **Setting** Static and mobile clinics across Orange County (3 mobile clinics and 3 traditional, static clinics).
- **Study Population:** 8,266 pediatric (age ≤ 18) patients: 149 immunizations in mobile clinics, 8,117 immunizations in static clinics
- **Study Timeline:** 8/1/2020 to 12/31/2020
- **Data Collection**
  - Data were collected from patient charts on demographic characteristics such as age, sex, race, ethnicity, main spoken language, and insurance type.
  - **SDOH was measured using Child Opportunity Index (COI) 2.0**
- **Statistical Analysis**
  - **Logistic regression** was used to examine potential associations between neighborhood level characteristics, and whether the immunization was received in a mobile or static clinic.
  - **Chi-square analysis** was used to ascertain odds ratios and confidence intervals for the associations between demographic characteristics and type of clinic.
  - Significance was set at $p < 0.05$.
  - The study was approved by our institution's IRB.

Citations

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Results
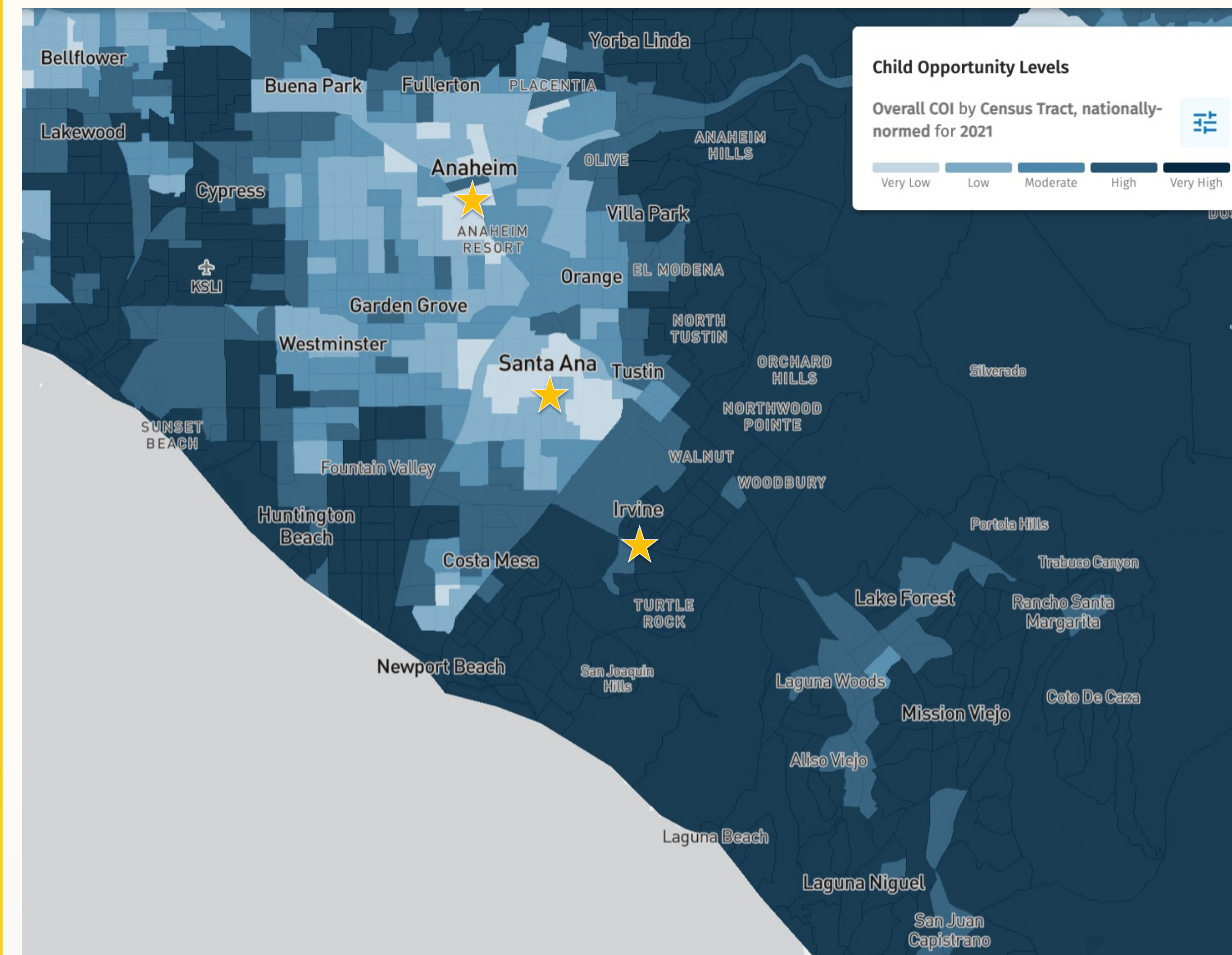
Top image: Distribution of COI scores across Orange County area. From: Diversitydatakids.org. (n.d.). Maps: Diversity data kids. Data for a Diverse and Equitable Future. https://www.diversitydatakids.org/maps/#/explorer/tracts/0/21/12,17,21//xc/n/3.0.0/33.639/-118.103/10.06/

	Mobile Clinic	Static Clinic
White	43.7%	68.9%
Black	1.09%	1.93%
Hispanic	21.3%	75.2%
Primarily Spanish-speaking	1.63%	36.9%
Public insurance	8.2%	84.2%
Commercial insurance	91.3%	15.6%

Table 1. Proportion of pediatric patients seeking care at mobile vs static clinics by age, race, ethnicity, main spoken language and insurance type.

- A smaller proportion of pediatric patients who were Hispanic, Spanish-speaking, and enrolled in public insurance plans received immunizations at mobile (vs static) clinics.
- Less likely to obtain vaccines through mobile clinics were those who identified as:
  - Black (OR 0.215; 95% CI -1.60, 2.03) relative to Caucasian patients
  - Hispanic (0.0626; -0.00135; 0.127) relative to non-Hispanic patients
  - Primary language was Spanish (0.00911; -0.0356; 0.0538)
  - On public insurance (0.00977; -0.00437; 0.0239) versus commercial insurance
- **Additionally, those who lived in the most disadvantaged neighborhoods were the least likely to obtain vaccines at the mobile clinics (OR 0.635; 95% CI 0.619, 0.651).**

Conclusion and Next Steps

- **The study demonstrates that pediatric patients who lived in more disadvantaged neighborhoods were less likely to receive vaccinations at mobile clinics.**
- Additional work is needed to identify why mobile immunization clinics were highly skewed towards those who lived in more advantaged areas.