

How we fight for health equity. A novel approach to mobile screening and patient education in rural communities: Mammography and beyond.

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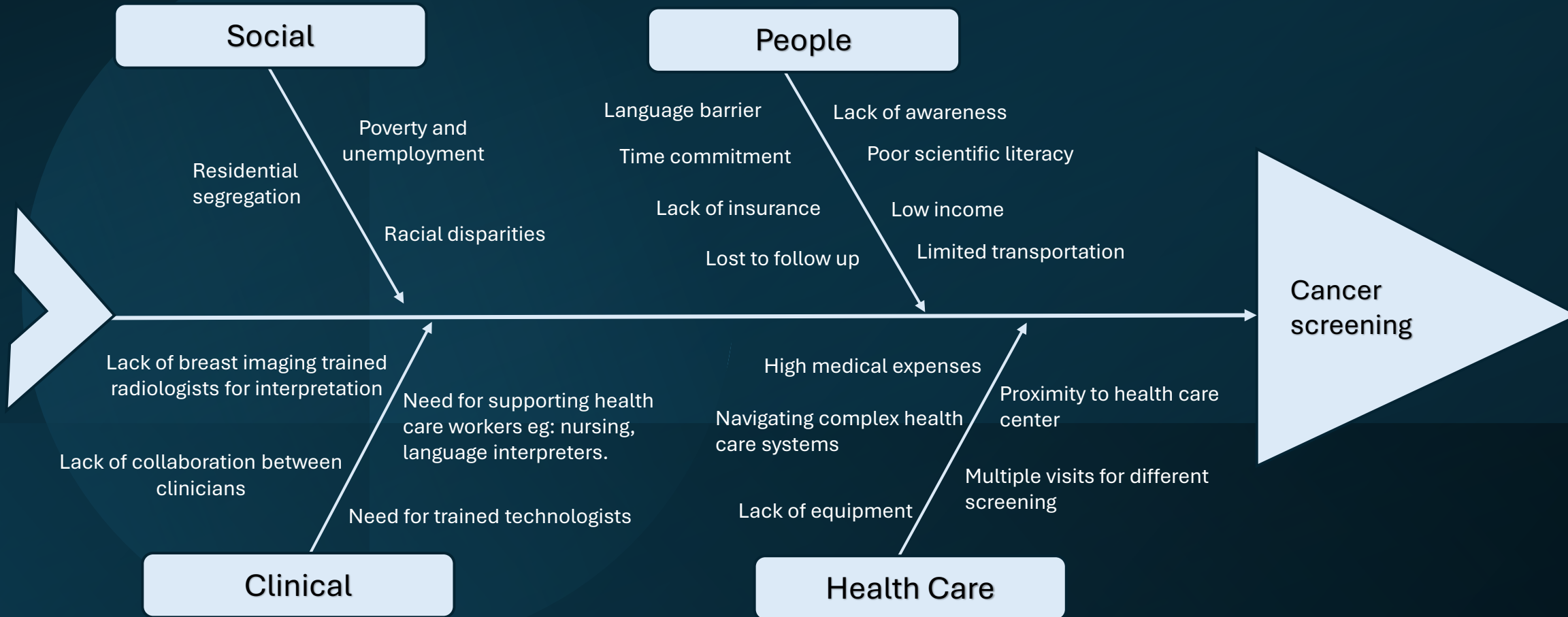
Disclosures

The authors do not have anything to disclose.

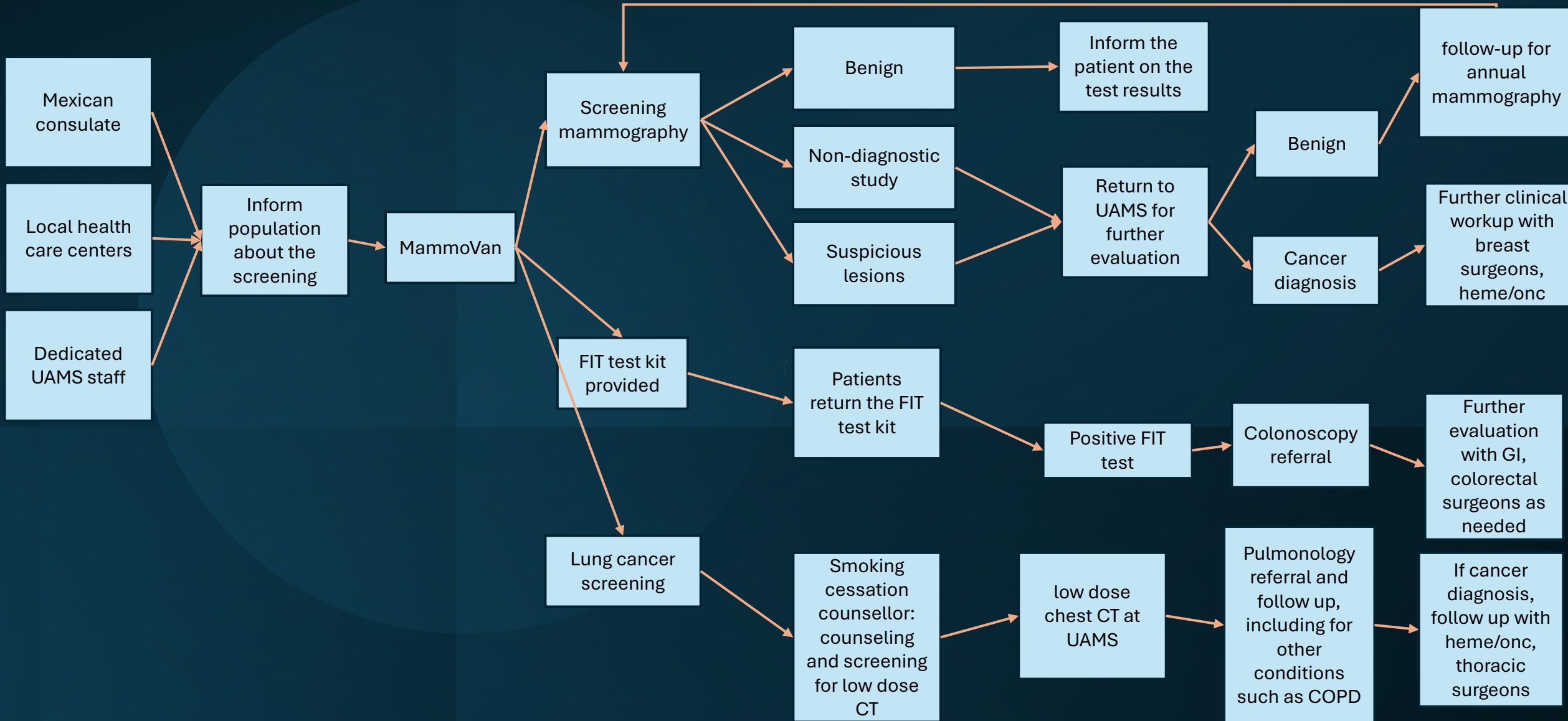
Introduction

- 41 percent of the population reside in rural areas in Arkansas and 18 percent of the population live below the poverty level. Arkansas is also included among the states with the greatest minority health disparities in the country. Hispanic Americans make up 8.6 percent of the population (compared to the US at 19.1 percent), and African Americans make up 15.6 percent of the total state population (compared to the US at 13.6 percent); however, in rural persistent poverty areas, African Americans make up 41 percent of the population.
- The large racial disparities, inequities governed by rurality & region, social & contextual determinants, lower education levels, higher rates of poverty & unemployment, lower rates of health insurance coverage & limited health care access, structural racism & residential segregation leads to the health care disparities.
- Cancer is the second leading cause of death in Arkansas. In 2021, documented cancer related mortality was n= 6,250, and cancer incidence was n=17,980 (Incidence and mortality rates are well above the national rates).
- Regarding the social factors such as age and smoking, twenty percent of the population living in rural counties were 65 years of age and older compared to 15 percent in urban counties. In 2020, smoking rate in Arkansas was 20.5 percent (compared to national rate, 15.5 percent).
- Therefore, we initiated MammoVan, a project to improve health equity and provide a multifaceted approach for cancer screening in rural communities with limited access to health care.

Fishbone analysis for barriers to cancer screening



Process diagram describing the workflow of MammoVan



Interventions

Key problem addressed

Recruit new patients

Improve follow up

low income & medical expenses

Awareness on screening for breast, colon and lung cancer

Limited transportation

Promote cultural and social awareness

Identifying red counties (lowest mortality rate) and underserved counties without any permanent mammography facilities (pink counties) for targeted approach

For uninsured population, utilizing the grant from the Arkansas Department of health to cover the expenses. For insured population, supportive staff to navigate the insurance approval and follow up.

Dedicated staff to reach to new patients and previously screened patients for screening and follow up

Involvement of Mexican consulate, local media, local community health care centers, health professionals and mobile clinics.

Offering incentives to cover travel costs to MammoVan and nearest health care center for further investigation.

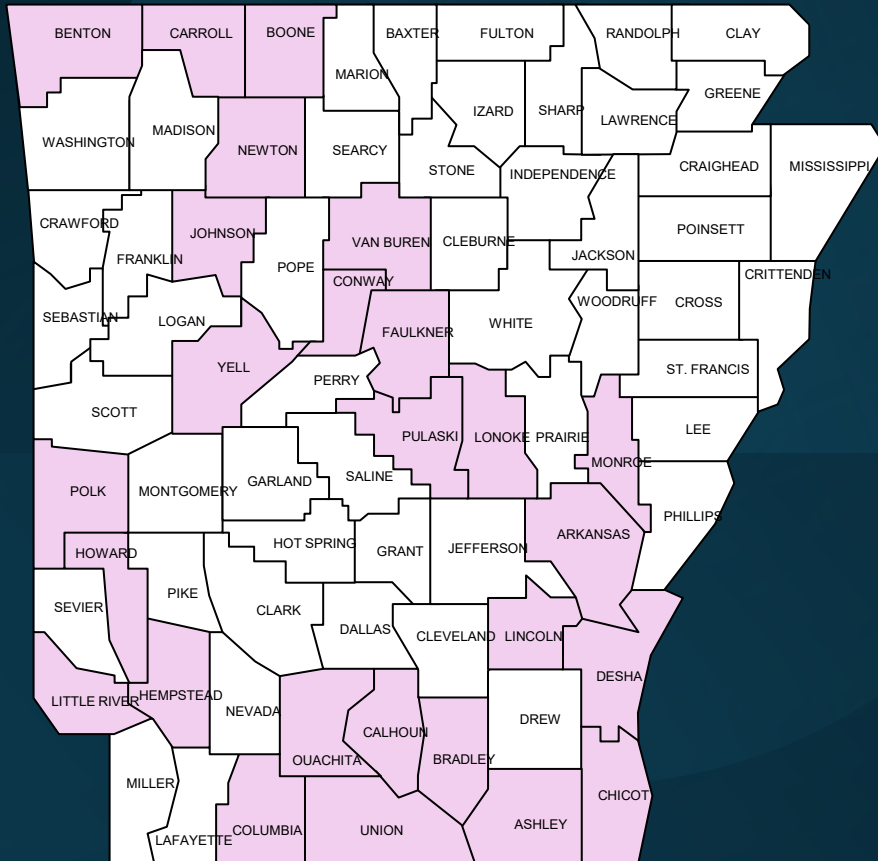
Collaborative approach with radiologists, technologists, breast surgeons, pulmonologists, thoracic surgeons, gastroenterologists, nursing and support staff

One stop screening for mammography, FIT testing and lung cancer counselling

Involvement of diverse individuals in the MammoVan team

Results

26 Arkansas Counties travelled by the MammoVan*

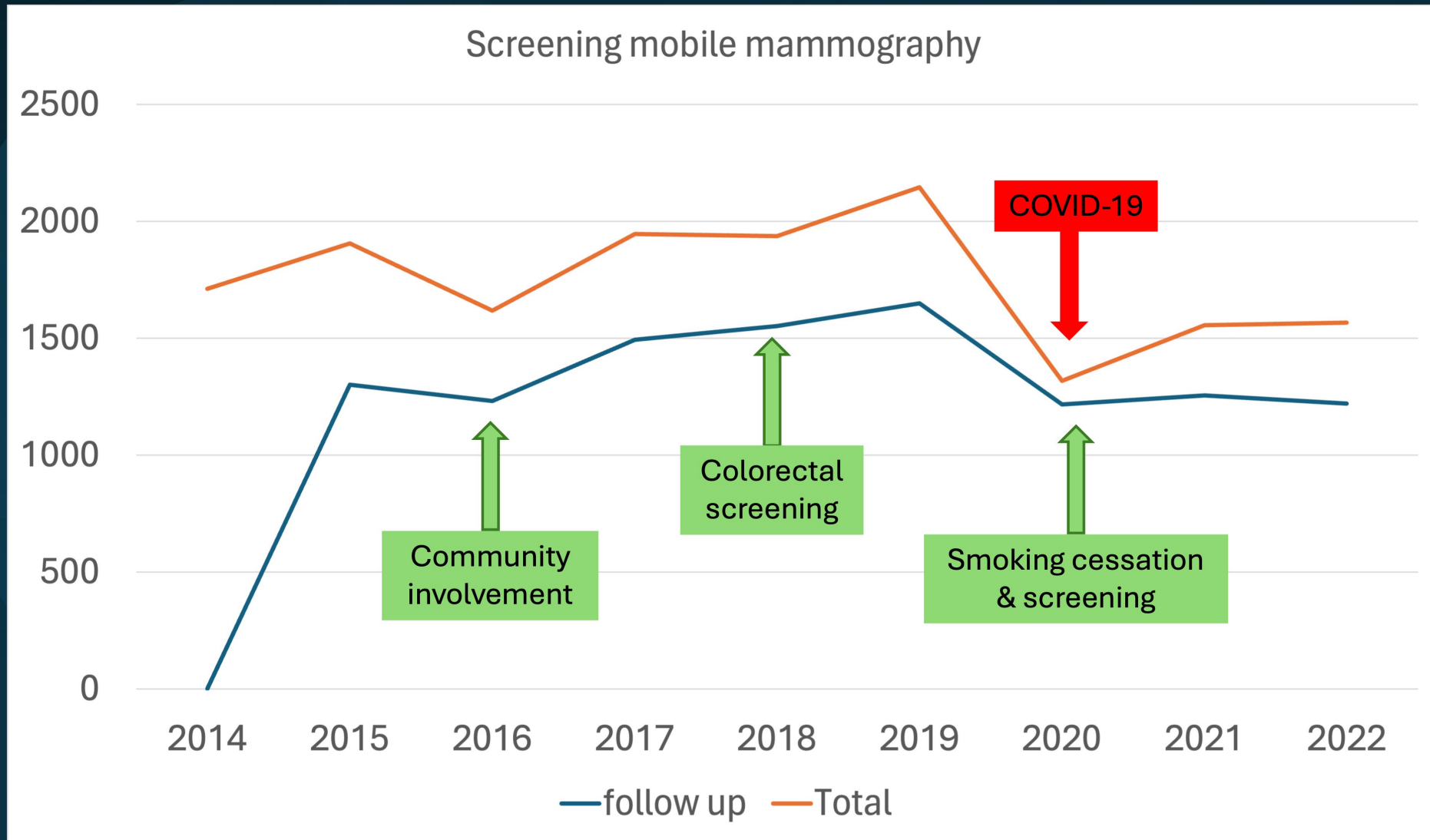


Racial distribution of population screened by mammography

Ethnicity	Number	Percentage distribution (%)
American Indian	56	0.4%
Asian	122	0.8%
Black	4445	28.3%
Caucasian	9571	61%
Hispanic	1329	8.5%
Other	109	0.7%
Unknown/not disclosed	71	0.5%

*The population screened includes individuals from all 75 counties.

Trends in screening mammography



Cancer screening and detection for breast, colorectal and lung cancer

Breast cancer screening and diagnosis

Year	Screening (n)	Follow-up (n)	Cancers detected (n)
2014	1711	NA	6
2015	1906	1300	7
2016	1618	1231	9
2017	1946	1493	13
2018	1936	1552	10
2019	2145	1648	8
2020	1318	1217	3
2021	1556	1255	6
2022	1567	1221	8

Colon cancer screening and diagnosis

Year	Referrals (n)	Screened (n)	Return Rate (%)	Positive FITs (n)	Cancers detected (n)
2022	1365	895	65%	75	9
2021	1631	747	46%	87	7
2020	844	427	50%	47	7
2019	1146	565	49%	66	15
2018	1240	660	53%	93	13

Lung cancer screening and diagnosis

Smoking cessation screening (n)	441
Referred for low dose CT (n)	308
Low dose CT completed (n, %)	145
Lung cancer diagnosed (n)	9

Conclusion

- The MammoVan project has been successful in the screening for breast cancer (total screened = 15703, cancer diagnosed= 70), colon cancer(total screened = 3294, cancer diagnosed= 51) and lung cancer (total screened = 145, cancer diagnosed= 9).
- Community involvement has been crucial to the program's success. For instance, the Mexican consulate has collaborated on and hosted 20 screening events. Engaging community health care centers, local clinics, and providers has effectively increased participation in screenings.
- Large-scale projects that target diverse populations often require a deeper understanding of social and cultural contexts. Assembling a diverse team provides valuable insights and a strategic advantage in problem-solving.
- The collaboration among radiologists, surgeons, technologists, and other healthcare professionals has been essential in ensuring ongoing patient care and minimizing lost follow-ups.
- The implementation of the MammoVan through a multidisciplinary collaborative model to address rural health disparities for not only breast cancer screening but also colorectal screening and lung cancer education is a novel approach towards health equity.