

# ADHERENCE TO AICR/WICR RECOMMENDATIONS AND RISK OF COLORECTAL CANCER (CRC) IN WHITES AND AFRICAN-AMERICANS IN THE ATHEROSCLEROSIS RISK IN COMMUNITIES (ARIC) STUDY

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## INTRODUCTION

- In 2007, the World Cancer Research Fund (WCRF) and the American Institute for Cancer Research (AICR) prepared a list of 10 Recommendations for Cancer Prevention<sup>1</sup>
- Though incidence of colorectal cancer has been steadily declining since 1985, it remains the 4<sup>th</sup> most commonly diagnosed cancer in the U.S.<sup>2</sup>
- Lower risk of colorectal cancer has been linked to adherence of the WCRF/AICR cancer prevention recommendations<sup>3</sup>, though the impact of race is unknown

## OBJECTIVE

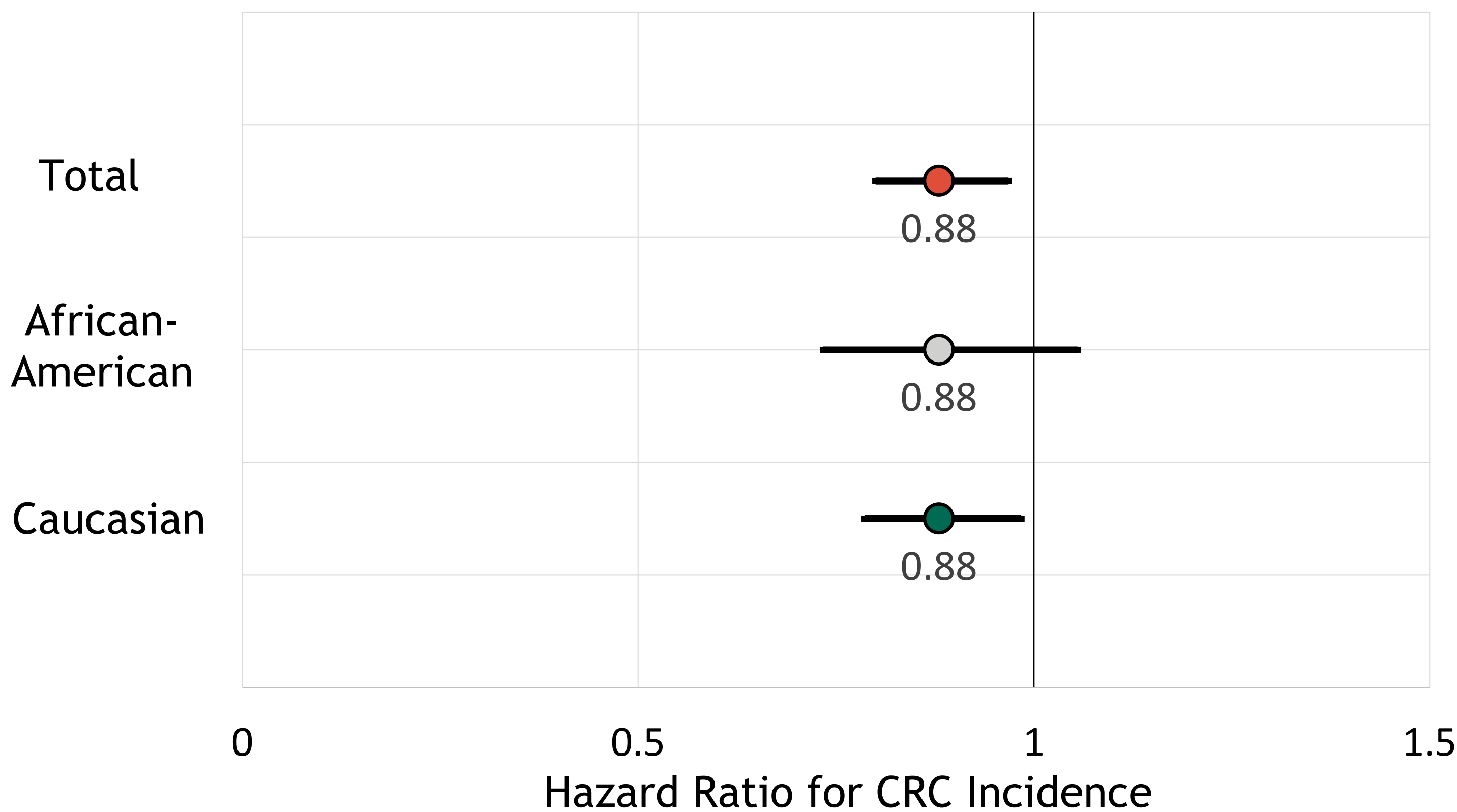
- To evaluate the association between adherence to diet, physical activity, and body weight guidelines and the risk of colorectal cancer development among African-Americans and Caucasians.

## METHODS

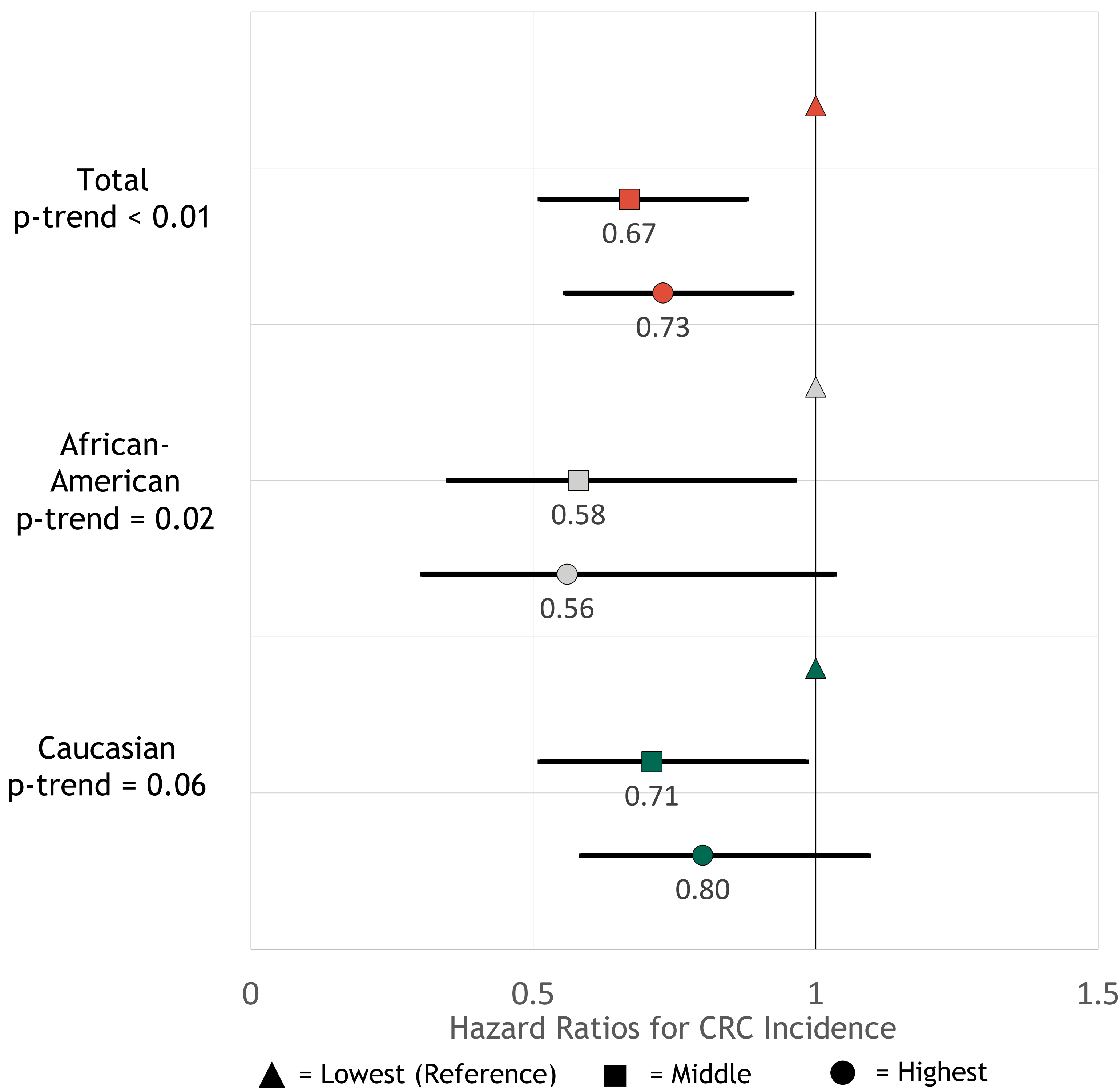
- An adherence score was developed based on the WCRF/AICR cancer prevention guidelines
  - Each recommendation contributed 0, 0.5, or 1 points to the adherence score
  - Adherence scores were categorized as tertiles (Lowest= 0.5 - 4.0, Middle = 4.5 - 5.0, Highest = 5.5 - 8.0)
- 14,031 participants in the ARIC study were cancer-free at their baseline visit (1987-1989), were African-American or Caucasian, and were not missing data used to calculate an 8-component adherence score

WCRF/AICR Recommendation <sup>1</sup>	Included in Score
1. Be as lean as possible without becoming underweight	Yes
2. Be physically active for at least 30 minutes every day. Limit sedentary habits.	Yes
3. Avoid sugary drinks. Limit consumption of energy-dense foods.	Yes
4. Eat more of a variety of vegetables, fruits, whole grains and legumes such as beans.	Yes
5. Limit consumption of red meats (such as beef, pork and lamb) and avoid processed meats.	Yes
6. If consumed at all, limit alcoholic drinks to 2 for men and 1 for women a day.	Yes
7. Limit consumption of salty foods and foods processed with salt (sodium).	Yes
8. Don't use supplements to protect against cancer.	No
9. It is best for mothers to breastfeed exclusively for up to 6 months and then add other liquids and foods.	No
10. After treatment, cancer survivors should follow the recommendations for cancer prevention.	No

### ASSOCIATION OF ADHERENCE SCORE WITH INCIDENT COLORECTAL CANCER, CONTINUOUS



### ASSOCIATION OF ADHERENCE SCORE WITH INCIDENT COLORECTAL CANCER, TERTILES



## RESULTS

- Greater adherence was associated with a 12% lower risk of colorectal cancer (95% CI: 0.80 - 0.97) per 1 score unit. Stratified by race:
  - African-Americans: HR = 0.88, 95% CI 0.73 - 1.06
  - Caucasians: HR 0.88, 95% CI 0.79 - 0.99
- Greater adherence was associated with a 27% lower risk of colorectal cancer (95% CI: 0.55 - 0.95,  $p_{\text{trend}} < 0.01$ ) for the highest versus lowest score tertile. Stratified by race:
  - African-Americans: HR = 0.56, 95% CI 0.30 - 1.03,  $p_{\text{trend}} = 0.02$
  - Caucasians: HR = 0.80, 95% CI 0.58 - 1.09,  $p_{\text{trend}} = 0.06$

## CONCLUSIONS

- Greater adherence to the WCRF/AICR cancer prevention recommendations is associated with a lower risk of CRC development, independent of race
- Categorization by tertiles suggest there may be a threshold number of recommendations followed that is associated with a lower risk of CRC development
- Differences between African-Americans and Caucasians may be due to lower power African-Americans, or potential differences in lifestyle not accounted for in this study

## REFERENCES

<sup>1</sup>World Cancer Research Fund / American Institute for Cancer Research. Food, Nutrition, Physical Activity, and the Prevention of Cancer: a Global Perspective. Washington DC: AICR; 2007  
<sup>2</sup>National Cancer Institute. Surveillance, Epidemiology, and End Results Program. National Cancer Institute. <https://seer.cancer.gov/statfacts/html/colorect.html>. Published 2017. Accessed March 7, 2017.  
<sup>3</sup>Romaguera D, Vergnaud AC, Peeters P, et al. Is concordance with World Cancer Research Fund/American Institute for Cancer Research guidelines for cancer prevention related to subsequent risk of cancer? Results from the EPIC study. Am J Clin Nutr. 2012;96(1):150-63.

## ACKNOWLEDGEMENTS

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