Congenital syphilis indicators in Texas: County-level characteristics

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INTRODUCTION

- Congenital Syphilis (CS) is a bacterial infection passed from a pregnant mother to her child during fetal development or delivery. CS is preventable through early identification of maternal infection and treatment with antibiotics.
- Recent statistics have reflected increasing rates of CS cases across the United States, with Texas leading the country since 2018. National studies suggest social determinants of health (SDOH) contribute to CS case rates, but none have yet captured these complex factors within Texas.

METHODS

- **Inclusion Criteria:** Texas counties with at least five reported CS cases in 2022.
- **Statistical Analysis:** Linear regression and Pearson Correlation were performed for CS case rates in counties that met inclusion criteria and SDOH prevalence (%) including the proportion residents uninsured, with income below the federal poverty level, less than high school education, unemployment rate, and maternal prenatal care uptake of mothers to CS newborns.

DATA COLLECTION

- Data were compiled from three secondary databases (Texas Department of State Health Services Health Data, the Center for Disease Control and Prevention's AtlasPlus, and National Institute on Minority Health and Health Disparities' HDPulse) for selected Texas counties.

Congenital Syphilis rates in Texas are directly related to factors outside of medical/clinical/ prenatal care alone, highlighting the need for improved resources for women.

Interventions to reduce CS prevalence must go beyond the provider's office.

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RESULTS

- Significant association was identified between CS rates and proportion of the associated county reporting food insecurity ($r = 0.578$, $p < 0.001$), living below the federal poverty level ($r = 0.323$, $p < 0.01$) and educational attainment below a high school diploma ($r = 0.448$, $p < 0.05$).

	Pearson Correlation	p-value	Mean (SD)
% Uninsured	0.323	.076	20.277 (5.609)
% Below Poverty	0.499	.004**	16.3741 (5.821)
% Received Prenatal Care	-1.03	.580	4.668 (7.296)
% Food Insecurity	0.578	<0.001***	17.742 (2.675)
% Less HS Education	0.448	0.011*	14.261 (7.219)
% Unemployed	-.114	.543	5.006 (1.324)

CONCLUSION

- Counties with reported food insecurity, high proportion of residents living below the federal poverty level, and average educational attainment below a high school diploma should be prioritized for community improvement and public health programming efforts.

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