Demographic Disparities in Colorectal Carcinoma Screening in a Large Urban Federally Qualified Health Center Network

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Aim of the study:

- To investigate differences in rate of colorectal cancer (CRC) screening by gender, race/ethnicity, and primary language in one of the largest Federally Qualified Health Center (FQHC) networks in the U.S.

Hypothesis:

- Higher rates of CRC screening will observed in:
  - Females compared to males
  - Non-hispanic whites compared to amongst other race/ethnicities
  - English language speakers compared to speakers of other primary languages

Introduction:

- CRC is the 4th most common cancer diagnosed in the United States, and 3rd leading cause of cancer death for both men and women [1].
- The 2018 ACS Guideline for CRC Screening lowered recommended age of screening due to rise in CRC among younger with rapid declines in older age groups [2].
- Epidemiological studies continue to show disparities in CRC screening based on gender, race/ethnicity, level of education, and primary language [3].
- As of 2020, 19.9% of adults age 50-75 had never been screened for CRC [4].

Methods:

- Retrospective observational study
- Data was obtained from the electronic medical records for 12,663 patients age 50-75 years old seen at NYU Langone Family Health Centers from August 2019 to July 2020
- Appropriate screening was defined as FIT, gFOBT, mt-sDNA, colonoscopy, CT colonography, and FSIG
- Relationship between CRC screening and gender analyzed with X^2
- Multivariate analysis utilized to analyze CRC screening relation to race/ethnicity and primary language

Discussion:

- Higher CRC screening rate:
  - among females compared to males was expected as similar to national statistics [4].
  - among non-Hispanic Asians was unexpected as nationally have lowest rate of screening [4] compared to other groups [4].
  - among Spanish, Cantonese and Mandarin speakers compared to English speakers was unexpected, likely due to robust translation services at our FQHC [8,9].
- Lower CRC screening rate:
  - among non-Hispanic whites and non-Hispanic African Americans unexpected as both less than half national average rate of CRC screening [4], and cannot be explained by lack of insurance as community grant available to cover cost for uninsured at our FQHC [10].

Discussion:

- Barriers to age appropriate screening include:
  - lack of physician's recommendation, patient lack of knowledge and perceived need of CRC screening [5,6,7];
  - poor communication between patient and provider [7];
  - language barriers [8,9];
  - high cost of screening and lack of insurance [10].
  - Barriers are compounded among immigrant populations [11].

Characteristics of patients, stratified by CRC screening status

Variable	Overall (n=12,663), n (%)	Patients with one or more screenings for colorectal cancer		*P*
		Yes (n= 6565), n (%)	No (n= 6098), n (%)	
Sex at birth				
Male	5537 (43.7)	2531 (45.7)	3006 (54.3)	< 0.01
Female	7126 (56.3)	4034 (56.6)	3092 (43.4)	
Race/Ethnicity				
Non-Hispanic - White	1359 (10.7)	468 (34.4)	891(65.5)	< 0.01
Hispanic (All races)	6793 (53.6)	4002 (58.9)	2791 (41.1)	
Non-Hispanic African/ American	3310 (26.1)	1341 (40.5)	1969 (59.5)	
Non-Hispanic Asian	1135 (9)	723 (63.7)	412 (36.3)	
Other	66 (0.52)	31(47)	35 (53)	
Primary Language				
English	6700 (52.9)	2842 (42.4)	3858 (57.6)	< 0.05
Spanish	4950 (39.1)	3071 (62)	1879 (38)	
Cantonese/Mandarin	861 (6.8)	575 (66.8)	286 (33.2)	
Other/Unreported	152 (1.2)	1 (0.6)	151 (99.4)	

Conclusion:

- Age-appropriate CRC screening rates differed by:
  - gender,
  - race/ethnicity
  - primary language.
- The lower age-appropriate CRC screening rate in males is consistent with CRC screening trends in the U.S.
- Surprisingly, the age-appropriate CRC screening rate was higher in Non-Hispanic Asians and Hispanics, and in those who speak a language other than English. Additionally, though lower than nationally, the age-appropriate CRC screening rate was higher in non-Hispanic African Americans than in Non-Hispanic-Whites.
- Improvement in CRC screening in non-Hispanics Asians, and Hispanics is likely been due to robust cultural competence and language support in our FQHC. As well as EMR best practice and care gap flags which prompt providers to screen patients.
- Within the immigrant population, both literacy and culture have been shown to have a strong impact on health care utilization. Diminishing disparities in screening further may require increasing patient education that is culturally sensitive and accessible for patients with low health literacy.

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