Melanoma Surveillance in the United States: Overview of Methods

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Outline

• Melanoma supplement project
  – Rationale
  – Overview of articles
  – Analysis criteria
  – Current status/issues
  – Results: preliminary data
NPCR and SEER State and Metropolitan Registries

*National Program of Cancer Registries (CDC)
†Surveillance, Epidemiology, and End Results Program (NCI)
Rationale:

– Burden of melanoma has primarily been characterized using SEER data
– Reports suggest melanoma increasing
– More population coverage enables study of
  • Geographic variation (UV)
  • Racial/ethnic variation
  • Histologic subtypes
  • Etc.
– Basal and squamous cell not collected
Melanoma Supplement

• ~75 Authors and Participants
  – State Cancer Registries
    • CA, FL, ID, LA, TX, GA, AR, MO, NJ, NH, KS, AZ
  – Academia-Universities and Cancer Centers
    • Harvard, Sloan-Kettering, Case-Western, Emory
  – National Cancer Institute
  – American Cancer Society
  – CDC
• Process
  – Monthly meetings
  – Peer review (internal clearance + journal peer review)
• Projected 2010 publication
  – Journal of the American Academy of Dermatology
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• Issues for steering committee
  – Race/ethnicity
  – Site categories
  – Histology categories
  – Underreporting in non-hospital settings
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• Issues
  – Underreporting in non-hospital settings
  – State concerns related to data completeness

• Addressing concerns
  – Article on underreporting
  – Methods to examine incidence
  – Exclusion of states with concerns about completeness
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Proposed articles

• NPCR/SEER combined data:
  – Methods (including descriptive epi)
  – Burden in young adults
• Racial/ethnic variations
  – Histology, site and age
  – Stage and staging scheme changes
• NPCR/SEER combined with other data sets:
  – UV and melanoma
  – SES and melanoma
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Proposed articles, continued

• SEER only:
  – Multiple primary cancers after melanoma
  – US trends

• Other aspects:
  – Underreporting and state registry activities
  – Nat’l behavioral surveys assessing sunprotective behaviors
  – Comprehensive cancer control programs
  – Melanoma screening
  – Commentaries
Melanoma Supplement: Current Status

• Most papers complete or nearly complete
• Process:
  – Supplement editorial review (overall fit, dermatologist review, stats review)
  – CDC clearance if CDC author
  – DCPC ADS informal review if no CDC author
  – Cleared articles to JAAD for peer-review
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Methods

- NPCR/SEER 2004—2006
  - Some articles use 1999—2006
  - Excluded states not meeting USCS criteria
  - Excluded states with concerns about completeness
  - 78% population coverage
- “Melanoma of the skin” defined as:
  - ICD-0-3 site code C44.0-C44.9
  - Histology codes 8720-8790
  - Does not include melanomas of genital skin or non-cutaneous melanomas
Methods, Continued

• Incidence rates
  – Expressed per 100,000 persons
  – Age-adjusted to 2000 US Standard Population
  – Calculated using SEER*Stat 6.5.2
  – 95% confidence intervals
Results
## Melanoma by race and Hispanic ethnicity, United States, 2004-2006

<table>
<thead>
<tr>
<th></th>
<th>Average Annual Count</th>
<th>Age-Adjusted Incidence Rate</th>
<th>95% C.I.</th>
</tr>
</thead>
<tbody>
<tr>
<td>All races/ethnicities</td>
<td>45,566</td>
<td>19.22</td>
<td>(19.12, 19.33)</td>
</tr>
<tr>
<td>White, Hispanic</td>
<td>779</td>
<td>4.71</td>
<td>(4.51, 4.92)</td>
</tr>
<tr>
<td>White, non-Hispanic</td>
<td>42,389</td>
<td>23.27</td>
<td>(23.14, 23.40)</td>
</tr>
<tr>
<td>Black</td>
<td>240</td>
<td>1.06</td>
<td>(0.98, 1.14)</td>
</tr>
<tr>
<td>API</td>
<td>144</td>
<td>1.51</td>
<td>(1.36, 1.66)</td>
</tr>
<tr>
<td>AI/AN</td>
<td>84</td>
<td>4.58</td>
<td>(4.00, 5.22)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>826</td>
<td>4.69</td>
<td>(4.50, 4.90)</td>
</tr>
</tbody>
</table>

*based on 78% of the population.
Rates of Invasive Melanoma among Non-Hispanic Whites by State, United States, 2004—2006

Legend
Rate per 100,000
Not included in analysis
11.94-20.32
20.33-24.73
24.74-72.37
Incidence rate of melanoma by age and sex, United States, 2004—2006

- Male
- Female
Melanoma by site on the body and sex, United States, 2004-2006

*based on 78% of the population.
Melanoma by histology, United States, 2004—2006

- Superficial spreading melanoma: 28.8%
- Nodular melanoma: 6.9%
- Lentigo maligna melanoma: 6.0%
- Acral lentiginous melanoma: 1.0%
- Melanoma NOS and other: 57.2%

*based on 78% of the population.
Melanoma Incidence Rates By Stage and State, Grouped into Low, Medium, and High Tertile Groups, 2004—2006

- **Low** (15 states)
- **Medium** (16 states)
- **High** (15 states)

![Bar chart showing incidence rates for different stages and tertiles.](chart.png)
Conclusion

• Limitations
  – Potential for undercount
  – Unable to look at thickness (Breslow score)
  – Many “melanoma NOS” histologies

• Comprehensive look at melanoma covering majority of US population
  • Geographic variation (UV)
  • Racial/ethnic variation
  • Histologic subtypes
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Thank you

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