

Using Vascular Deserts as a Guide for Limb Preservation Outreach Programs Successfully Targets Underserved Populations

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BACKGROUND

Vascular deserts, defined as regions without vascular providers, were previously described as outreach targets for limb salvage efforts in chronic limb-threatening ischemia. CHAMPIONS programs (Comprehensive Heart and Multidisciplinary Limb Preservation Outreach Networks) bring care to patients. With desert maps as a guide, we targeted regions for outreach events and evaluated the population.

METHODS

1. Collected demographic information and risk factors for PAD and CVD at two health fairs in 2022-2023.
2. Vascular surgeons in VQI modules and patient population mapped using ArcGIS
3. Health Places Index overlayed and social determinants of health in geographic units (MSSA)
4. Data compared to prior statewide vascular desert data.

RESULTS

- 27% no PCP
- 30% DM (10% undiagnosed)
- 38% HTN (40% undiagnosed)
- 21% w/ claudication sx
- 81% income < 200% poverty line
- MSSA region more disadvantaged in all HPI domains (education, transportation, financial)

DISCUSSION

In care deserts, population is more disadvantaged across all domains and at-risk for PAD and CVD. Further efforts include targeting these populations for limb-salvage efforts.

ACKNOWLEDGEMENTS

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Among disadvantaged populations in vascular desert regions, there are even more disadvantaged groups in more desperate need of care.

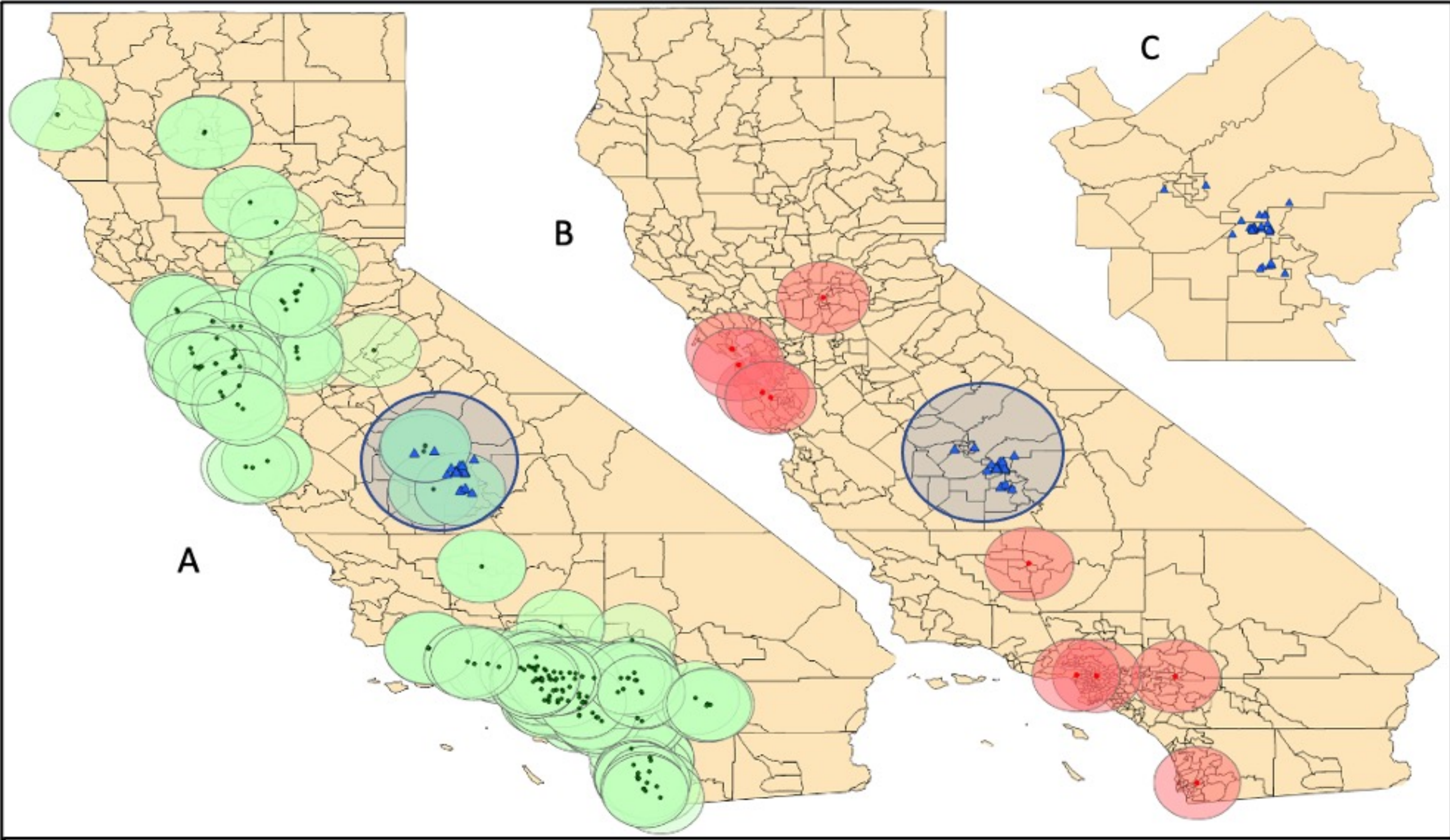


Figure 1: Maps demonstrating locations of patient program participants (blue triangles) compared to vascular surgeons (A, green dot with surrounding buffer) and VQI facilities (B, red dot with surrounding buffer). Specific MSSAs used for analysis were those included within buffer zones of vascular surgeons in the region and are those highlighted by the blue circles (C).

Table 1: Social factors and population composition of residents in deserts versus program-specific MSSAs.				
	Non-Deserts (%)	Statewide Vascular Deserts (%)	Pilot Program MSSAs (%)	P Value
Population Data (Census Tract Data)				
White	55.0	75.6	27.88	p<.001
Asian	10.3	10.3	2.88	p<.001
Hispanic	37.1	36.0	67.85	p<.001
Black	13.4	7.4	0.84	p<.001
200% below poverty level	35.2	39.6	83.21	p<.001
Healthy Places Index Factor Data*				
Overall HPI Percentile	52.68	43.12	19.19	p<.001
Economic Percentile	52.31	38.35	18.27	p<.001
-Mean Income Percentile	51.67	40.62	19.19	p<.001
Education Percentile	52.10	38.46	21.41	p<.001
-Percentage >25 completed college	52.25	38.22	16.21	p<.001
Healthcare Access Percentile	49.86	46.00	25.04	p<.001
Transportation Percentile	51.65	39.92	30.43	p<.001
*The HPI is a percentile derived from a score composed of 25 individual factors in 8 domains related to social determinants of health: economy, education, healthcare access, housing, neighborhoods, clean environment, transportation, and social environment. A higher percentile corresponds to healthier community conditions.				