



Differences in Scope Withdrawal Times by Age and Gender at a Large Veterans Affairs Medical Center Endoscopy Unit

UNIVERSITY OF LOUISVILLE SCHOOL OF MEDICINE

Filsan Farah, MD², Matthew Heckroth, MD¹, Brian Goodman, MD¹, Benjamin Rogers, MD, MS², Dipendra Parajuli, MD²
University of Louisville Hospital, ¹Department of Internal Medicine, ²Division of Gastroenterology, Hepatology, and Nutrition

ABSTRACT

Introduction: Disparities in adenoma detection rates (ADR) between men and women have been noted, particularly in those under 50. However, there is less literature regarding differences between gender and race in relationship to age.

Methods: Endoscopy records between October, 2020 and August, 2021 at a single Veterans Affairs (VA) medical procedure unit were retrieved from the electronic health record (EHR). A total of 2513 colonoscopies were performed during this period. Of these, 744 were excluded due to incomplete demographic or endoscopic data. Patients were separated into deciles according to decade of life, with those under 50 and over 80 considered inclusively. ADR and scope withdrawal times were analyzed by age, gender, and race. Continuous variables were analyzed using Mann Whitney U test, categorical data via Fisher's exact test, and multivariable regression assessed factors in adenoma detection.

Results: The study population was consistent with typical VA demographics (median 67.0 yrs, 90.8% M, 80.7% white). Of 1769 patients, Native American (2), Pacific Islander (7), and Latino (20) patient numbers precluded subgroup analyses. A progressive increase in ADR was noted as age increased (<50: 29.3%; 50-59: 36.9%; 60-69: 40.5%; 70-79: 43.4%; >80: 48.2%, p=0.002). This trend was only present for men (in women: <50: 12.5%, 50-59: 33.3%; 60-69: 31.0%; 70-79: 26.9%, >80: 33.3%, p=0.341), but was present regardless of race (p=0.038 for white patients, 0.046 for black patients). Further, ADR was significantly higher in both black (43.4%) and white (41.0%) men compared to either black (28.6%) or white (27.0%) women overall (p=0.008). This difference was particularly marked in younger (<50: men: 32.4%; women: 12.5%) and older (70-79: men: 44.7%; women: 26.9%) cohorts (p<0.023). When removing patients with adenomas (which *de facto* increases scope withdrawal time), SWT was longer in men (17 minutes, IQR 11-26 minutes) compared to women (14 minutes, IQR 10-20 minutes, p<0.001). Although scope times increased as age increased (p=0.018), there was no difference in SWT between white and black patients (p=0.990). On multivariable regression, age greater than 80 was the strongest predictor for adenoma detection (OR 2.15, CI 1.27-3.64), with female gender serving as a protective factor (OR 0.55, CI 0.38-0.80, p=0.002).

Discussion: There are important differences in ADR between men and women, but differences in scope withdrawal times warrant further investigation.

BACKGROUND

- Adenoma detection rates (ADR) and scope withdrawal time (SWT) are surrogate indicators of quality
- Disparities in ADR have been noted between men and women, with higher rates reported in young men
- The relationship these factors have with SWT is incompletely understood

AIMS

- To determine if differences in ADR differ by age or gender
- To probe SWT in those without adenomas to evaluate whether any potential differences exist by age or gender

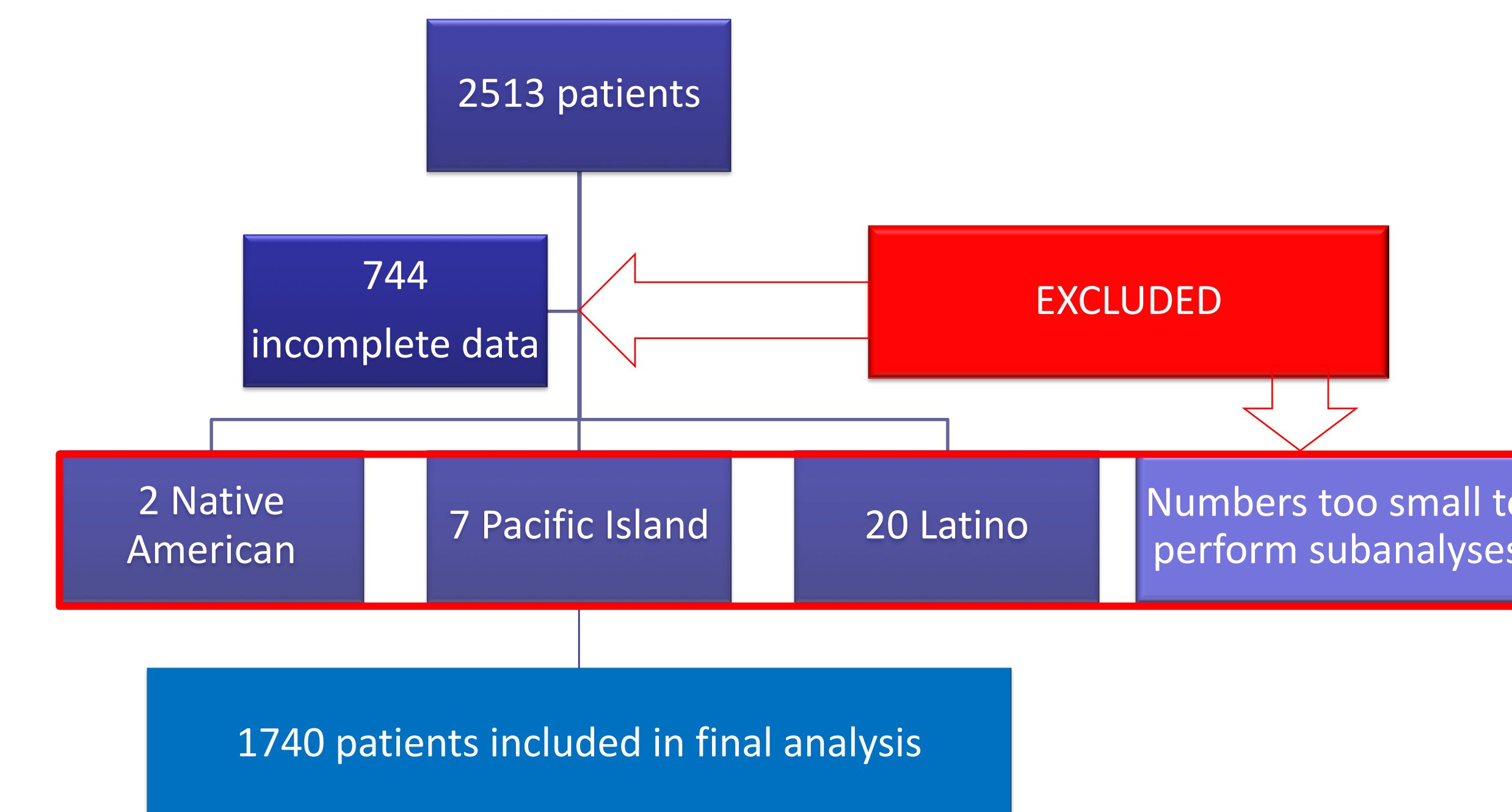
DATA MANAGEMENT

- Age, gender, and other pertinent demographics were extracted from the database
 - Patients separated by decade of life; those under 50 and over 80 grouped with nearest decile
- ADR and withdrawal time pulled directly from endoscopic records

DATA ANALYSIS

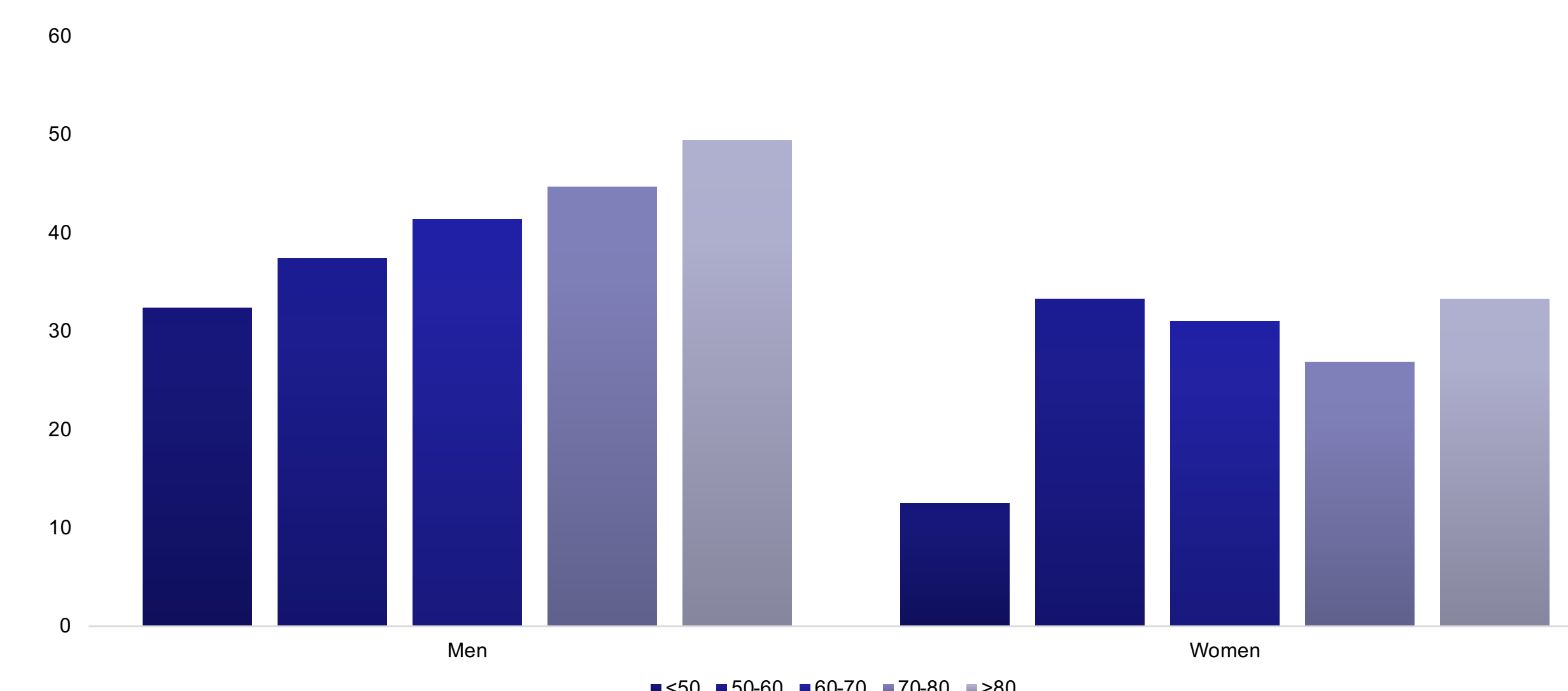
- Continuous variables were analyzed using Mann Whitney U test
- Categorical data via Fisher's exact test
- Multivariable regression assessed factors in adenoma detection.

RESULTS

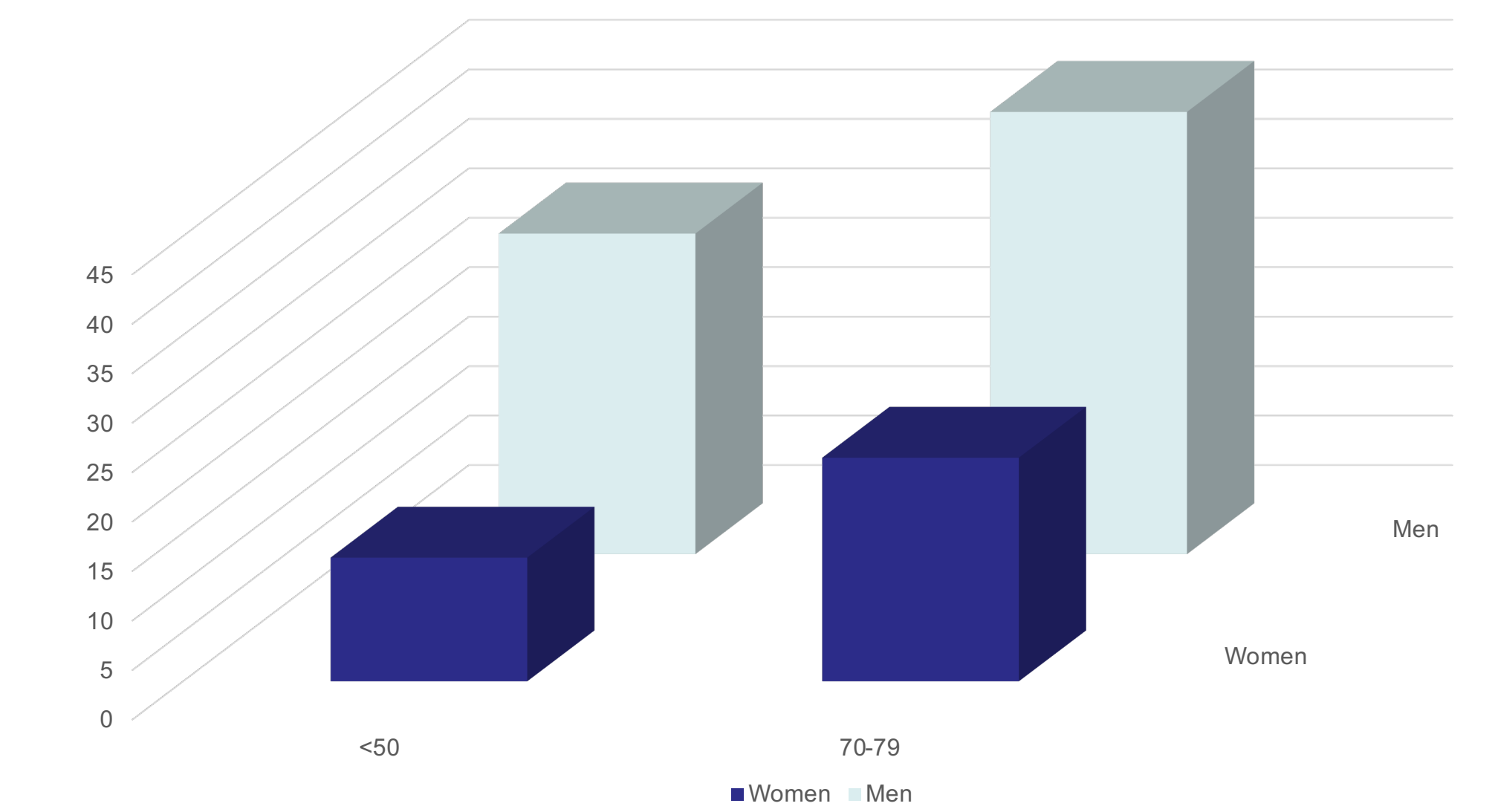


Demographics

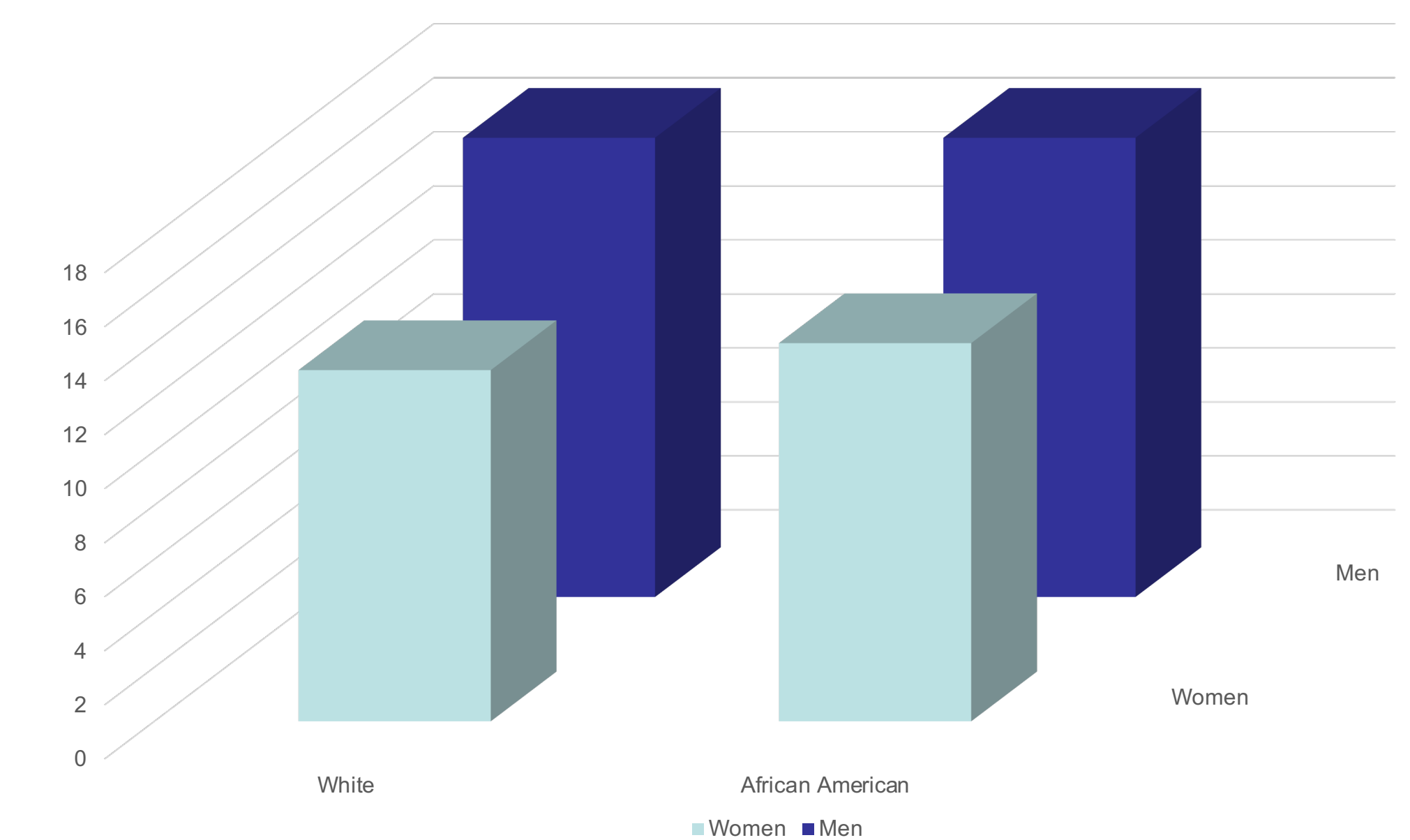
| | All | Men n=1607 | Women n=162 | p value |
|--|------------------|------------------|------------------|--------------------|
| Age (years) | 67.0 (58.0-74.0) | 67.0 (58.0-74.0) | 63.5 (52.0-73.0) | 0.01 |
| Age Deciles | | | | 0.01 across groups |
| <50 (%) | 208 (11.8%) | 176 (11.0%) | 32 (19.8%) | |
| 50-60 (%) | 295 (16.7%) | 265 (16.5%) | 30 (18.5%) | |
| 60-70 (%) | 511 (28.9%) | 469 (29.2%) | 42 (25.9%) | |
| 70-80 (%) | 671 (37.9%) | 619 (38.5%) | 52 (32.1%) | |
| >80 (%) | 83 (4.7%) | 77 (4.8%) | 6 (3.7%) | |
| Race (%AA) | 309 (17.5%) | 267 (16.6%) | 42 (25.9%) | 0.002 |
| ADR (%) | 708 (40.0%) | 665 (41.4%) | 43 (26.5%) | <0.001 |
| Scope withdrawal time in ADR negative (minutes) | 16 (11-25) | 17 (11-26) | 13 (10-20) | <0.001 |



A statistically significant rise in ADR as age increased was noted in men (p=0.01); however, the same was not true for women (p=0.34).



Above: adenoma detection rate differences between men and women were particularly marked in those under 50 and those 70-79 (p<0.025); below: scope withdrawal times were significantly longer in men than women, regardless of gender (p=0.008) across all groups.



DISCUSSION

- Adenoma detection rates differ between men and women
- Differences in scope withdrawal time between men and women warrant further investigation

METHODS

PATIENT SELECTION

- Endoscopic records between October 2020 and August 2021 at a single Veterans Affairs (VA) medical procedure unit were probed
- Procedural data was extracted by a trained VA data analyst
- All patients undergoing screening or surveillance colonoscopy were considered eligible
 - All patients were >18 years of age
- Pertinent demographics, including age, gender, and race were extracted