AACR VIRTUAL CONFERENCE: 13TH AACR CONFERENCE
THE SCIENCE OF CANCER HEALTH DISPARITIES IN RACIAL/ETHNIC MINORITIES AND THE MEDICALLY UNDERSERVED
IN ASSOCIATION WITH THE AACR MINORITIES IN CANCER RESEARCH COUNCIL
October 2-4, 2020
AACR American Association for Cancer Research
FINDING CURES TOGETHER

Rural urban and racial disparities in colorectal cancer survival among the residents of South Carolina, 2001 - 2016

Radhika Ranganathan[1], MPhil, Whitney E Zahnd[1], PhD, Swann Arp Adams[1-3], PhD
Rural and Minority Health Research Center,
Department of Epidemiology & Biostatistics &
College of Nursing, University of South Carolina, USA

Speaker: Radhika Ranganathan

RURAL & MINORITY Health Research Center

Introduction

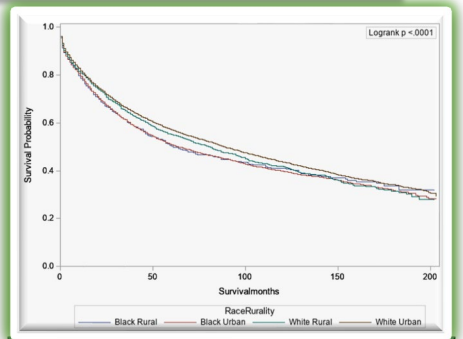
- Colorectal cancer (CRC) is the third most common type of cancer & second leading cause of cancer deaths in both men and women*.
- With the highest reported mortality & incidence for CRC in southern regions of US, South Carolina has a higher incidence rate of 38.1 per 100,000 population (2016) compared to national levels (36.9/100,000)**.
- Despite the improvements in treatment & increased screening initiatives, significant disparities in CRC burden exists which is a major public health concern in the United States.
- Our objective was to look at the rural-urban and racial disparities in CRC survival in South Carolina.

Methods

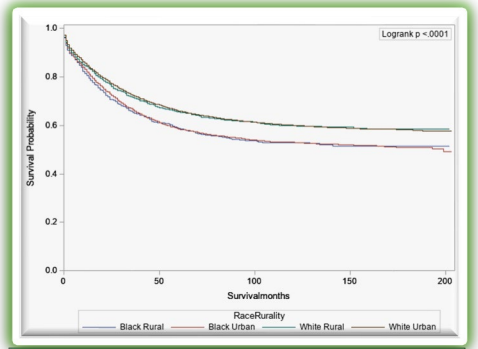
- We utilized surveillance data from South Carolina Central Cancer Registry (SCCCR), available at the SC Department of Health & Environmental Control (DHEC)*.
- Our cohort included 29,618 subjects of both men & women diagnosed with colon (21,611) & rectal (8,007) cancers between 2001 to 2016.
- Rural Urban Commuting Area codes were used to classify rural residence at the time of tumor diagnosis**.
- Descriptive statistics were calculated and compared by rurality using a chi-square test. We constructed Kaplan-Meier curves and calculated 3, 5, and 10-year survival rates.
- Adjusting for rurality, race, age, gender, SEER staging, type of insurance & census tract poverty estimates, multivariable Cox regression models were used to estimate the hazard ratio (HR).
- All analyses were performed using SAS version 9.4 (SAS Institute, Cary, NC).

Results

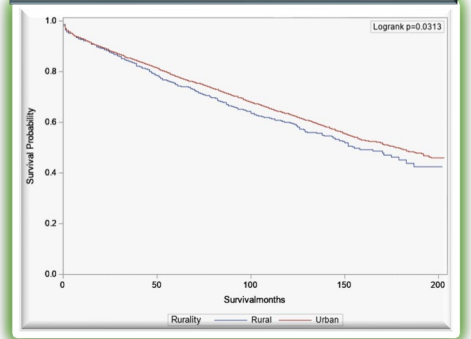
- The rural-urban distribution of cases was 90% urban & 10% rural where 33% of the rural cases were among Black residents.
- Significant rural & racial differences were observed in overall 10-year survival proportion [urban white 60% vs 53% in urban Black & ~59% in rural white vs 52% for rural Black residents P<.001].
- 10-year overall CRC survival proportion was very low for rural males [39% vs 41% urban, P<.05].
- Similarly, rural residents with a localized tumor had significantly lower proportion of overall 10-year survival rates [59% vs 63% urban, P<.05].



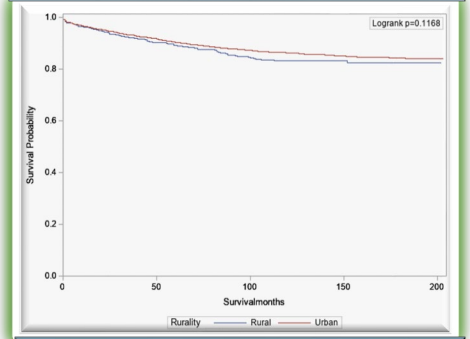
Overall Survival by race & rurality



Disease free survival by race & rurality



Overall – Localized lesion



Disease free – Localized

Results

- In multivariable Cox regression models, the risk of death was higher among black residents as compared to white residents
  - **Overall survival: HR, 1.08; 95% CI, 1.04 – 1.12**
  - **Disease free survival: HR, 1.13; 95% CI, 1.08 – 1.18**
- Risk of death was much higher for those with distant stage cancer compared to those with a localized cancer lesion
  - **Overall survival: HR, 8.36; 95% CI, 7.98 – 8.76**
  - **Disease free survival: HR, 19.88; 95% CI, 18.59 – 21.26**
- Females had significantly lower risk of death as compared to males
  - **Overall survival: HR, 0.78; 95% CI, 0.70 – 0.86**
  - **Disease free survival: HR, 0.78; 95% CI, 0.68 – 0.88**

Conclusions

- Significant rural and racial differences exist in CRC survival for South Carolina residents.
- Assessing the rural-urban variations in survival among patients diagnosed with CRC can inform interventions to improve access to and utilization of screening (i.e., increase early detection) and reduce treatment disparities to improve CRC survival rates especially in rural, Black populations.

Acknowledgement

This study was supported by the Federal Office of Rural Health Policy (FORHP), Health Resources and Services Administration (HRSA), U.S. Department of Health and Human Services (HHS) under cooperative agreement #U1CRH30539

Thank you!

Contact:
Radhika Ranganathan
radhika@email.sc.edu

RURAL & MINORITY Health Research Center