



# **PHYSICIAN RECOMMENDED COLORECTAL CANCER SCREENING PREDICTED BY RACE BASED ON NHIS DATA.**

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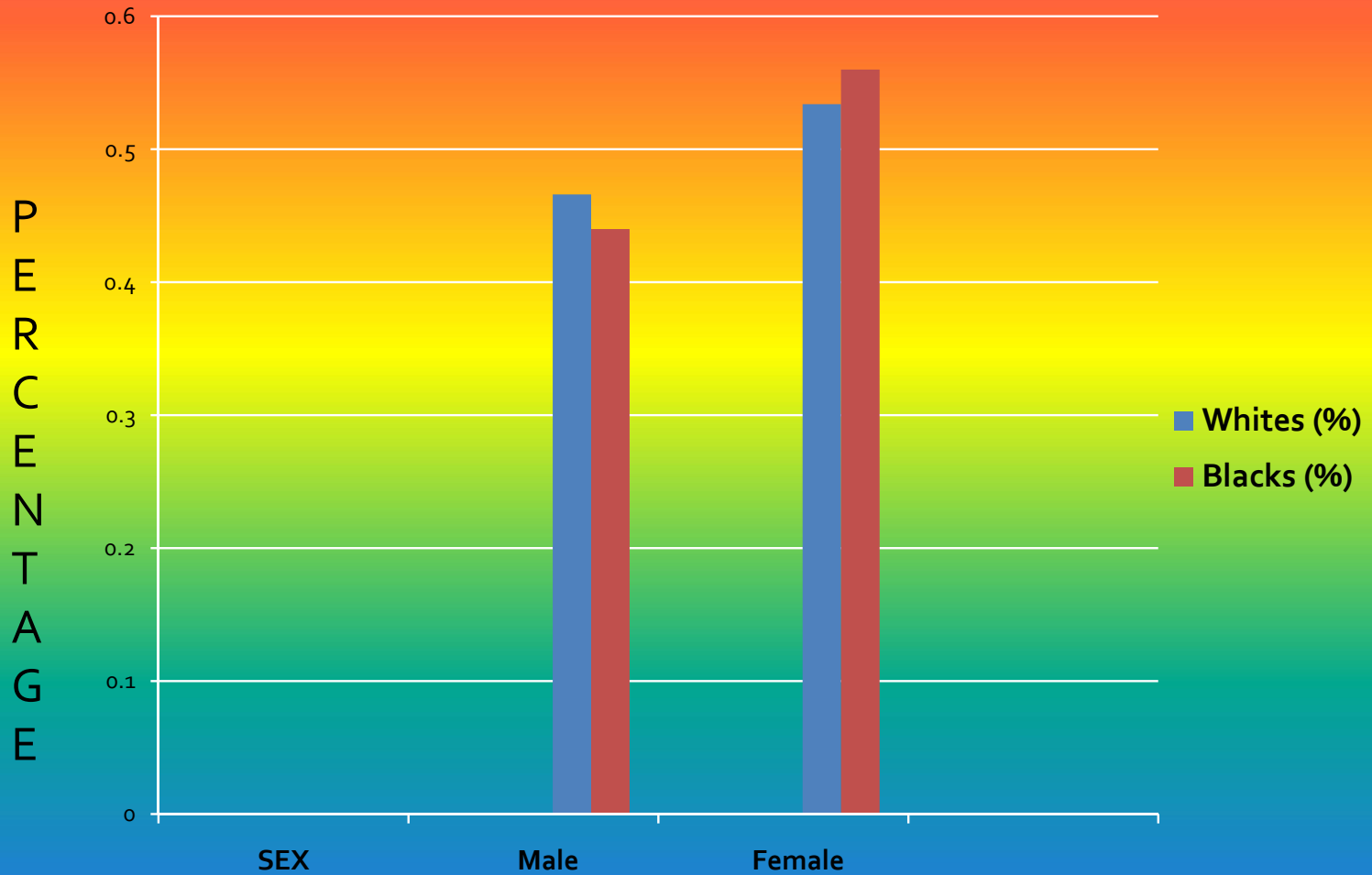
# Colorectal Cancer Screening

- Second leading cause of cancer death for women and men combined
- Estimated 50,000 deaths in 2008 due to Colorectal cancer alone
- The overall lifetime risk of developing colorectal cancer is about 1 in 19 (5.4%)
- Physician recommendation is the number one predictor of colorectal cancer screening

# Methods

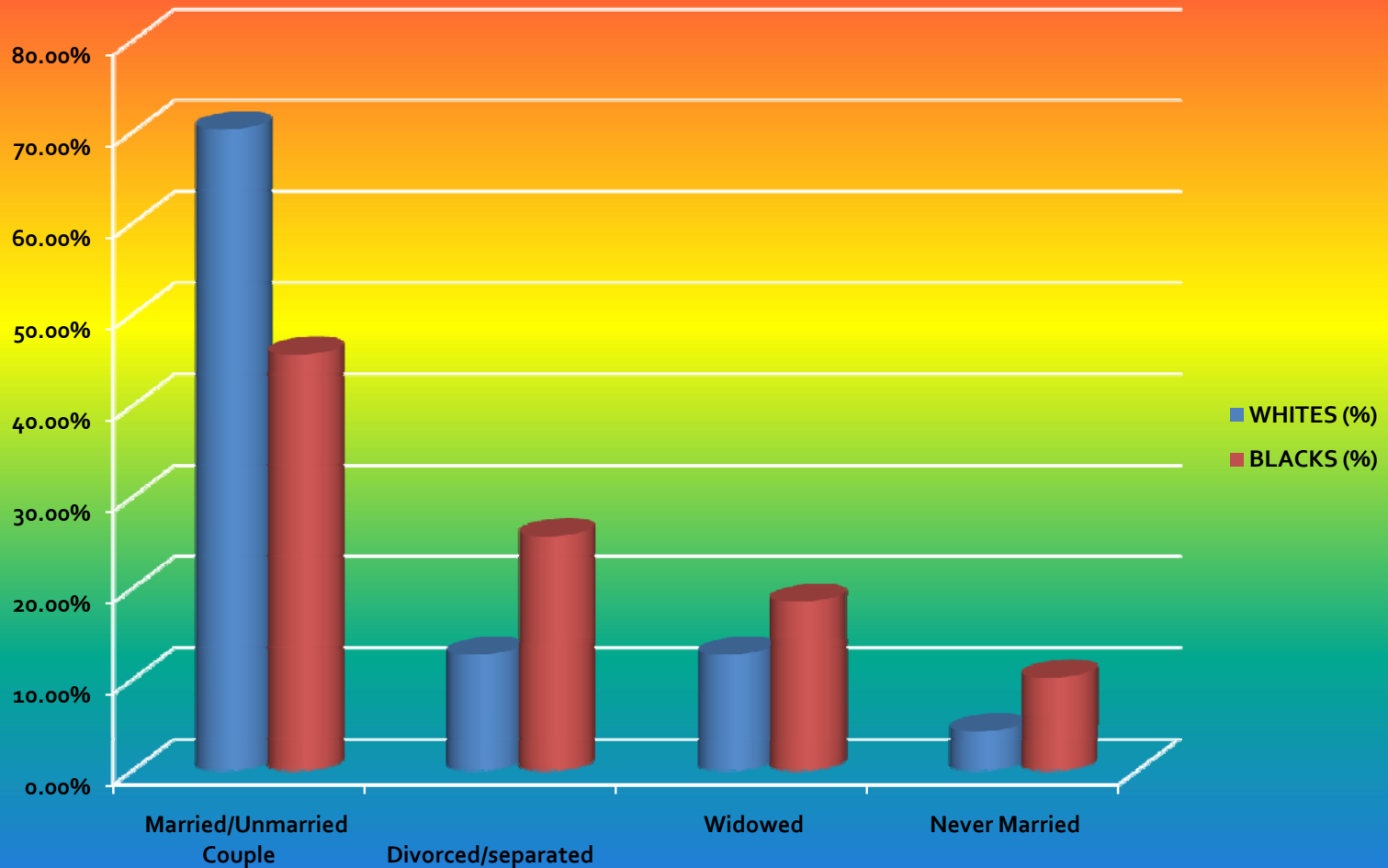
- NHIS is a cross-sectional face-to-face interview conducted annually of the civilian non-institutionalized US population, based on the census data.
- Approximately 100,000 persons and 40,000 households are interviewed yearly with a 90% response rate.
- The NHIS is a complex, multistage probability sample that incorporates stratification, clustering and oversampling of some subpopulations (e.g., Black, Hispanic, and Asian in later years). Redesigned every 10 years.
- The data was analyzed using SUDAAN version 10 to account for the complex sampling design and population weights of the NHIS data.
- This paper selected participants 50 and over and excluded participants with a history of cancer.

# Study Demographics: Gender Whites vs. Blacks (age <50)

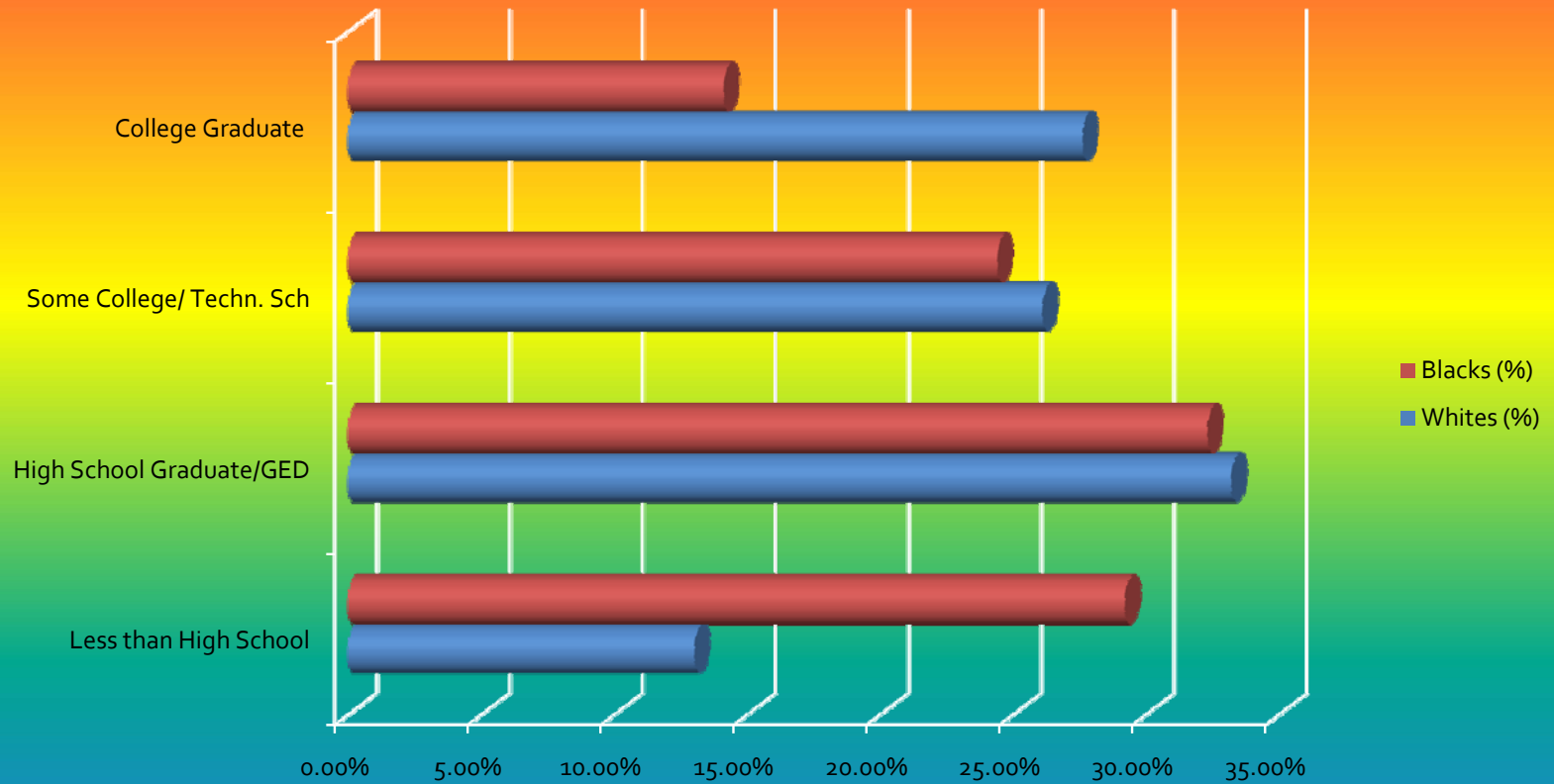


# Marital Status: Whites vs. Blacks

(NHIS, age>50)

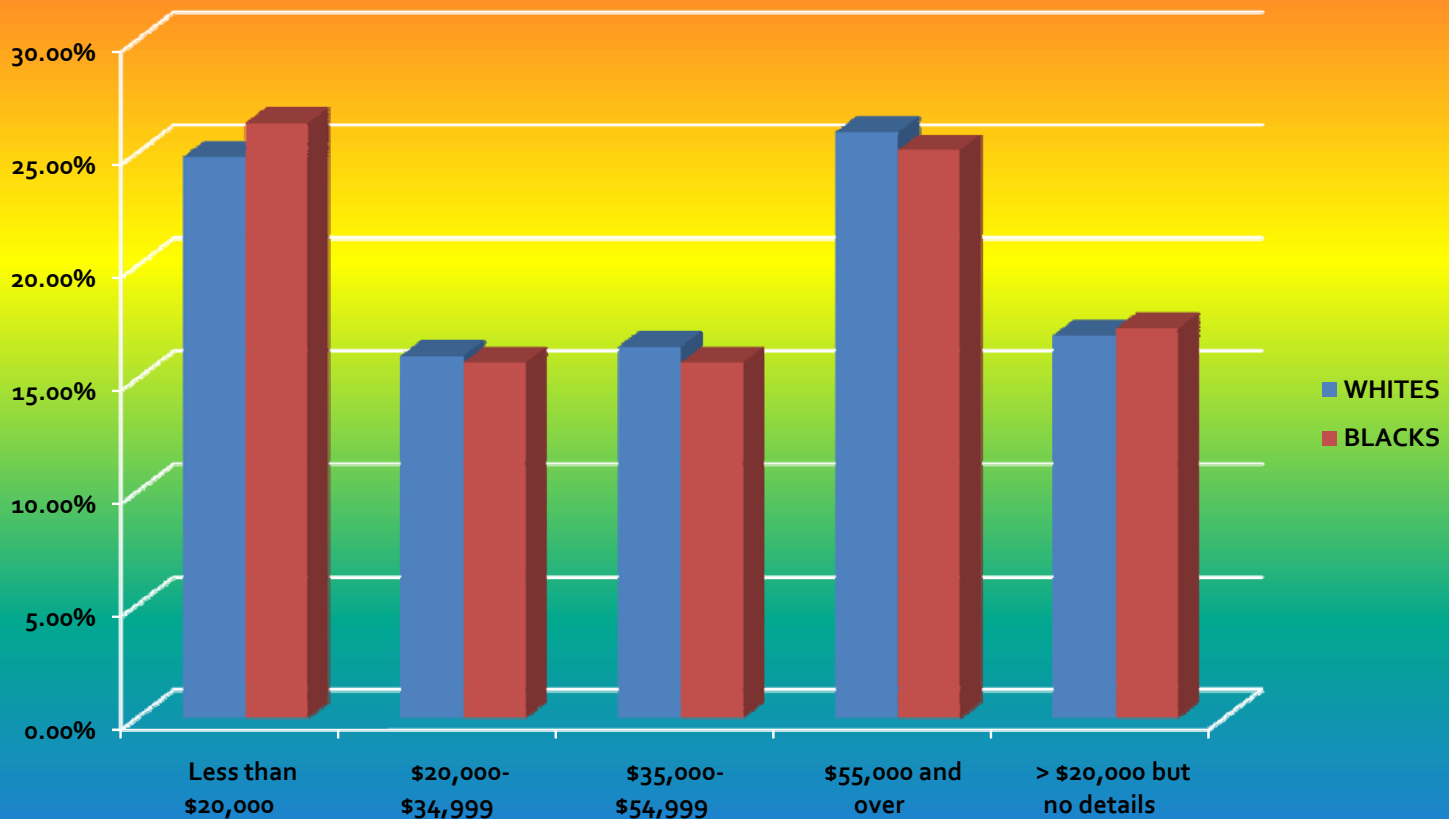


# Education: Whites vs. Blacks (NHIS) age>50

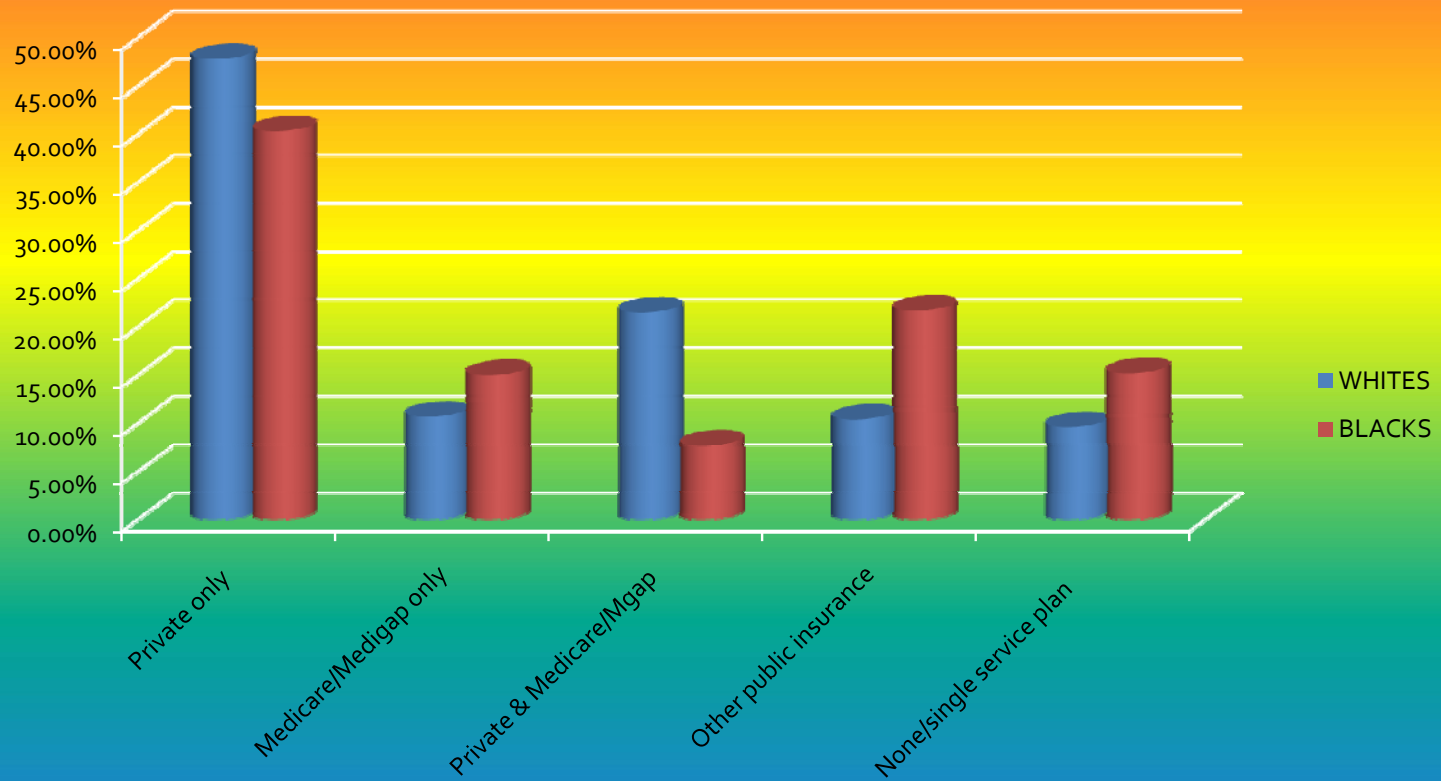


# Family Income: Whites vs. Blacks

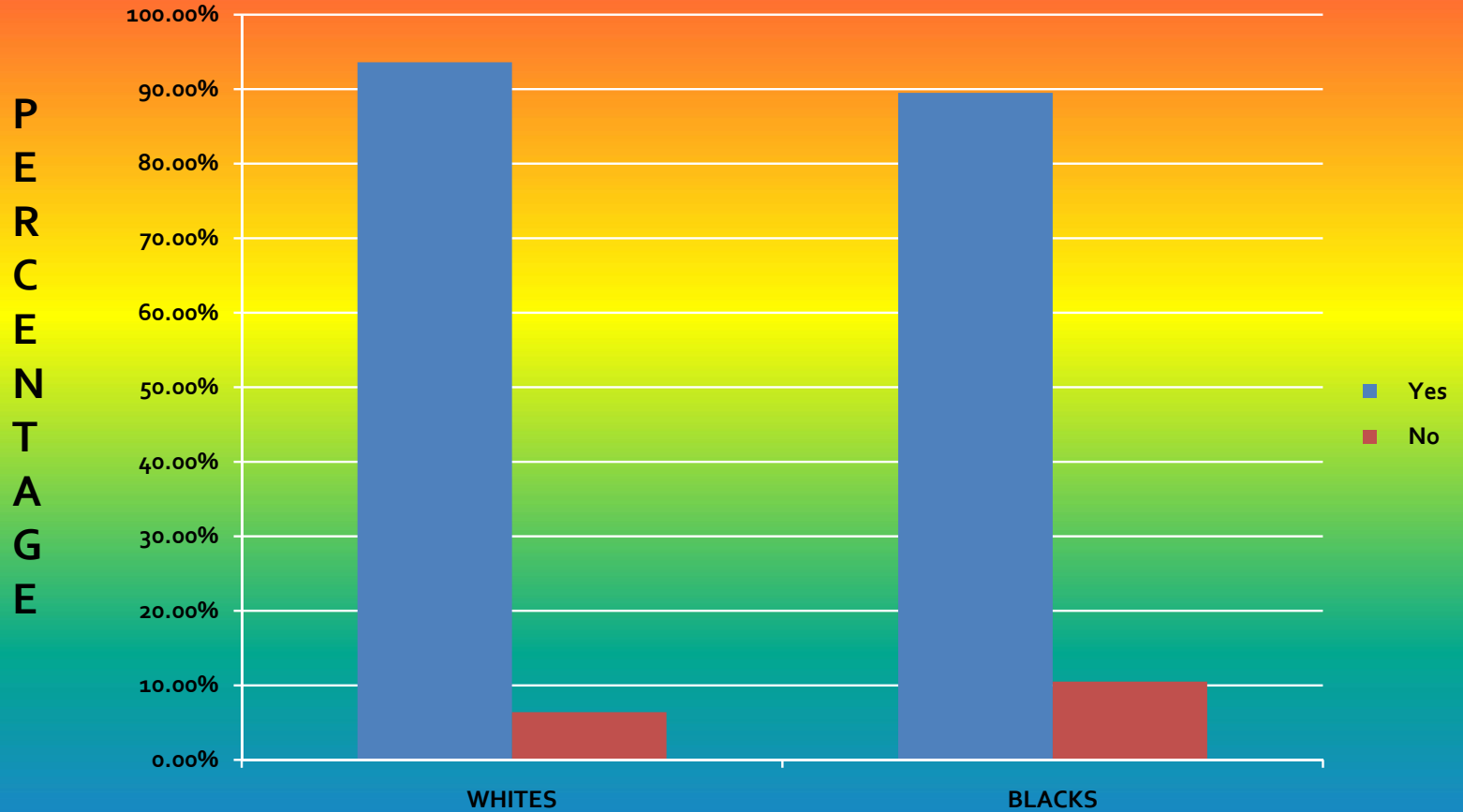
## NHIS, age >50



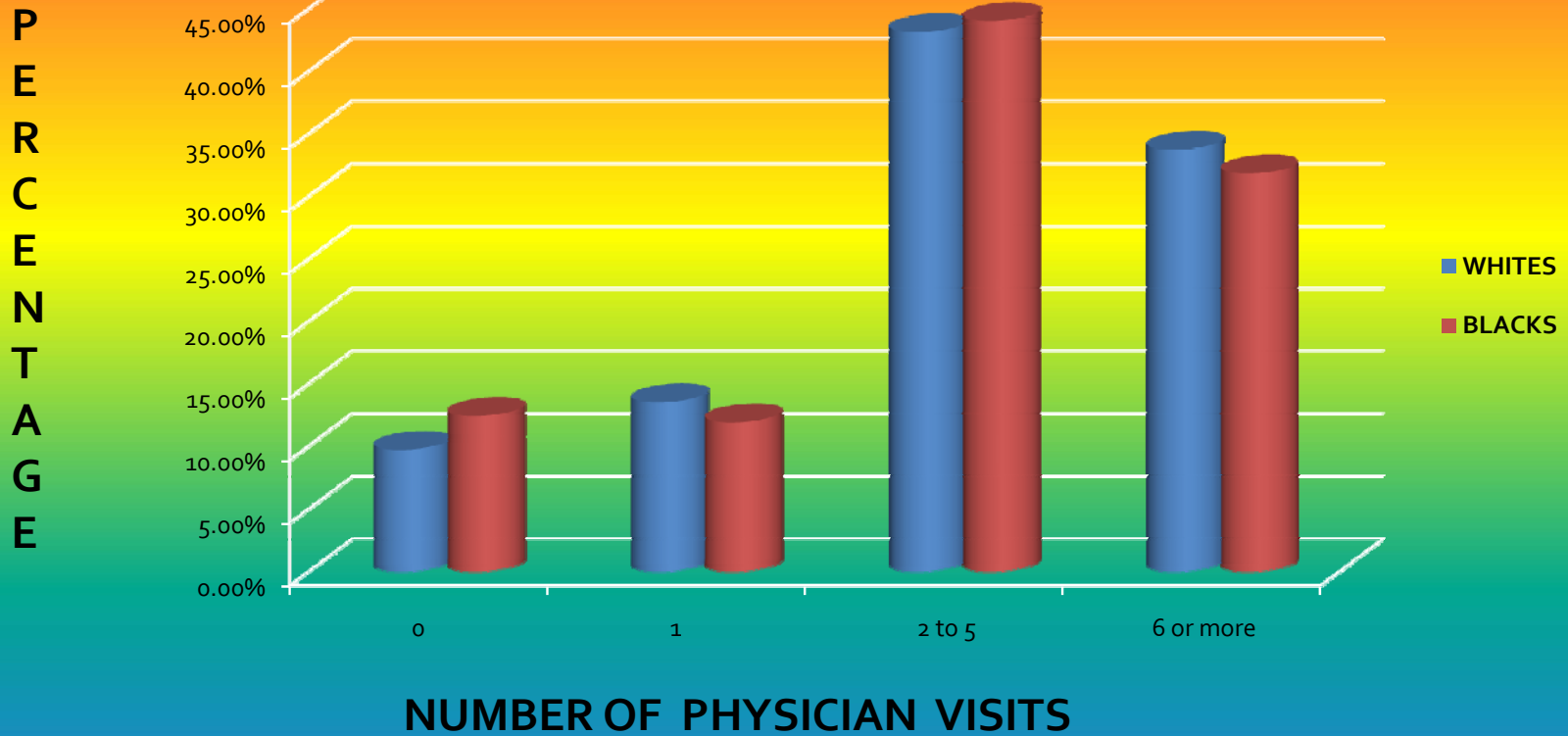
# Insurance: Whites vs. Blacks age > 50



# Usual Source of Primary Care or Routine Care, age>50

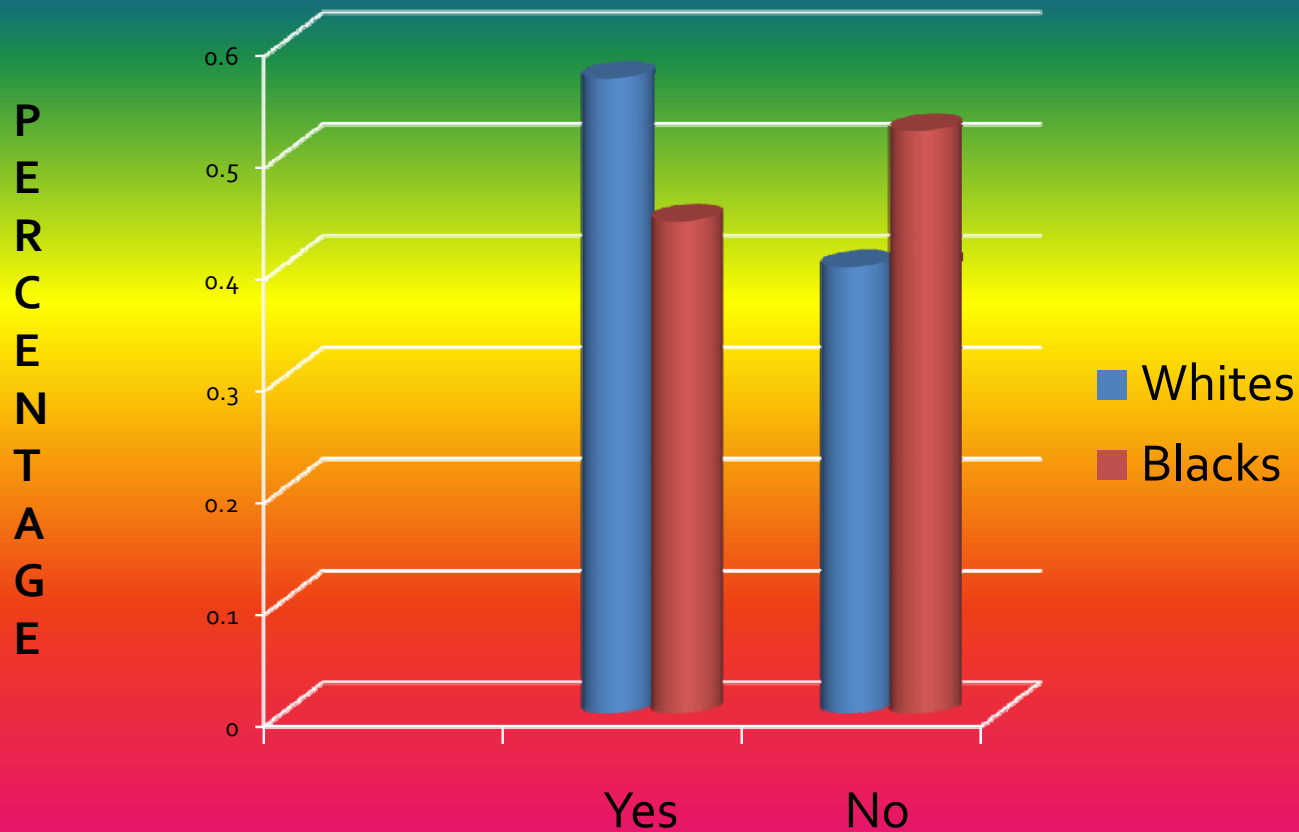


# Number of Physician Visits in Past Year, NHIS age>50



# Physician Recommendation for Colorectal Cancer Screening

Age-adjusted OR= 0.61 (0.53,0.71)



| <b>Characteristics that do <u>NOT</u> predict Physicians' Recommendation of Colorectal Cancer Screening.</b> | <b>O.R.</b> | <b>95%CI (lower, upper)</b> |
|--|-------------|-----------------------------|
| <b>Age</b>   | 1.02        | <b>(1.01, 1.03)</b>         |
| <b>Sex</b>   |             |                             |
| <b>Males</b>   | 1.05        | <b>(0.89, 1.24)</b>         |
| <b>Females</b>   | 1.00        |                             |
| <b>Marital Status:</b>   |             |                             |
| <b>Married</b>   | 1.00        | <b>(.69, 1.07)</b>          |
| <b>Divorced/Separated</b>  | 0.86        | <b>(.65, 1.03)</b>          |
| <b>Widowed</b>   | 0.82        | <b>(.60, 1.15)</b>          |
| <b>Never Married</b>   | 0.83        |                             |
| <b>Family Income</b>   |             |                             |
| <b>Less than \$20,000</b>  | 0.95        | <b>(.75, 1.19)</b>          |
| <b>\$20,00-\$34,999</b>  | 1.01        | <b>(.78, 1.31)</b>          |
| <b>\$35,000-\$54,999</b>   | 0.84        | <b>(.65, 1.10)</b>          |
| <b>\$55,000 and over</b>   | 1.00        |                             |
| <b>Health Insurance</b>  |             |                             |
| <b>Private only</b>  | 1.00        |                             |
| <b>Medicare/Medigap only</b>   | 1.10        | <b>(0.80, 1.51)</b>         |
| <b>Private &amp; Medicare/Medigap</b>  | 1.29        | <b>(1.00, 1.66)</b>         |
| <b>Other Public</b>  | 1.03        | <b>(0.78, 1.36)</b>         |
| <b>None/single service plan</b>  | 0.98        | <b>(0.70, 1.36)</b>         |

# Predictors of Screening Recommendation

| Characteristics                            | O.R. | 95% CI (lower, upper) |
|--|------|-----------------------|
| <b>Race:</b>                               |      |                       |
| Whites (non-Hispanic)                      | 1.00 |                       |
| Black                                      | 0.71 | (0.55, 0.92)          |
| <b>Education</b>                           |      |                       |
| < High School                              | 0.40 | (0.30, 0.53)          |
| High School Grad/GED                       | 0.62 | (0.50, 0.76)          |
| Some College/Tech. Sch.                    | 0.86 | (0.71, 1.05)          |
| College Grad                               | 1.00 |                       |
| <b>Number of Physicians<br/>visit/year</b> |      |                       |
| 0  | 0.23 | (0.16, 0.33)          |
| 1  | 0.40 | (0.31, 0.52)          |
| 2 to 5                                     | 0.71 | (0.59, 0.85)          |
| 6 or more                                  | 1.00 |                       |
| <b>Usual Source of Primary Care:</b>       |      |                       |
| No   | 0.63 | (0.42, 0.95)          |
| Yes  | 1.00 |                       |

# Discussion

- Blacks versus Whites are less likely to report having received a physician recommendation of colorectal cancer screening.
- This finding may be explained by several factors or combination of factors including Physicians' communication style, patients perceptions etc.
- Physicians preoccupation with co-morbidities does not appear to result in less screening recommendation. This study validates other studies that have shown that patients seen by physicians more often are more likely to receive a recommendation for screening.

# Future Recommendations

- Physicians should increase efforts to motivate Blacks patients to undergo screening
- Discussions should include risks and barriers including embarrassment and alternate screening options and a screening method should be selected by patient by the end of the discussion.
- Culturally sensitive materials should also be given to patients to further remind them to undergo screening
- Physicians should follow-up with patients to ensure that they are following their screening recommendations