

Understanding Barriers and Social Determinants of Health to Improve Colorectal Screening Rates from the Perspective of a New Jersey Health Plan

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BACKGROUND

- Despite colorectal screening rates improving nationally since 2000, 2020 data from the American Cancer Society (ACS) shows that rates remain under the ACS's national goal of 80%.^{1,2} The New Jersey Department of Health reported in 2020 that 67.5% of those ages 50 to 75 years had been screened for colorectal cancer based on 2019 data.³ Not only was this below the national goal of 80%, but it was also below the state goal of 70.2%.^{1,3}
- This led to legislation signed in 2023 by Governor Murphy that required health insurers in New Jersey to cover colorectal screenings as recommended by the United States Preventive Services Task Force.⁴ This was to reinforce the requirements set by the Affordable Care Act's preventive services mandate and highlight the importance of improving colorectal screening rates in the state.⁵
- To complement this consideration, strategizing potential improvements to increase colorectal screening rates and mitigate the growing number of colorectal cancer incidents is needed. Understanding potential patient barriers and disparities would possibly promote more specific strategies. Potential barriers to screening include fear, lack of knowledge and provider recommendation, financial concerns, and logistical complications.^{1,6}

OBJECTIVE

- To identify what population of eligible patients are not receiving colorectal screenings and determine potential barriers to strategize initiatives to close screening gaps.

METHODS

- This study is a retrospective analysis based on paid medical claims from Horizon Blue Cross Blue Shield of New Jersey. Claims data aligned with the Healthcare Effectiveness Data and Information Set measures for colorectal cancer screenings (HEDIS).
- Members were identified from January 2023 to June 2023 and included if they met the following criteria: (1) be 46 – 75 years of age; (2) met the HEDIS eligibility criteria for colorectal cancer.
- Member data and analysis included age, line of business, member identification, first name, last name, address, city, state, zip, county, phone number, date of birth, gender, race, primary language, event code, service date, provider zip code, provider specialty, provider NPI, and provider affiliation.
- Data analysis considered potential social determinants of health (SDoH) and vulnerability as defined by the Department of Health and Human Services and the New Jersey Hospital Association's Center of Health Analytics, Research & Transformation.

RESULTS

- 48.9% of members eligible for colorectal cancer screenings were noncompliant.
- Both men and women ages 45 – 50 had the lowest colorectal compliance rates with 20.16% of the study population in that age group.
- Of the three lines of business considered, Medicaid was found to have the lowest compliance. The current compliance rates are slightly lower than the 2022 rates.
- The compliance rates for the zip codes with the least compliance were 38.2 – 39.5% while rates for zip codes with the highest compliance were 59.3 – 63.3%.
- The top ten zip codes with the lowest compliance were found in Essex, Union, Hudson, Camden, Atlantic, and Mercer County. The top ten provider zip codes with the lowest compliance rates were found in Essex, Hudson, Atlantic, Camden, Cumberland, Mercer, and Middlesex County. The county with the overall lowest compliance rate was Cumberland.

CHARTS & TABLES

Table 1: Comparison of Horizon's Colorectal Screening Rates

Top 10 Lowest Compliance Rates*			Top 10 Highest Compliance Rates*		
Zip Code	County	Compliance Rate	Zip Code	County	Compliance Rate
08103	CAMDEN	40.00%	07481	BERGEN	63.30%
07107	ESSEX	39.80%	07090	UNION	63.00%
07103	ESSEX	39.50%	07446	BERGEN	62.40%
07304	HUDSON	39.30%	08822	HUNTERDON	61.40%
07206	UNION	38.90%	07450	BERGEN	61.30%
08611	MERCER	38.20%	07430	BERGEN	61.00%
08104	CAMDEN	37.40%	07039	ESSEX	59.90%
08401	ATLANTIC	37.20%	07076	UNION	59.80%
07108	ESSEX	35.70%	07960	MORRIS	59.60%
07306	HUDSON	35.60%	07016	UNION	59.30%

Table 2: Comparison of Horizon's Lowest Compliance Rates vs NJH CHART's Most Vulnerable Zip Codes

Horizon's Top 10 Lowest Compliance Rates*			NJH CHART's Top 10 Most Vulnerable Zip Codes		
Zip Code	County	Compliance Rate	Ranking	Zip Code	County
08103	CAMDEN	40.00%	1	08103	CAMDEN
07107	ESSEX	39.80%	2	08608	MERCER
07103	ESSEX	39.50%	3	08104	CAMDEN
07304	HUDSON	39.30%	4	08102	CAMDEN
07206	UNION	38.90%	5	07102	ESSEX
08611	MERCER	38.20%	6	08401	ATLANTIC
08104	CAMDEN	37.40%	7	07505	PASSAIC
08401	ATLANTIC	37.20%	8	07114	ESSEX
07108	ESSEX	35.70%	9	08105	CAMDEN
07306	HUDSON	35.60%	10	07108	ESSEX

Table 3: Comparison County Compliance Rates vs Provider Compliance Rates

Top 10 Lowest County Compliance Rates*			Top 10 Lowest Provider Compliance Rates*		
Zip Code	County	Compliance Rate	Provider Zip Code	County	Compliance Rate
08103	CAMDEN	40.00%	08103	CAMDEN	40.60%
07107	ESSEX	39.80%	08037	ATLANTIC	40.40%
07103	ESSEX	39.50%	08861	MIDDLESEX	37.40%
07304	HUDSON	39.30%	07040	ESSEX	35.30%
07206	UNION	38.90%	07104	ESSEX	34.70%
08611	MERCER	38.20%	08302	CUMBERLAND	33.80%
08104	CAMDEN	37.40%	08401	ATLANTIC	33.60%
08401	ATLANTIC	37.20%	07103	ESSEX	33.40%
07108	ESSEX	35.70%	07304	HUDSON	24.30%
07306	HUDSON	35.60%	08609	MERCER	24.10%

*Limited to Zip Codes with at least 1,000 members

Table 4: Horizon's Colorectal Screening Rates in New Jersey Counties

County	Colorectal Screening Rate
CUMBERLAND	42.20%
HUDSON	44.70%
SALEM	47.60%
MIDDLESEX	48.30%
CAMDEN	48.70%
ESSEX	49.20%
PASSAIC	49.30%
ATLANTIC	50.50%
GLOUCESTER	50.50%
MERCER	50.50%
OCEAN	51.10%
SUSSEX	52.30%
UNION	52.40%
BURLINGTON	52.90%
MONMOUTH	54.00%
BERGEN	54.20%
SOMERSET	54.40%
CAPE MAY	54.70%
WARREN	55.00%
MORRIS	55.70%
HUNTERDON	59.60%

Figure 1: Heat Map of Horizon's Colorectal Screening Rates in New Jersey Counties

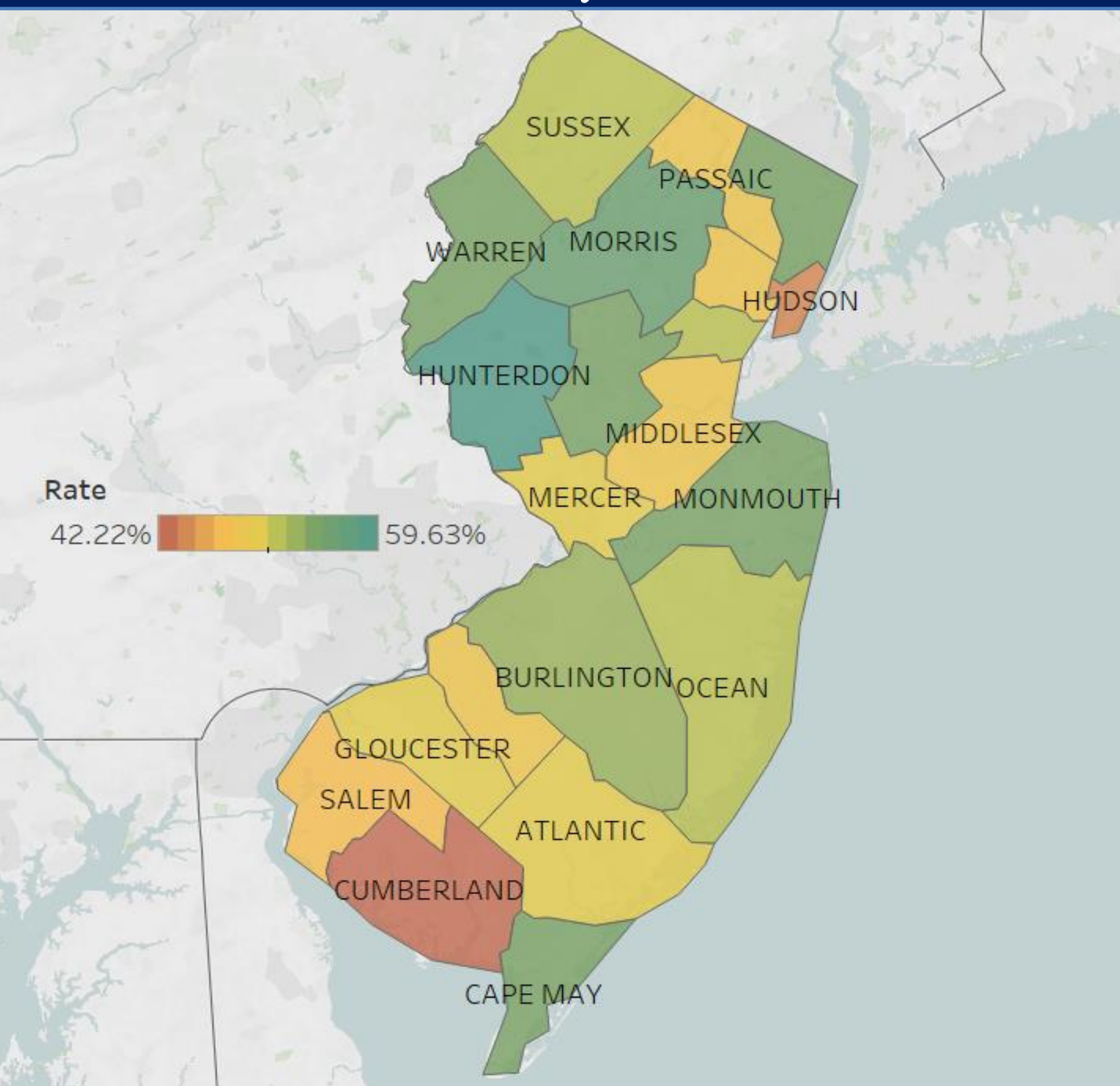


Figure 2: Compliance Rates Based on Line of Business

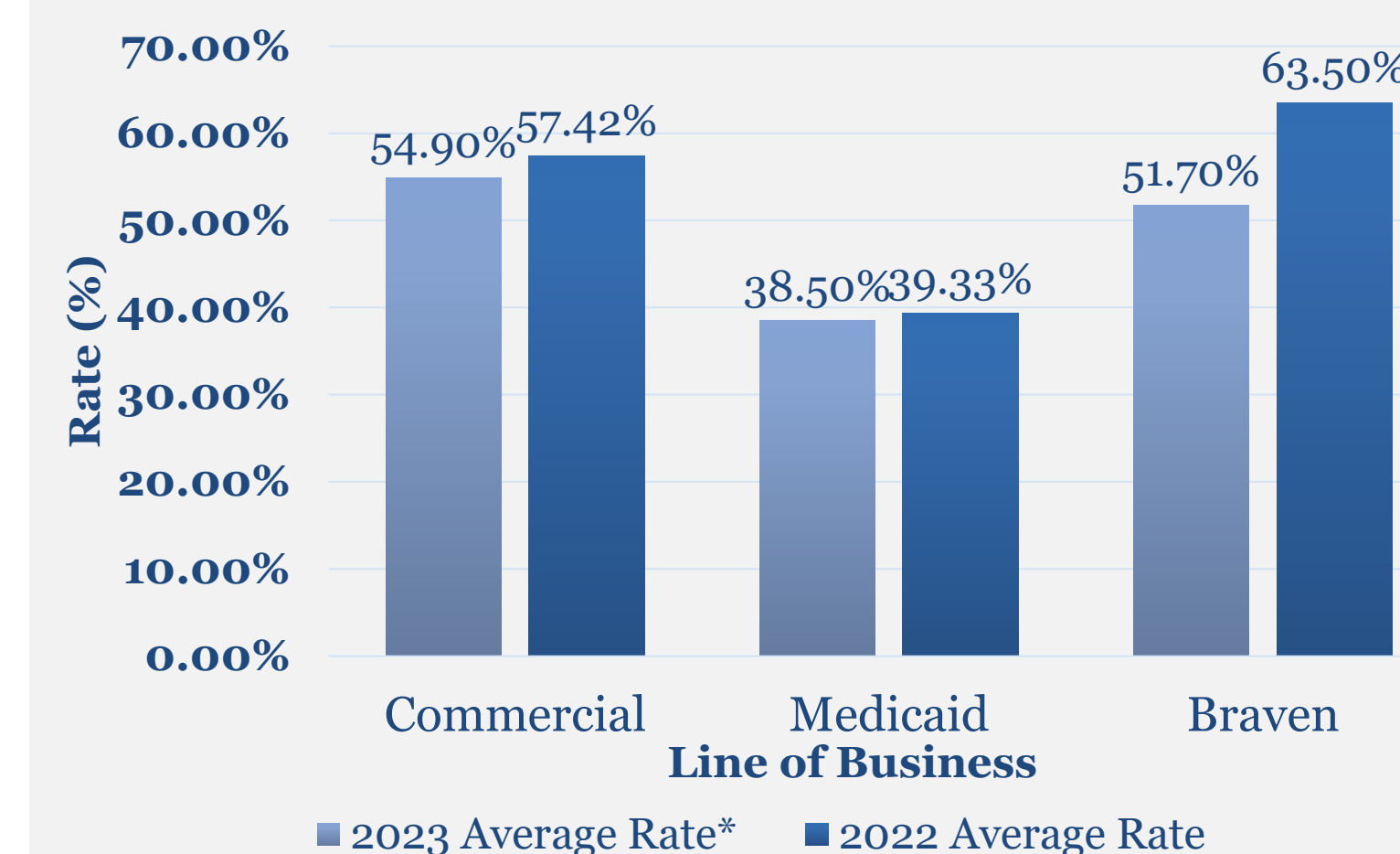
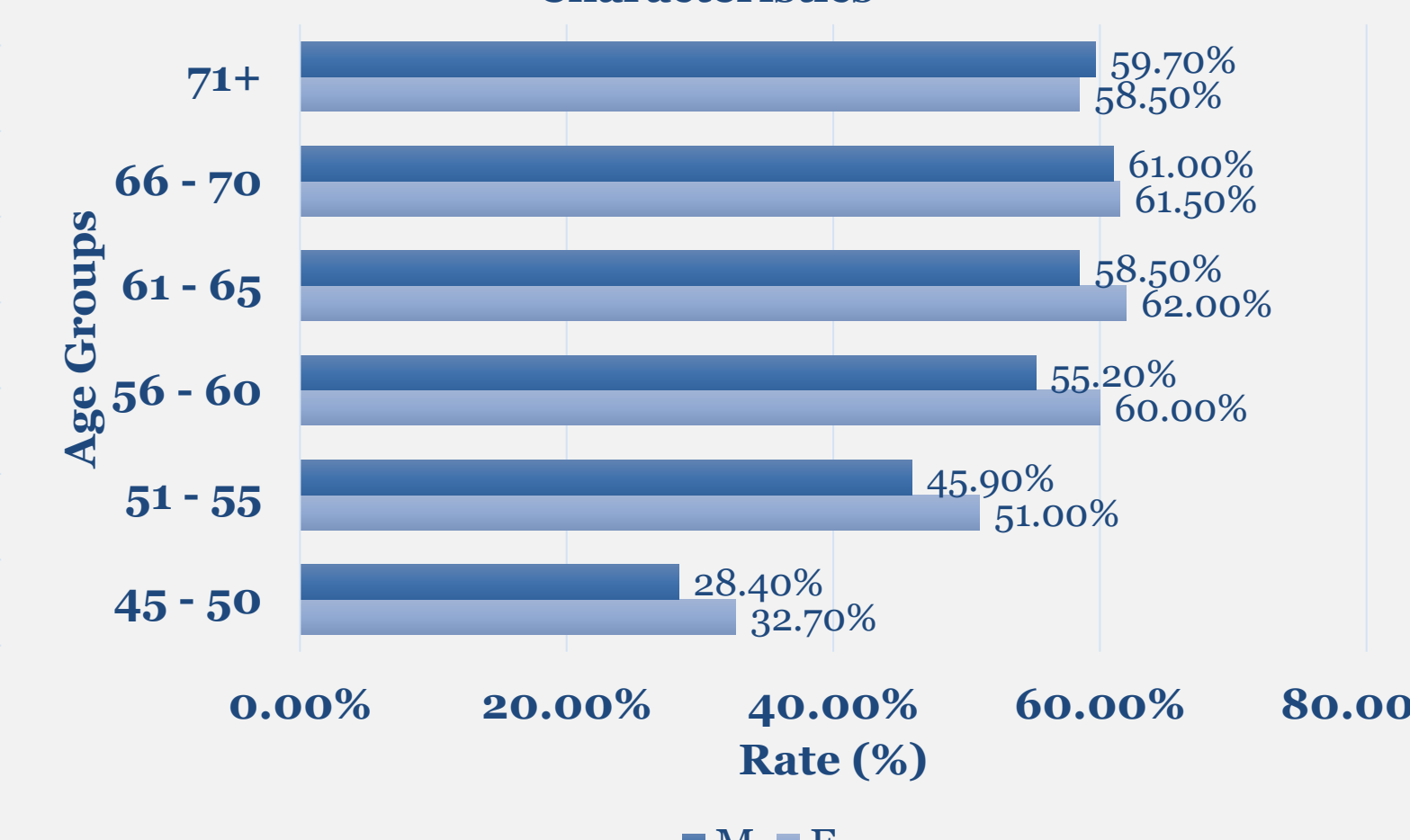


Figure 3: Compliance Rates Between Baseline Characteristics



CONCLUSIONS

- This retrospective analysis of real-world data demonstrated the need to address SDoH in colorectal cancer screenings to close care gaps and overcome barriers.
- The NJHA CHART categorizes vulnerable populations as those who have poor social and economic status and are at risk of poor physical and psychological health.⁷ Vulnerabilities are based on poverty, age, race, ethnicity, and other SDoH-related variables.⁷ Horizon's least compliant zip codes and provider low compliance zip codes share a lot of similarities to the zip codes identified by NJHA CHART to be the most vulnerable.⁷
- Of the counties that overlap with NJHA CHART, Essex, Hudson, Mercer, and Union County are found to have diversity indexes of 65% or more with Essex having the second largest diversity score in the state at 72.1% and the largest black population in the state at 37.5%.⁸ Average income for all counties is found to be more than \$64,000 and does not account for the wage gap that exist between black and white households of \$56,300 and \$91,800 respectively.⁹⁻¹⁰ Aside from Atlantic County, all other overlapping counties show a large distribution of hospitals across the county.¹¹ Health literacy in overlapping counties were considered to have a below-average understanding of basic health literacy in a large portion of the county.¹²
- This highlights the likelihood of members living in these counties experiencing the potential barriers of lack of knowledge, financial concerns, and logistical complications when obtaining colorectal cancer screenings, especially for those who are black as Black people experience an increase in cancer mortality rate compared to other racial and ethnic groups for all cancers combined.¹³
- Proposed solutions to help close screening gaps include: (1) mobile outreach to counties that include the lowest compliance zip codes, (2) partnering with pharmacies, clinics, providers, and hospitals in low compliance counties to help set up reminders for members eligible for colorectal cancer screenings via fliers included with prescription pick up and push notifications for providers, and (3) partnering with the providers with the lowest compliance rates and understanding the barriers that providers have in order to help create provider specific incentives and initiatives. The initial target of zip codes in Essex County may be most advantageous given Horizon's presence in Essex.

Limitations

- The data does not include race/ethnicity and language. There was not enough significant data to definitively determine additional barriers for specific groups, making it difficult to create more tailored initiatives.
- Compliance barriers were assumed and not collected patient responses.
- Zip codes with less than 1,000 members were excluded as outliers to avoid skewed colorectal screening rates due to the small member population. This may result in the exclusion of zip codes that are significant and may underestimate the overall screening rates in certain zip codes.

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Thank you to Pfizer, Inc. for funding the AMCP Foundation Managed Care Summer Internship Program. Poster presented at AMCP Nexus 2023, October 16-19, Orlando, FL