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RURAL AND RACIAL DISPARITIES IN COLORECTAL CANCER INCIDENCE AND MORTALITY IN SOUTH CAROLINA, 1996 - 2016

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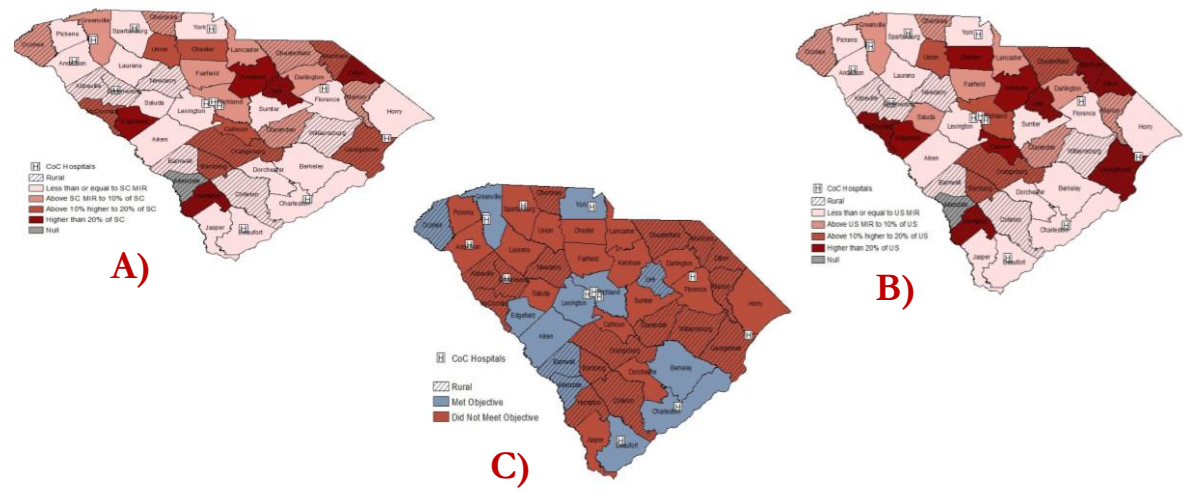
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PURPOSE

❑ Colorectal cancer (CRC) is the third leading cause of cancer mortality in the United States and South Carolina (SC) and its age-adjusted incidence and mortality are highest among Black population. [1]

❑ With a high proportion of Black (27.9%) and rural residents (33.7%), it is important to describe the burden of CRC among these underserved populations in SC [2] as reducing the incidence of CRC remains one of the Healthy people 2020's objective priorities.

METHODS

❑ CRC incidence, staging and mortality data were obtained from the SC Central Cancer Registry.

❑ Urban-rural status was determined Urban Influence Codes (1-2=urban; 3-12=rural).

❑ Mortality-to-incidence ratios (MIRs) for each SC county (2012-2016 period) were calculated and mapped using ArcGIS Version 10.5.1.

❑ Chi-square tests were calculated to examine differences in CRC stage by urban-rural status and race.

❑ Annual percent change (APC) and annual average percent change (AAPC) were calculated to examine trends in incidence and mortality rates across urban-rural and racial subgroups between 1996 and 2016.

Maps of CRC incidence, 2010 – 2015, A) County level MIRs Vs SC MIR; B) County MIRs Vs U.S MIR; C) County level incidence rates by meeting the Healthy People 2020 goals

A)

B)

C)

Age adjusted CRC Incidence & Mortality Rates, 1996 - 2016

AAPC=average annual percent change; *=statistically significant trend at p<0.05

RESULTS

❑ Areas with high MIRs tended to be rural counties.

❑ Rural residents had higher proportions of distant stage CRC compared to urban residents, and Black population had higher proportions of distant stage CRC compared to Whites (26.3% vs. 22.7% and 29.3% vs. 23.7%, respectively; p-value < 0.05).

❑ From 1996-2016, Black and White urban dwelling-residents experienced a significant decline in incidence. Urban Whites, urban Blacks, and rural Whites experienced significant declines in mortality (AAPC= -2.6%UW vs. -2.4%UB vs. -1.6% RW vs. -0.9%RB, respectively).
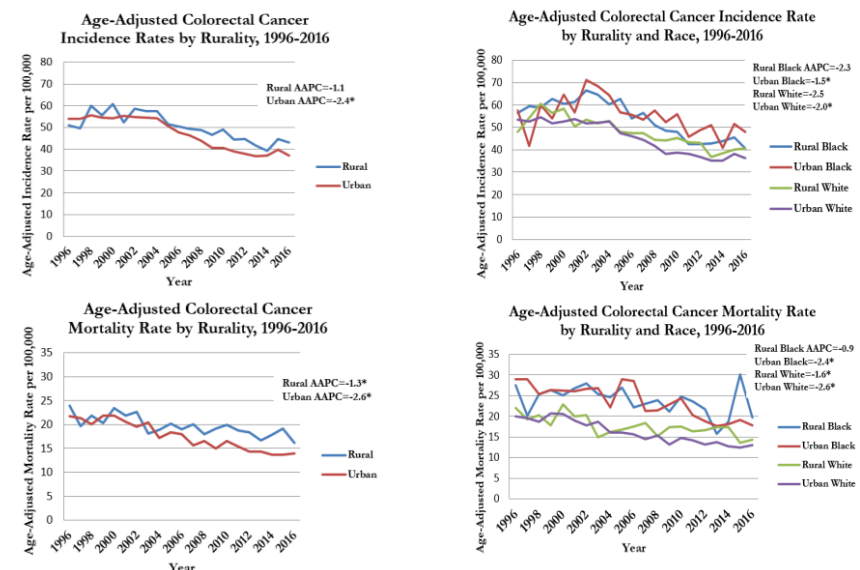
CONCLUSIONS

Despite improvements in CRC screening in recent years, focused evidenced-based interventions for lowering incidence and mortality through improving early detection and treatment among rural and Black populations in SC are necessary.

REFERENCES

[1] Society A. *American Cancer Society. Colorectal Cancer Facts & Figures 2017-2019.*; 2019. https://www.cancer.org/research/cancer-facts-statistics/all-cancer-facts-figures/cancer-facts-figures-2017.html

[2] Health and Demographics Division. South Carolina Statistical Abstract. Accessed June 12, 2020. http://abstract.sc.gov/index.html

ACKNOWLEDGEMENT