



THE POWER OF SHARED PURPOSE: Transforming Gynecologic Cancer Care



ANNUAL MEETING
ON WOMEN'S CANCER
San Diego, CA • 2024

Health Disparities in Cervical Cancer: Mapping Behavioral and Socioeconomic Drivers of Geographic Dispersion of Disease Burden with the Geo-Analyzer

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Unlabeled/Investigational Uses

I will/will not be discussing any unlabeled or investigational uses of any pharmaceutical products or medical devices.



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Introduction

- Cervical cancer (CC) disproportionately impacts women of underserved population: e.g. lower socioeconomic status, minority and long travel distance to treatment center
- The initial presentation of the Cervical Cancer Geo-Analyzer¹ tool provided quantified disease burden and proof-of-concept visualization of geographical variations across US for both CC and recurrent/metastatic (r/m) CC
- Current analyses aim to better understand factors related to the observed CC and r/mCC geographic variations



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1. Castellano T, Moore K, Ting J, Washington C, Yildiz Y, Surinach A, et al. Cervical cancer geographical burden analyzer: An interactive, open-access tool for understanding geographical disease burden in patients with recurrent or metastatic cervical cancer. *Gynecol Oncol.* 2023;169:113-7.



Study Design

Definitions

CC burden:

Prevalent CC diagnoses per 100,000 eligible female enrollees

r/mCC burden:

Proportion of patients with CC who initiated systemic therapy

Administrative claims database



- >165M US patients (Commercial, Medicaid, or Medicare Advantage)
- CC prevalence, r/mCC incidence, number of screened¹ at ZIP-3 level

US Census Bureau American Community Survey



- poverty level²
- race/ethnicity

American Brachytherapy Society



- brachytherapy center in a ZIP-3

Objectives

- Visualize geographical distribution of CC and r/mCC in the US
- Quantify association between CC or r/mCC burden and
 - a) CC screening rates,
 - b) poverty level,
 - c) race/ethnicity,
 - d) brachytherapy access



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1. A patient was counted as being screened if she was between the ages of 21 and 64 and had cervical cytology performed within the previous three years, between the ages of 30 and 64 and had cervical hrHPV testing performed within the previous five years, or between the ages of 30 and 64 and had cervical cytology/hrHPV co-testing performed within the previous five years.
2. Defined as household with income <200% of the federal poverty limit.



CC and r/mCC patient characteristics, 2015-2022

Category	CC Patients	r/mCC Patients
Total	75,521	14,033
Age, median [IQR]	53 [42, 63]	59 [49, 66]
Insurance Type, n (%)		
Commercial	52,901 (70%)	10,302 (73%)
Medicaid	22,106 (29%)	3,630 (26%)
Other	514 (1%)	101 (1%)
Region, n (%)		
Midwest	16,036 (21%)	2,930 (21%)
Northeast	16,531 (22%)	3,170 (22%)
South	28,246 (37%)	5,187 (37%)
West	14,175 (19%)	2,629 (19%)
Other/Unknown	533 (1%)	117 (1%)

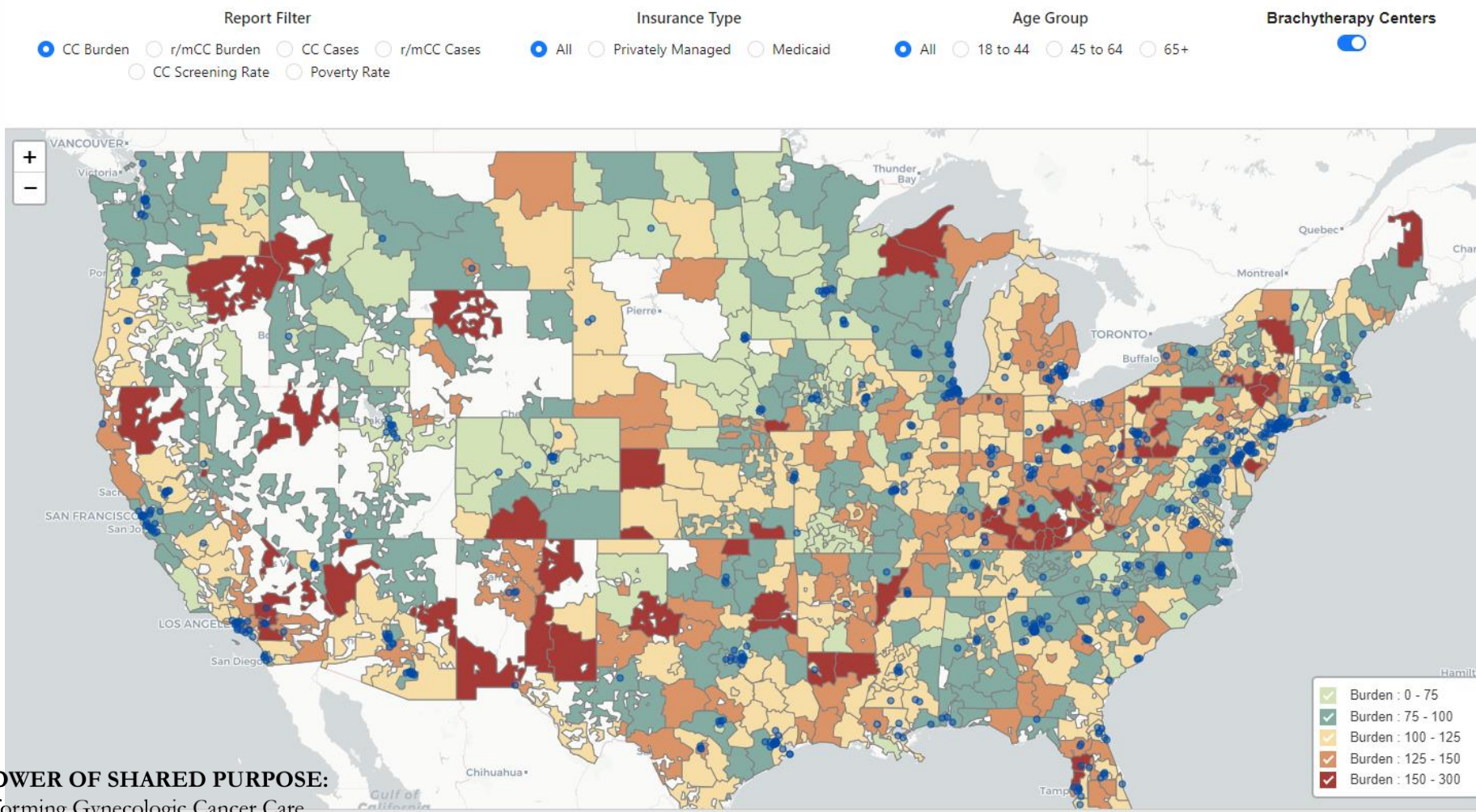


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Cervical Cancer Geo-Analyzer

CC Burden (2017-2022)



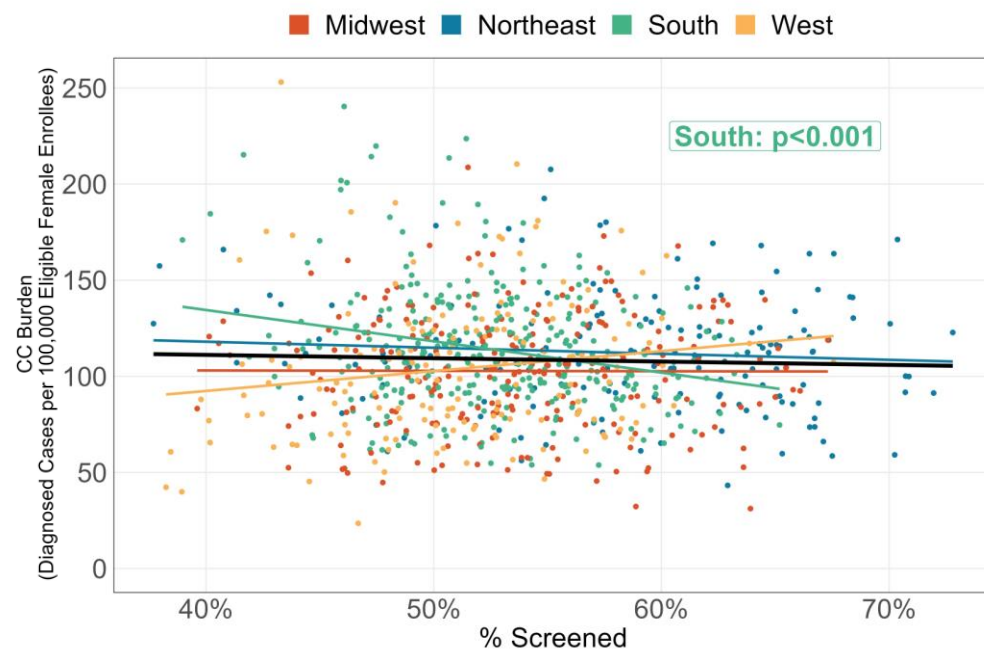
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(Diagnosed Cases per 100,000 Eligible Female Enrollees)

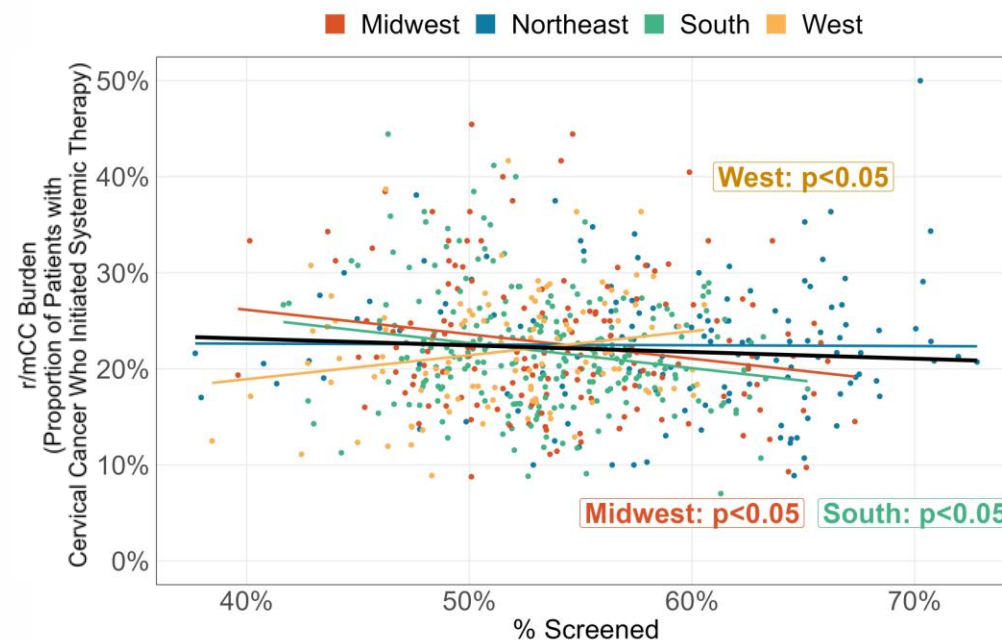


Association between screening rates and burden

CC burden (2017-2022)



r/mCC burden (2017-2022)



Higher screening rates significantly associated with decreased burden observed for South only ($p < 0.001$)

Higher screening rates associated with decreased burden in Midwest and South, but with higher burden in West ($p < 0.05$ for all)



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Association between race/ethnicity and burden

	CC Burden					r/mCC Burden				
	All	Midwest	Northeast	South	West	All	Midwest	Northeast	South	West
% White		↘		↗	↘					
% Asian	↘			↘			↘			
% Black		↗	↗	↘						
% Hispanic	↗				↗					
% Other		↘								

↗ : significant¹ association between increasing % race/ethnicity and **increasing** burden

↘ : significant¹ association between increasing % race/ethnicity and **decreasing** burden

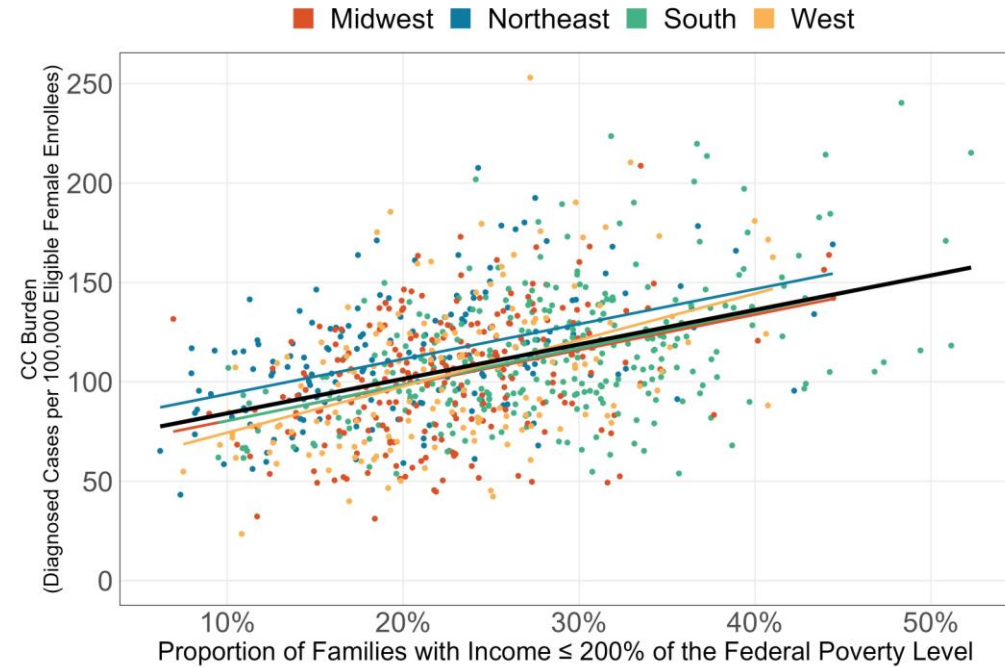
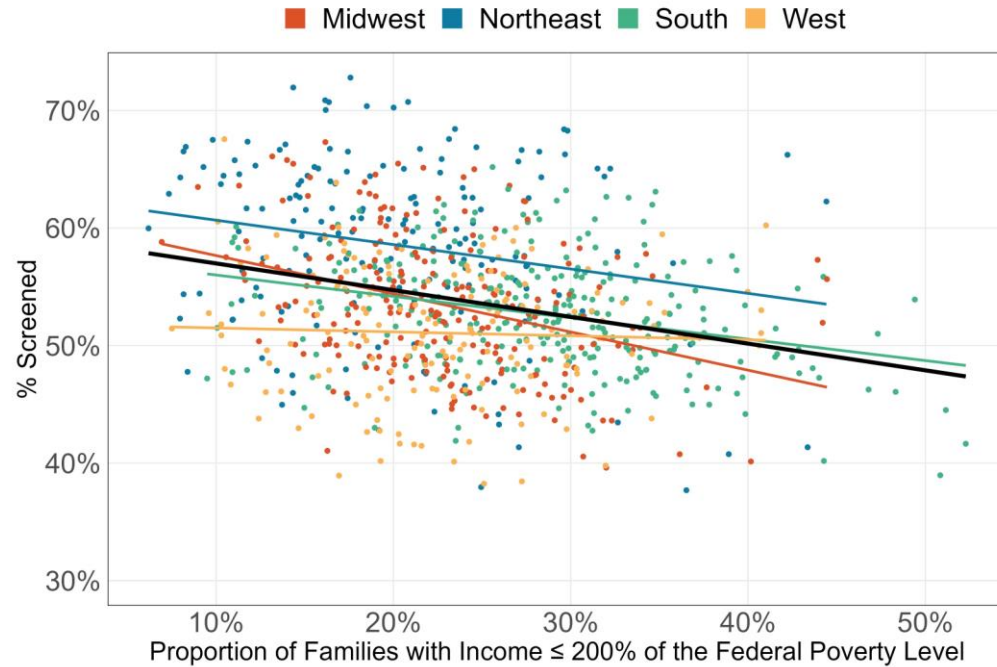


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1. A p-value of <0.05 was considered statistically significant.



Impact of poverty level on screening and disease burden



- Higher percentage of low-income households in a region significantly associated with decreased screening and higher CC burden ($p < 0.001$ for both)
- Poverty level is significantly associated with r/mCC burden only in the South ($p < 0.003$, data not shown)

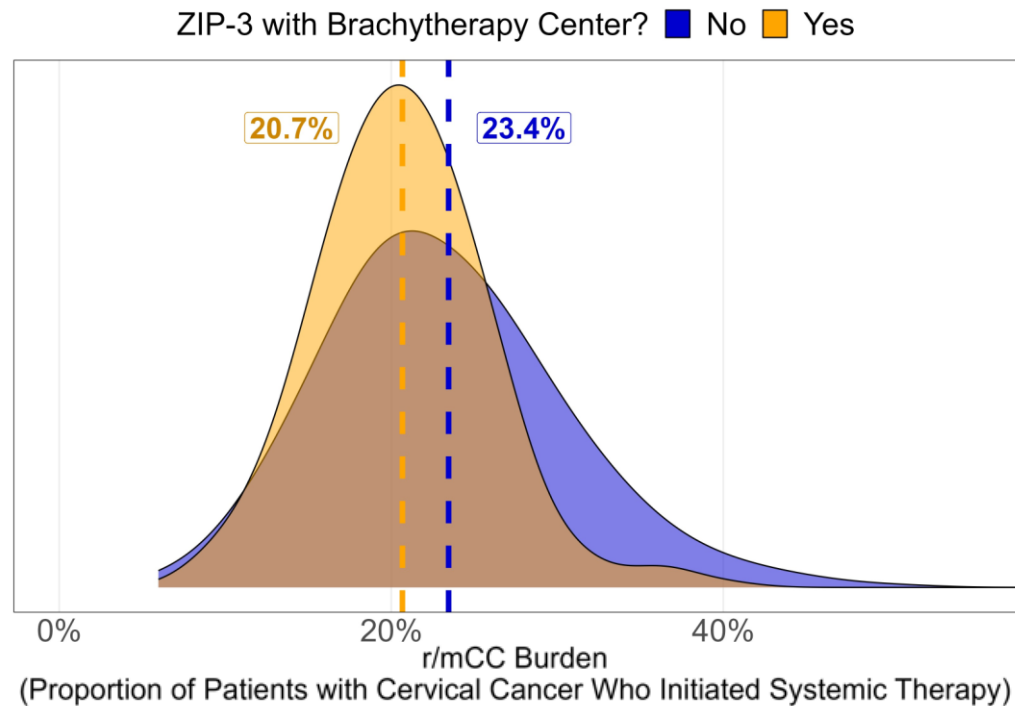


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Availability of a brachytherapy center associated with decreased r/mCC burden



Overall, presence of ≥ 1 brachytherapy center in a ZIP-3 was associated with a reduction in r/mCC burden (2.7%, $p < 0.001$)

This finding was driven by significant associations in the South and Midwest ($p < 0.001$)



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Conclusions

Social determinants of health including poverty level, race/ethnicity, and access to modern early-stage treatment contribute to geographical variations in CC and r/mCC burden may drive healthcare disparity among patients

Findings from this study is the first step to optimize healthcare resources allocations, advocate to minimize access barriers and tailored education on modern treatment options to minimize disparities in outcomes for US patients

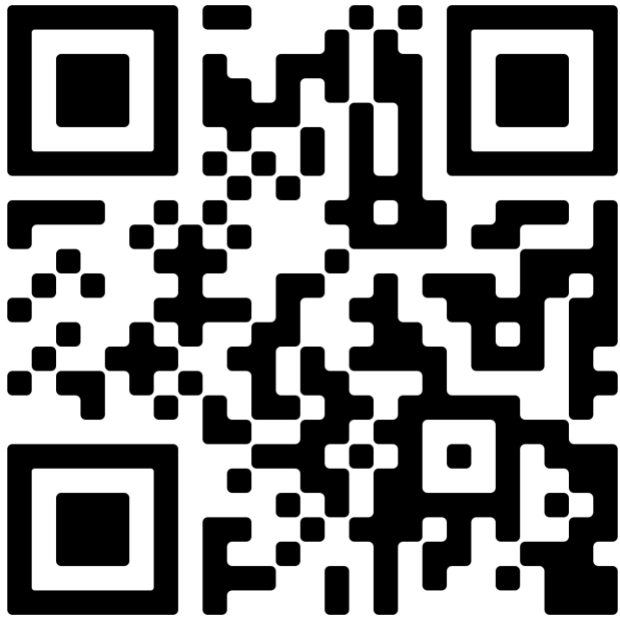


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Geo-Analyzer QR Code



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