

# Androgen receptor activity and radiotherapeutic sensitivity in African-American men with prostate cancer: A large-scale gene expression analysis and meta-analysis of RTOG trials

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# Disclosure

- Dr. Spratt works for the University of Michigan
- Dr. Spratt served as a one-time consultant for Blue Earth and Janssen

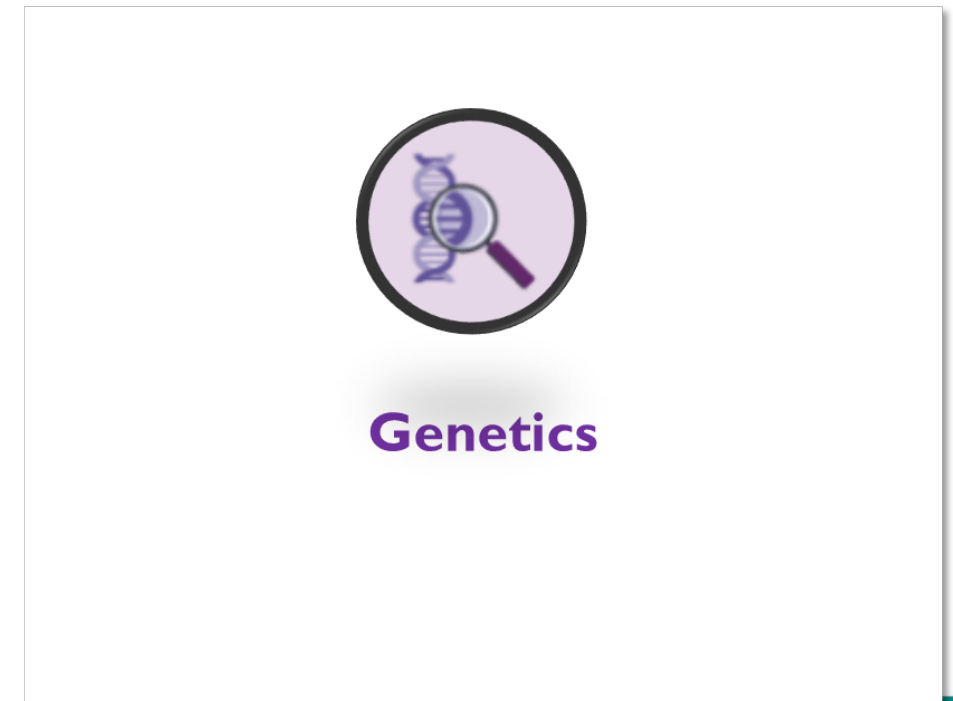
# Background

Black men are more likely to die of prostate cancer than white men in the USA

## Non-biological factors (proven drivers)



## Biological factors (potential drivers)



# Methods

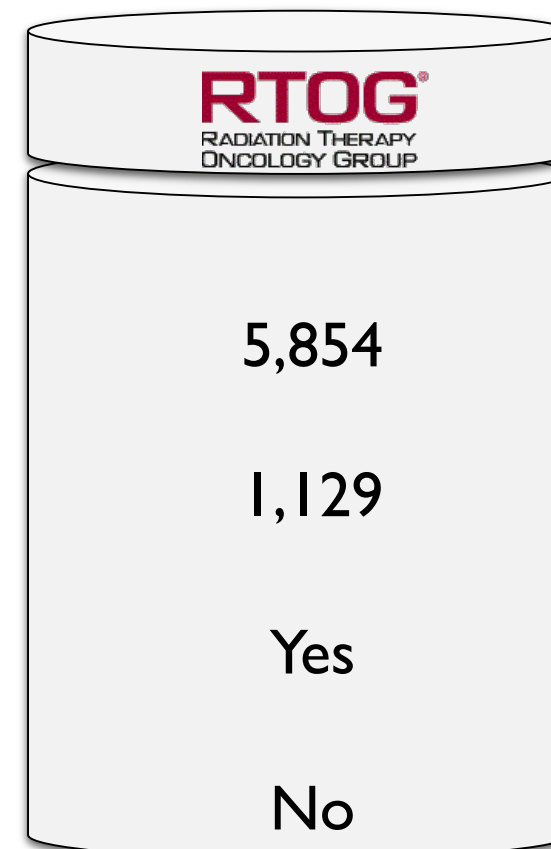
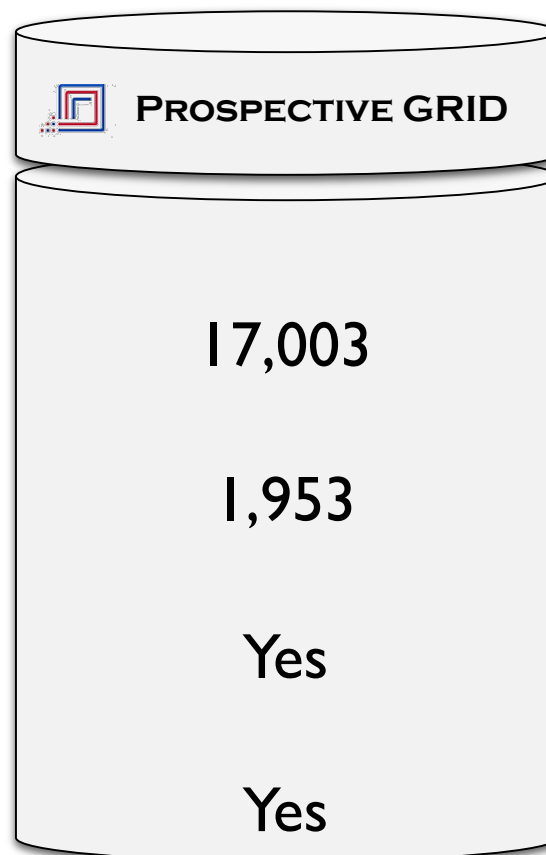
## Sample size

Total

African-American

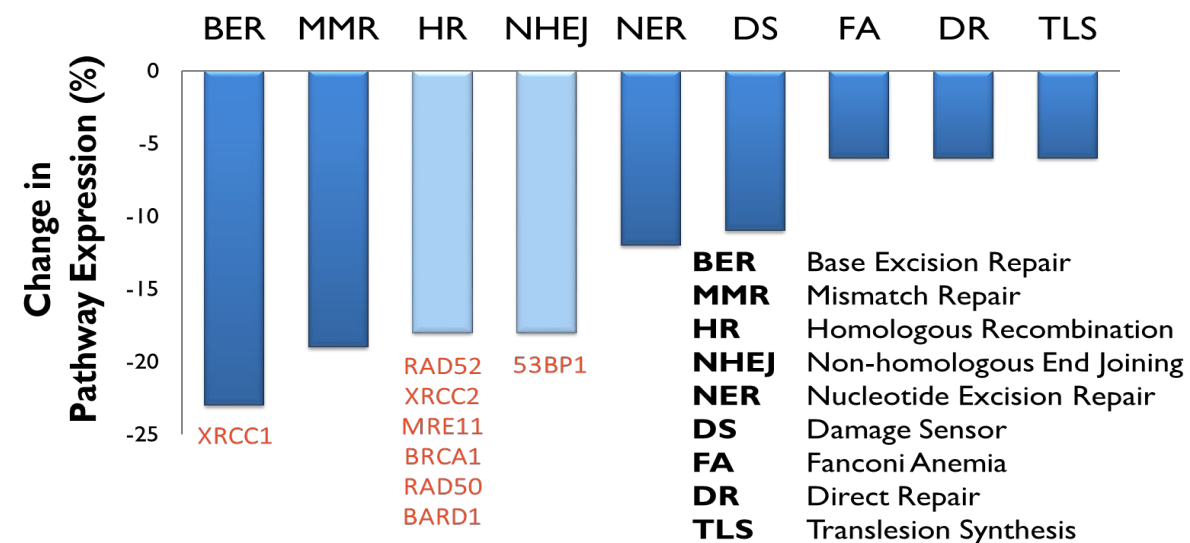
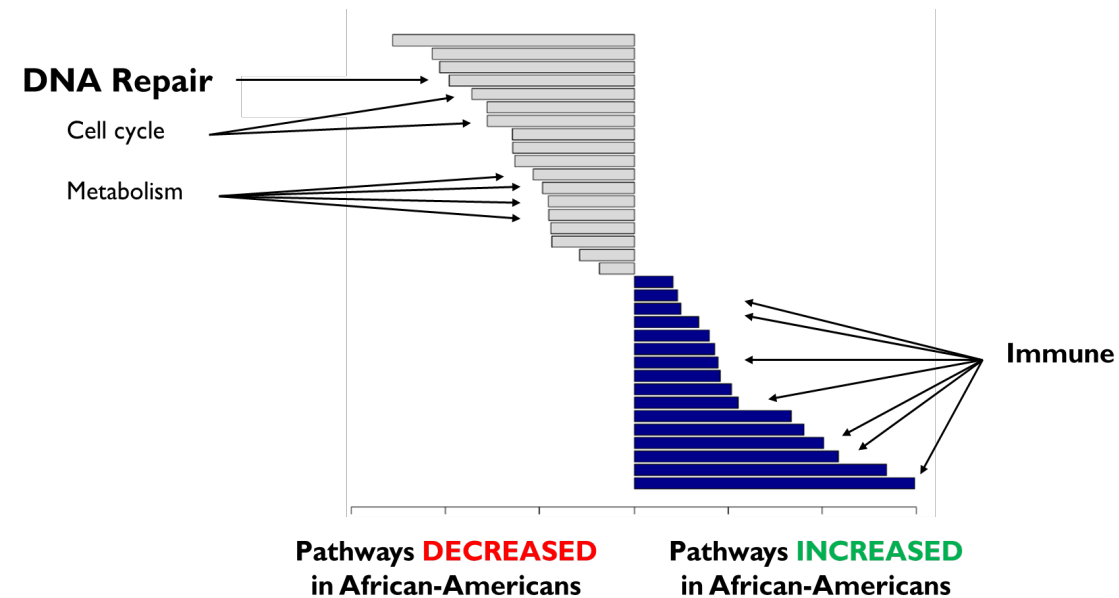
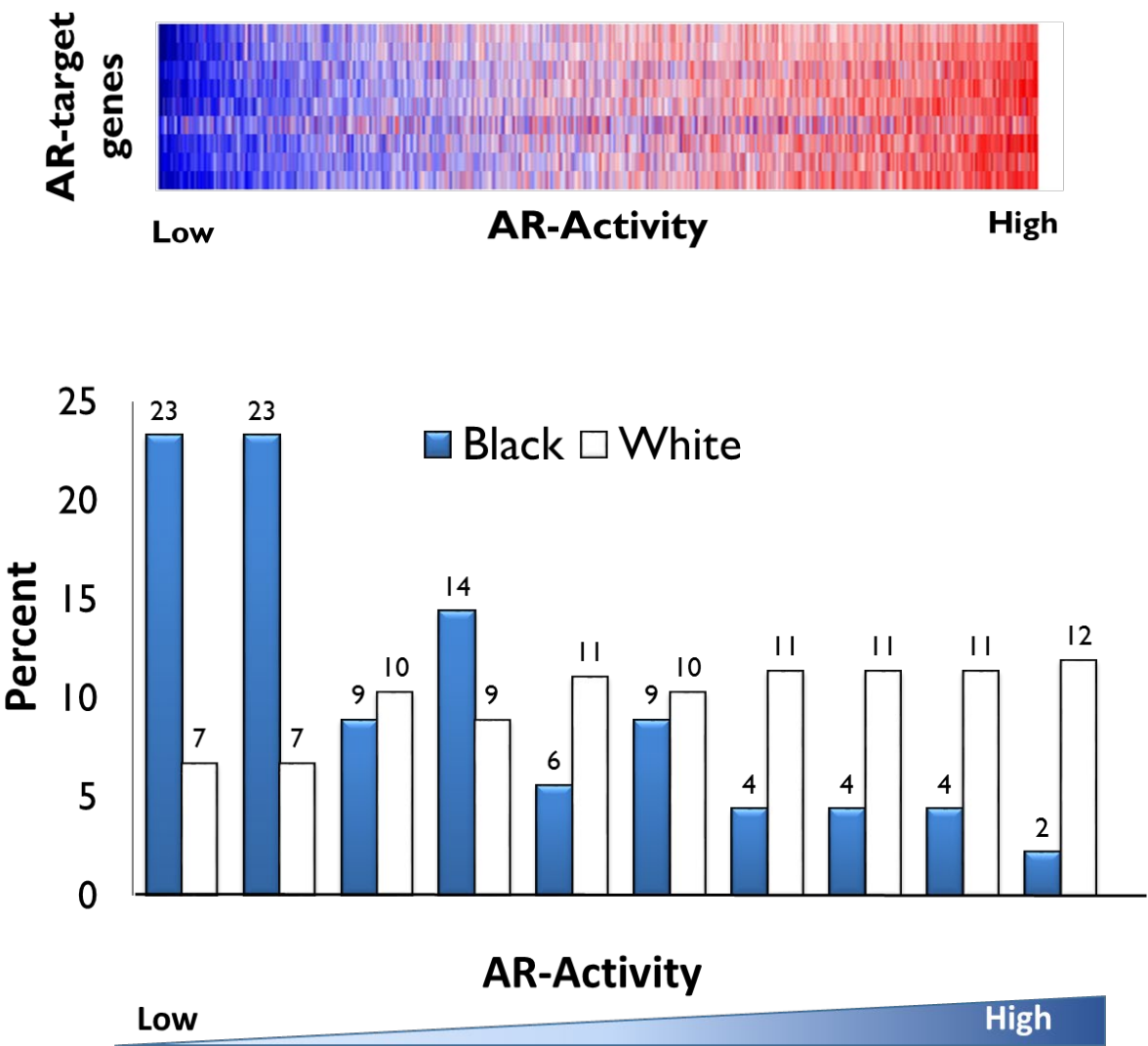
## Prospective

## Gene Expression Data



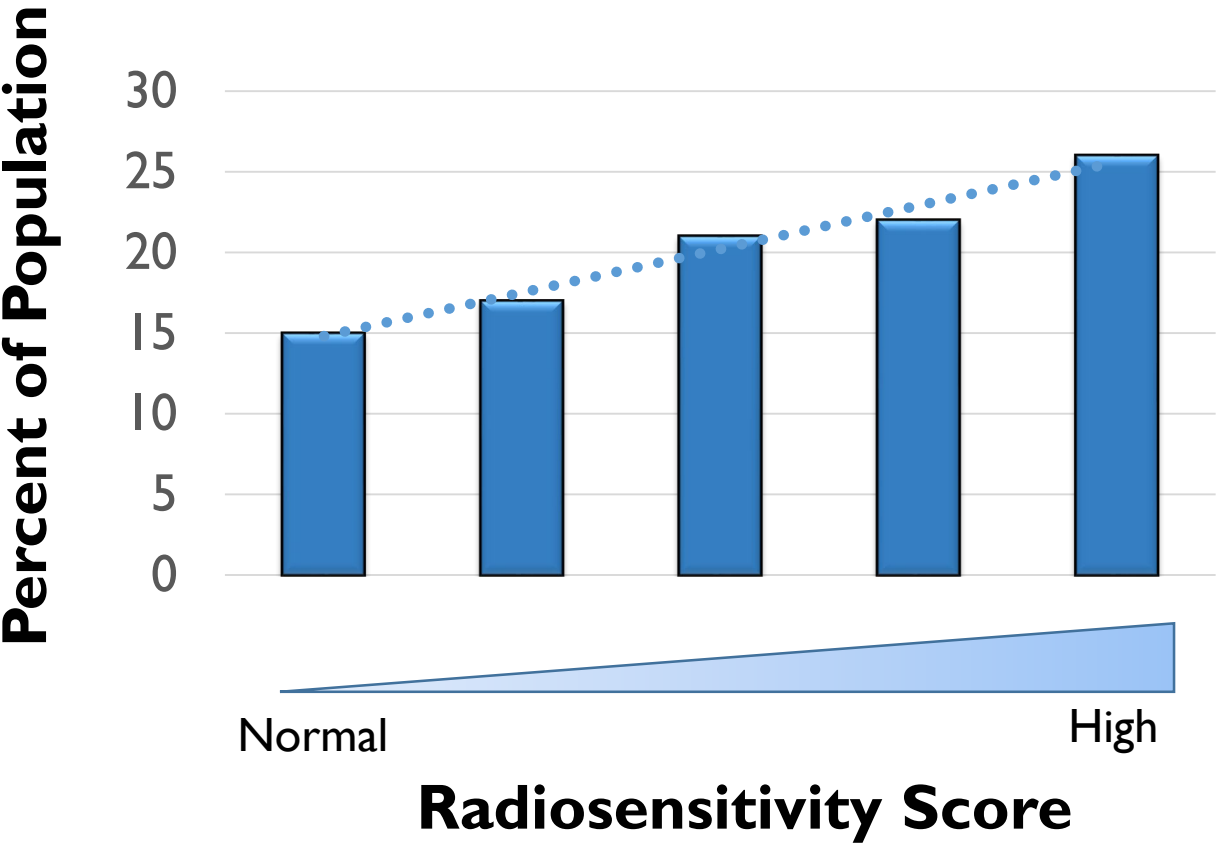
Trials: 9202, 9408, 9413, 9910

# Results: Black men have lower AR-activity and DNA repair expression.

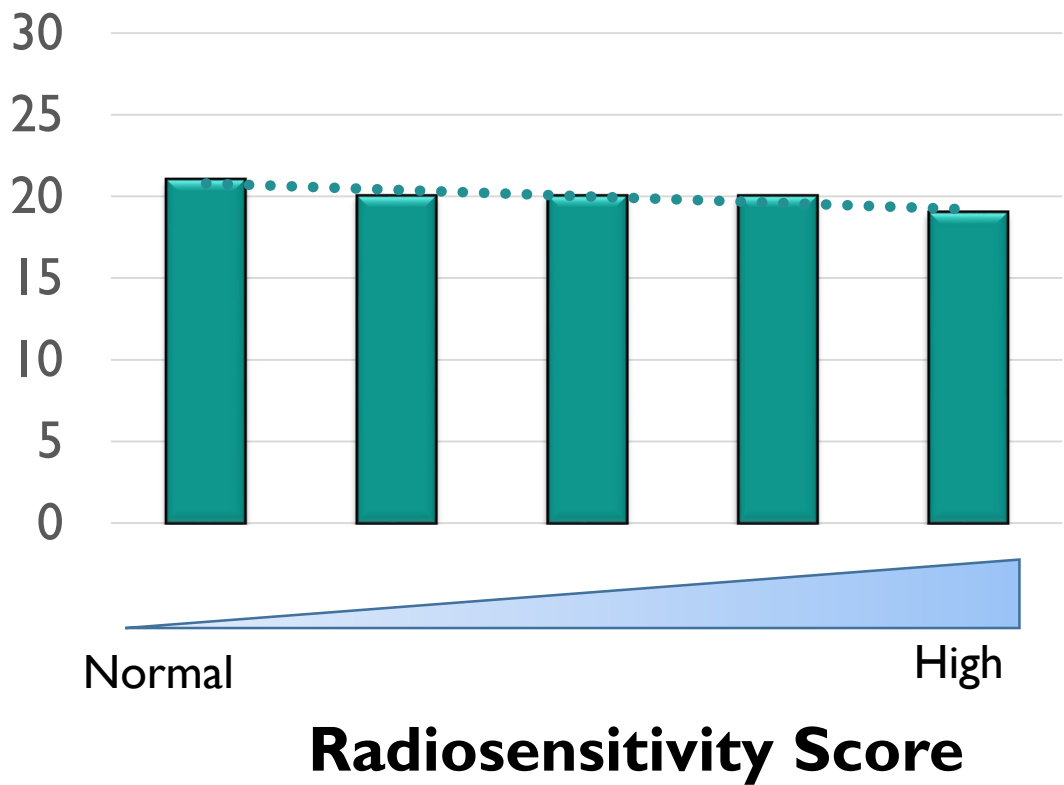


# Results: Black men have greater predicted radiosensitivity scores.

Black Patients

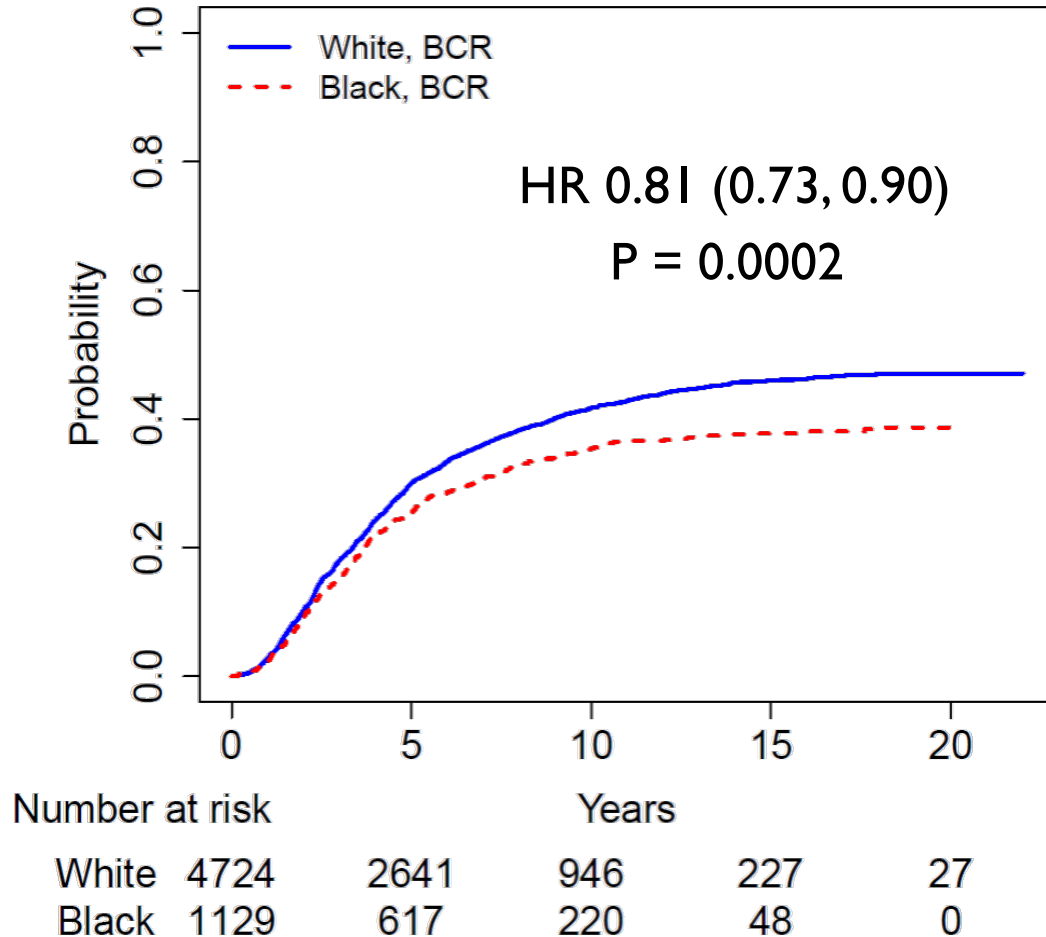


White Patients

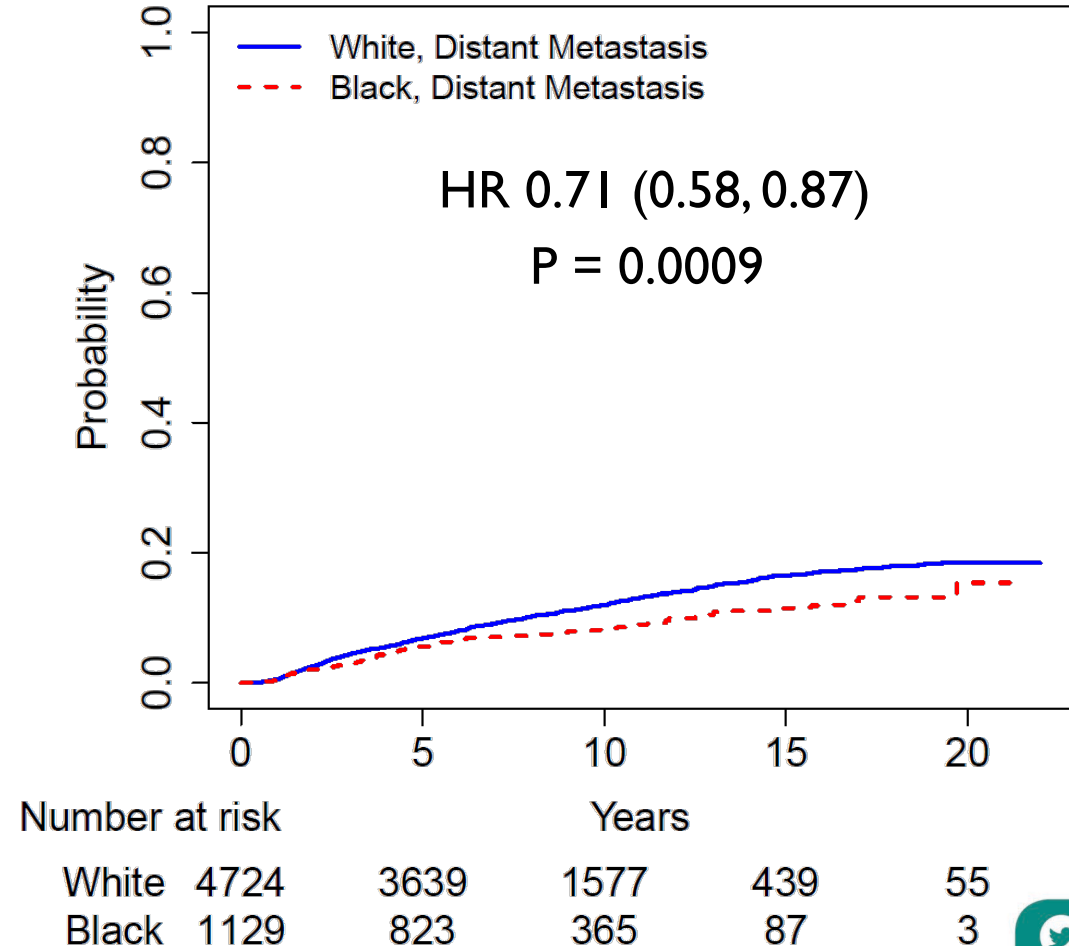


# Results: Black men have lower rates of biochemical recurrence and metastatic disease compared to white men.

## Biochemical Recurrence



## Distant Metastasis



# Conclusions

- Stage-for-stage disparities in prognosis between black and white men with prostate cancer are primarily driven by social/cultural factors.
- A subset of black men with prostate cancer have distinct biology that may favor treatment with radiation therapy.
- Clinically, black men have improved oncologic outcomes when treated with radiation therapy compared to white men.