

Background

- Access to healthcare is fundamental for cancer prevention, diagnosis and treatment.
- Multiple barriers reduce access, including provider shortages, financial constraints/lack of insurance, inconvenient service hours and stigma/bias based on race, ethnicity, and gender, as well as geographic barriers.
- Geographic barriers to healthcare often intersect with sociodemographic factors.
- New Mexico, a largely rural/frontier state and a majority-minority state, with a much larger proportion of Hispanic or Latino and American Indian/Alaska Native population than average in the United States, provides a unique opportunity to investigate the interactions between geographic access and sociodemographic factors.

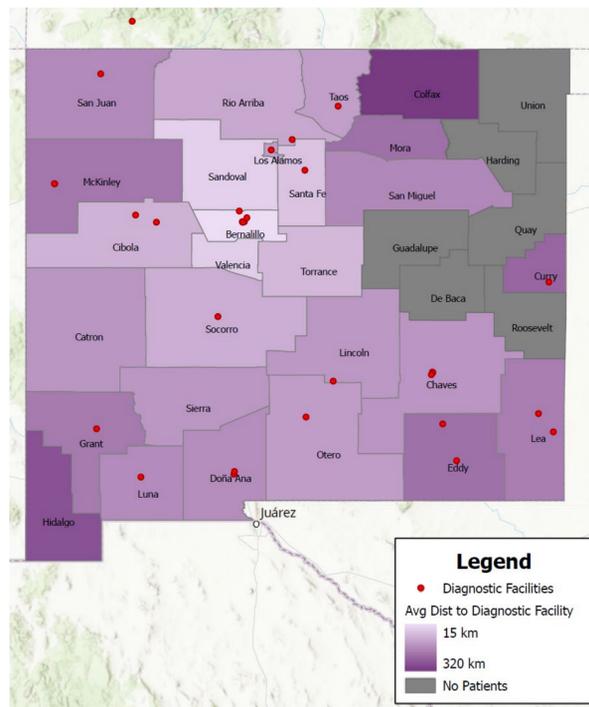


Figure 1: Average driving distance to diagnostic facilities

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Methods

- New Mexican women with malignant endometrial cancer (ICDO-3 code C54.1) diagnosed between 2018-2022 were identified from the New Mexico Tumor Registry. We extracted cancer specific characteristics, along with patient demographics, residential address, and diagnostic facilities.
- The primary endpoint was stage at diagnosis, categorized as early-stage (localized) vs late-stage (regional and distant).
- Patient residential address and cancer diagnostic facility address were geocoded, and driving distance and travel time between them were estimated using the Route Analysis tool in the Network Analyst package in ArcGIS.
- We used logistic regression models to investigate whether longer driving distance or travel time to diagnostic facility was associated with late-stage endometrial cancer diagnoses.

Results

- 982 women diagnosed with early-stage (n=711, 72.4%) or late-stage (n=271, 27.6%) endometrial cancer had complete residential and diagnostic facility addresses for geocoding.
- Those with late-stage disease were more likely to be older and have high-risk disease (endometrioid grade 3, serous carcinoma, clear cell carcinoma, or carcinosarcoma).
- Mean travel distance was 77.8km (sd=108.9km) and 74.6km (sd=108.8km) for early and late-stage disease, respectively. The mean travel time was 50.7 minutes (sd=60.4 minutes) and 48.3 minutes (sd=59.3 minutes), respectively.

Table 1: Odds ratios for late-stage endometrial disease at diagnosis by driving distance to diagnostic facility

	Driving distance	OR (95%CI)	P-value
	<10 km	ref	
	10-75 km	0.94 (0.64, 1.37)	0.732
	>75 km	0.98 (0.64, 1.52)	0.936

Model adjusted for age, race/ethnicity, insurance status, and marital status

Table 2: Odds ratios for late-stage endometrial disease at diagnosis by travel time to diagnostic facility

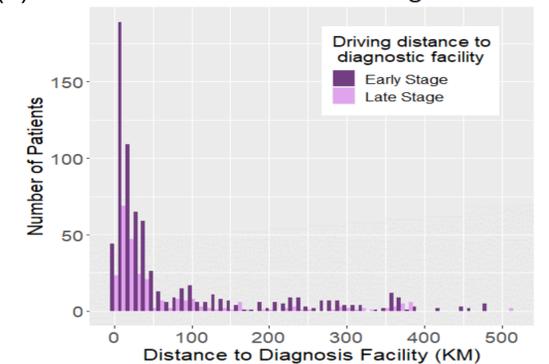
	Travel time	OR (95%CI)	P-value
	<30 mins	ref	
	30-90 mins	1.08 (0.76, 1.51)	0.654
	>90 mins	0.94 (0.63, 1.40)	0.749

Model adjusted for age, race/ethnicity, insurance status, and marital status

Conclusions

- Driving distance or travel time to a diagnostic facility were not associated with later-stage endometrial cancer for women in New Mexico.
- As rural populations experience poorer cancer outcomes and survival, future work will examine associations between travel distance and time to cancer specialists and treatment facilities.

(a) Distribution of Distance to Diagnosis Facility



(b) Distribution of Drive Time to Diagnosis Facility

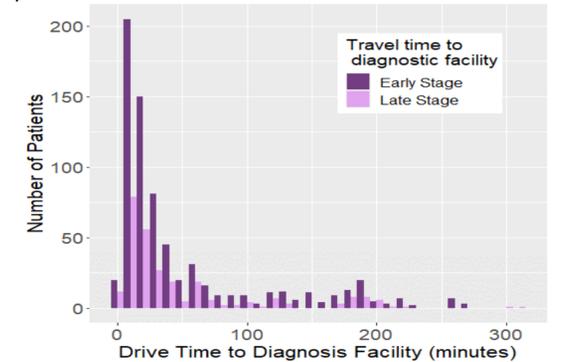


Figure 2: Histogram of (a) driving distance and (b) travel time between residential address and diagnostic facility by stage at diagnosis

