

# Melanoma Surveillance in the US: Melanoma, Ultraviolet Radiation, and Socioeconomic Status

[Announcer] *This program is presented by the Centers for Disease Control and Prevention.*

[Meg Watson] Hi. I'm Meg Watson, an epidemiologist with CDC's Division of Cancer Prevention and Control. I'm excited to announce the publication of a series of important articles on melanoma surveillance in the United States. The articles are available in the November supplement edition of the *Journal of the American Academy of Dermatology*, published October 21, 2011.

Today I'm speaking with Chris Johnson, from the Cancer Data Registry of Idaho. He analyzed the data for two articles that examined melanoma at the county level. Chris, tell me about your studies.

[Chris Johnson] Meg, I looked at melanoma incidence at the county level using cancer registry data, combined with two other datasets. One contained information on ultraviolet, or UV, radiation exposure from the sun, and the other contained information on socioeconomic status, or SES. We combined these datasets with the cancer registry data on melanoma incidence.

[Meg Watson] Previous studies found an association between UV exposure from the sun and melanoma. What's new about your study?

[Chris Johnson] We used 30 years of meteorological data to estimate solar UV exposure for each county. This gave us more stable UV exposure estimates than is possible with shorter time periods. We also used data for 74 percent of the US population, making this the largest study of its kind to date. We divided the counties into three groups, depending on whether they had low, medium, or high UV exposure from the sun. Then we looked at new cases of melanoma diagnosed in those groups of counties. We found that non-Hispanic white men older than 35 had more melanoma in the high UV sun exposed counties, as did non-Hispanic white women older than 65.

[Meg Watson] So, the association was stronger for men than for women?

[Chris Johnson] Yes. We don't know why. In our study, we didn't have individual-level estimates of UV exposure, so we couldn't take individual differences into account. This means things like getting sunburned on vacation, working outdoors, using sunscreen, or using a tanning bed were not included in our study.

[Meg Watson] Your other study examined SES and melanoma. What exactly do you mean by SES?

[Chris Johnson] Socioeconomic status includes a constellation of factors, including income and education that, together, have a strong effect on health. For most cancers and other diseases, low SES, meaning having lower income and less education, is associated with having more disease and worse outcomes. Melanoma incidence doesn't usually follow this pattern. We've seen before

that wealthier, more educated people are generally more likely to be diagnosed with melanoma. But once it gets diagnosed they are less likely to die from it than poorer people, who might be diagnosed later or have fewer options for treatment.

[Meg Watson] So how did you examine SES and melanoma?

[Chris Johnson] We used county-level census information to find out how many people lived in poverty, the median household income, how many people aged 25 years or older completed high school, and unemployment levels. We also looked at how rural or urban the counties were. Then, we adjusted for other factors that might affect risk of getting melanoma.

[Meg Watson] And what were your results?

[Chris Johnson] Well, for the SES measures looking at poverty, income, education, and unemployment, we found that higher SES was associated with more melanoma in a county. When we limited the data to early stage melanomas that hadn't spread in the body, we got the same results. However, when we only looked at late stage melanomas, we found that SES differences didn't seem to have an impact.

[Meg Watson] Hmm, why do you think that is?

[Chris Johnson] We don't know for sure. Some people think that wealthier people are diagnosed more often with melanoma because they go to the dermatologist more often. Most melanomas are early stage, not late stage. Late stage melanomas don't vary as much by county and state, so there aren't as many differences between the low and high SES counties for late stage melanomas.

[Meg Watson] OK. Thanks, Chris, for your time today and for the information on melanoma. For more information on skin cancer, visit [www.cdc.gov/cancer/skin](http://www.cdc.gov/cancer/skin).

*[Announcer] For the most accurate health information, visit [www.cdc.gov](http://www.cdc.gov) or call 1-800-CDC-INFO.*