Examining Disparities in Incidence of Colorectal Cancer by Race, Ethnicity, Sex, Stage, and Site
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Background
• Over the past 21 years, while the incidence of colorectal cancer in the US has decreased, disparities in race and ethnicity have increased.
• No recent evaluation exists of differences in race and ethnicity by location of primary tumors within the colon and rectum among all age groups.
• Recent literature has shown that there are differences in the rates of colorectal cancer between multiple minority groups; however, many of these studies only compare CRC among White and Black groups.

Research Questions
• What are the differences in incidence between different age, sex, site, and racial/ethnic groups?
• What do the trends over time tell us about disparities between different age, sex, site, and racial/ethnic groups?
• How will our conclusions allow us to prevent cancer onset for all racial and ethnic groups?

Methods
Data Source: SEER Stat v8.3.9 by using the Incidence – SEER Research Data, 18 Registries, Nov 2020 Sub (2000-2018) database. SEER*Stat version 8.3.9 was used to calculate age-adjusted incidence rates. The y-axis scale entitled “Rate/Trend” for each figure is uniform to be a 5-incremented scale bounded from 0-40.

Statistical Analysis: We used SEER*Stat version 8.3.9 to calculate age-adjusted incidence rates (2000 population standard) for colorectal cancer, stratified by sex, stage, and subsite. Incidence trends were characterized in terms of annual percent change in rates over the study period, calculated using SEER*Stat.

Table 2. Trends in Incidence Between Race, Ethnicity, Site, and Sex

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Subsite</th>
<th>Year of Diagnosis</th>
<th>NH White</th>
<th>NH Black</th>
<th>NH AIAN</th>
<th>Hispanic</th>
<th>NH Asians/PI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>Hepatic Flexure</td>
<td>2000-2018</td>
<td>3.4</td>
<td>4.2</td>
<td>3.0</td>
<td>4.1</td>
<td>3.6</td>
</tr>
<tr>
<td></td>
<td>Sigmoid Colon</td>
<td>2000-2018</td>
<td>3.2</td>
<td>3.4</td>
<td>2.6</td>
<td>3.5</td>
<td>3.1</td>
</tr>
<tr>
<td></td>
<td>Rectum</td>
<td>2000-2018</td>
<td>3.2</td>
<td>3.4</td>
<td>2.6</td>
<td>3.5</td>
<td>3.1</td>
</tr>
<tr>
<td></td>
<td>Proximal Colon</td>
<td>2000-2018</td>
<td>3.2</td>
<td>3.4</td>
<td>2.6</td>
<td>3.5</td>
<td>3.1</td>
</tr>
<tr>
<td></td>
<td>Distal Colon</td>
<td>2000-2018</td>
<td>3.2</td>
<td>3.4</td>
<td>2.6</td>
<td>3.5</td>
<td>3.1</td>
</tr>
</tbody>
</table>

Table 2. Trends in Incidence Between Race, Ethnicity, Site, and Sex (continued)

Results
Figure 1. Male Colorectal Cancer Incidence Trends by Stage

Figure 2. Female Colorectal Cancer Incidence Trends by Stage

Conclusions
• As others have reported, we observed declining incidence in colorectal cancer, but found that some racial and ethnic groups experienced higher incidence rates compared to other groups by diagnosis site and the stage of diagnosis.
• Comparing diagnosis at the different subsites, decreases in the proximal colon were the largest.
• Comparing stage of diagnosis, declines were observed for every stage; however, diagnosis at the regional stage was higher than at the other stages.

Responsible Conduct of Research
In order to ensure the proper interpretation of the data, the y-axis scale entitled “Rate/Trend” for each figure is uniform to be a 5-incremented scale bounded from 0-40 to facilitate appropriate comparison across groups.

Relation to Cancer Prevention
This project allows future investigators to help identify the factors that contribute to these disparities for developing biological, structural, or behavioral interventions to reduce disparities in cancer and promote cancer prevention.

References

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