Background

- In the United States (US), skin cancer is the most frequently diagnosed cancer, with malignant melanoma accounting for 75% of all deaths.¹
- Warning signs of melanoma include asymmetrical moles with irregular borders, varied color and diameter larger than 6mm.² (Figure 5)
- In Georgia (GA), the rate of new melanoma diagnoses was 13% higher than the national average from 2002-2008.³
- Studies have shown a relationship between melanoma and socioeconomic status (SES), with high SES associated with increased incidence.⁴
- Limited research on melanoma in GA has been conducted, so initial epidemiologic descriptions of geographic and racial trends are important.

Methods

- Age-adjusted melanoma incidence rates (IRs) were obtained from the Georgia Comprehensive Cancer Registry SEER*Stat Database for the years 2000-2010.
- Maps were generated using Geographic Information Systems (GIS) to compare incidence rates across public health districts and by race.
- Hot spots of melanoma incidence were analyzed at the county level using the Getis-Ord Gi* Statistic in GIS.

Results

- From 2000-2010, age-adjusted IRs of melanoma were slightly higher in GA than the US (20.8 vs. 20.2 per 100,000 population). (Table 1)
- In GA, IRs were much higher among Whites than Blacks (27.5 vs. 1.1). (Table 1)
- Over those 10 years, IRs among Whites have been steadily increasing (from 22.3 to 29.6), whereas rates for Blacks have remained constant (average of 1.1). (Figure 1)
- Of the nine districts with the highest incidence rates for Whites and Blacks, only one (1-1) was categorized as a low SES district. (Figures 2 and 3)

Results Continued

- All but one of the districts with high SES were located in the northern part of GA. (Figures 2 and 3)
- For Whites, the highest melanoma incidence rates were concentrated in the urban areas surrounding Atlanta. (Figure 2)
- For Blacks, the highest melanoma incidence rates were spread to the more rural areas in the northern and southern regions of GA. (Figure 3)
- For all races, there were statistically significant hotspots of melanoma IRs in 27 of the northern counties of GA (17% of all GA counties). (Figure 4)
- There were statistically significant “cold spots” (areas with low melanoma IRs) in 18 counties in the central area of GA (11% of GA counties). (Figure 4)

Table 1. Overall Incidence Rates for Georgia and the United States by Race, 2000-2010

<table>
<thead>
<tr>
<th>Race</th>
<th>Georgia</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>27.5</td>
<td>23.8</td>
</tr>
<tr>
<td>Black</td>
<td>1.1</td>
<td>1.0</td>
</tr>
<tr>
<td>All</td>
<td>20.8</td>
<td>20.2</td>
</tr>
</tbody>
</table>

Rates are per 100,000 and age-adjusted to the 2000 US Standard Population (19 age groups - Census P25-1130).

Discussion

- Map comparisons of public health districts in GA are consistent with previous research findings that higher melanoma incidence rates are associated with high SES in Whites and, to a lesser extent, in Blacks.⁴
- Understanding the difference in geographic distribution of high melanoma incidence rates among Blacks and Whites will help target prevention and education efforts.
- Future research will focus on additional factors that contribute to SES besides median per capita income as well as individual-level cancer data.

Conclusion

- Melanoma interventions in Georgia should focus on urban White and rural Black at-risk populations, especially those with high SES.