

*Editorial***Rapidly Increasing Trends of Melanoma in Nonwhite Populations: New Data from New Zealand**

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In this issue, Sneyd and Cox of the New Zealand Cancer Registry (1) report a near doubling of malignant melanoma rates (2.3 per 100,000 to 4.3 per 100,000) over an 11-year period from 1996 to 2006 among persons of native Maori ethnicity (who comprise about 15% of the total New Zealand population), in light of only a 12% increase among New Zealand Europeans (30.9 per 100,000 to 34.6 per 100,000), and little increase among Asians and Pacific Islanders, whose rate was about 0.8% over this time period. Arguably more concerning than the increasing incidence trend, the melanoma increases in Maori people seem to be due predominantly to higher numbers of thick (>1.0 mm) tumors. Melanomas in Maori people were most likely to be nodular (15.9%), a proportion similar to that observed in Pacific Islander people (17.1%), but much higher than New Zealand Asians (8.7%) and Europeans (10.5%). Though these are the first data documenting a rapid increase in melanoma among Maori persons, the increase is not unexpected, because recent reports have suggested increasing rates of melanoma among many nonwhite populations, including Hispanics (2, 3) and Asian-Americans in the United States,¹ and other darker-skinned populations in other parts of the world (4, 5). The world-wide increase, especially among lighter-skinned populations, is usually ascribed to changing UV light intensity and behaviors regarding exposing the skin to UV light, indoors and outdoors (6, 7). But alternative attributions include increased screening, biopsies, and better reporting of thin melanomas to cancer registries (8).

The Maori people came to New Zealand in about 850 AD and settled in the warm and sunny north island.² Traditionally Maori people were farmers, gatherers, and fishers,² but in the second half of the 20th century there was a movement to urban areas, such that now about 50% of the 435,000 Maori people live in urban areas, predominantly the city of Auckland.³ Like many nonwhite indigenous minority populations, the Maori have lower average measures of health and educational attainment and experience ill effects of both institutional and direct racism.³ Though this study did not measure the relative social economic status (SES) of

patients, the pattern of melanoma seen in the Maori people reflect those reported recently for non-Hispanic white persons living in the lowest SES areas of California, for whom increases in melanoma, especially tumors ≥ 2 mm thick, were the steepest of all SES groups (3).

The authors provide several hypotheses to explain the increasing melanoma rates in the Maori people: changing environmental UV exposure; changing phenotype toward lighter skin; and increased screening and surveillance; and to these we may add changing patterns of sun exposure and burning due to intermittent, intense exposure (e.g., holidays in sunny areas), increasingly recognized as an important and common risk factor in European populations. Inter-marriage has been common among the Maori people, so the phenotype of the self-identified Maoris has probably been changing with respect to skin color (9). This possibility is underscored by the practices of both the New Zealand cancer registry and census to use self-report as the basis for ethnic classification and a priority system assigning person reporting multiple ethnicities to Maori. The likelihood that increased screening and surveillance explain the changes is not well supported by the observation that thicker cancers account for much of the increased rates. The authors suggest that thicker cancers may be due to delay in diagnosis, different biological behaviors in different ethnicities, and biological development of different histologies.

A major limitation of this study is the small number of cancer cases in the non-European subpopulations; there were 16,210 cases in New Zealand Europeans, but only 157 in Maoris (and even fewer in Pacific Islander and Asian populations). This is a common problem in studies of melanoma among nonwhite populations, for example, Cress and Holly (9) reported melanoma rates for California over a 6-year period and were able to include 9,769 non-Hispanic whites, but only 361 Hispanics, 55 Asian/Other, and 42 African Americans. The exceedingly small numbers of cases complicates needed subanalyses of melanoma patterns by thickness, histology, gender, and age. In this study, the authors were careful to use 3-year running averages to smooth out yearly fluctuations

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¹ Surveillance Epidemiology and End Results (SEER). Available from: <http://seer.cancer.gov/faststats>.² Hutchinson Encyclopedia. Maori. Available from: <http://encyclopedia.farlex.com>.³ Wikipedia. Maori. Available from: <http://en.wikipedia.org/wiki/Maori>.

in rates and crude rates when age adjustment was not possible. Another limitation noted by the authors is missing data; 36.7% of Maori melanoma cases had missing histology subtype, 4.9% missing body site, and tumor thickness was missing for 18% but improved to 5% over the study period. However, these missing data problems are similar to those in other registries (3). Finally, the authors also have pointed out possible biases due to self-identification of ethnicity and reporting delay to the registry. Despite these limitations, the findings seem sound and consistent with the world-wide literature.

Thus, the upward trend in Maori people is likely real and this pattern, in addition to the characteristics of the most common melanomas (thicker and of poorer prognosis), in the Maori people has substantial public health implications. First, it is important to dispel the notion that melanomas do not occur in persons self-identifying as members of nonwhite ethnic groups. This may relate in some part to changing phenotype in these populations (10). Second, the doubling of melanoma rates in this and other nonwhite populations underscores the importance of close and ongoing surveillance in these groups, as well as studies of melanoma risk factors to learn if they are different from those suspected in light-skinned populations. Third, we must begin creating educational materials and screening programs that specifically target these populations. These data, combined with growing international data from other nonwhite populations, clearly identify the need for world-wide reassessment of clinical and public perceptions of who gets melanoma.

Disclosure of Potential Conflicts of Interest

No potential conflicts of interest were disclosed.

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