Preliminary Generational Trends in Malignant Melanoma in the United States

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Background

- Incidence of malignant melanoma in the US has been increasing[1]
- Lifestyle changes across generations affect UV exposure[2]
- Previous research found the increasing incidence from older to younger birth-cohorts appeared to be beginning to stabilize.[3]

➢ Study Objective

To investigate if the incidence of melanoma continues to increase between more recent birth-cohorts

Methods

Data Source: The Surveillance, Epidemiology, & End Results (SEER) program's 9 original population-based registries: CT, HI, IA, NM, UT, Detroit, Atlanta, San Francisco-Oakland, Seattle-Puget Sound [4,5]

Inclusion Criteria:

- Malignant melanoma (in-situ excluded)
- Diagnosed 1975 – 2016
- White
- ≥20 years of age

Birth Cohorts: Birth year was calculated by subtracting age from year of diagnosis and then grouped into cohorts of five years

Statistical Methods: Poisson regression estimated age-adjusted incidence rates for five-year birth-cohorts

- stratified by sex and anatomic site of the original lesion

Results - Males

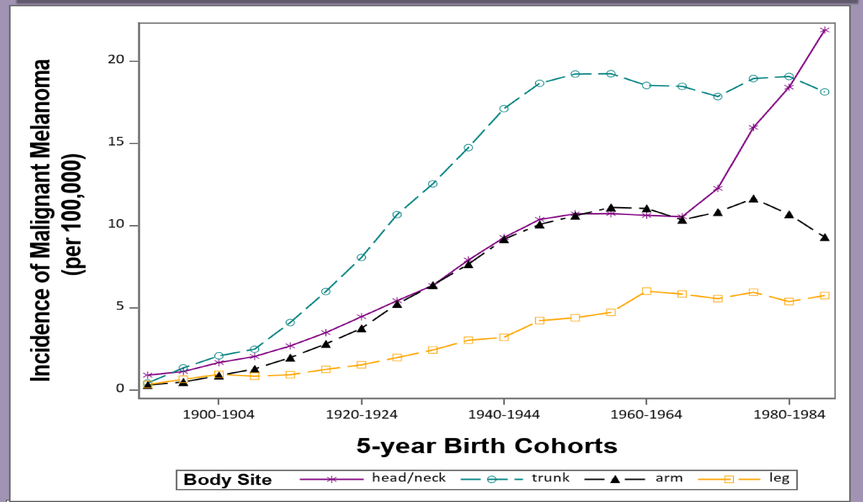

Figure 1: Age-adjusted incidence of malignant melanoma in males for 5-year birth cohorts by body site of original lesion.

Table 1: Age-adjusted incidence rate ratios (RR) of malignant melanoma in males by body site of original lesion. RRs express the ratio of each 5-year birth cohort to the previous within each range of years.

	1890-1939 Birth Cohorts		1940-1989 Birth Cohorts	
Anatomic Site	N	RR [95% CI]	N	RR [95% CI]
head/neck	14845	7.5 [6.7, 8.3]	10557	1.5 [1.3, 1.8]
trunk	15623	10.8 [9.2, 12.7]	23013	1.1 [1.0, 1.2]
arm	10211	13.4 [11.4, 15.8]	11776	1.2 [1.1, 1.4]
leg	3088	6.7 [5.6, 7.9]	5659	2.0 [1.6, 2.4]

➢ Conclusions

- **Incidence of melanoma continues to increase between birth-cohorts**
- **The burden of melanoma will increase as recent cohorts age.**

Results - Females

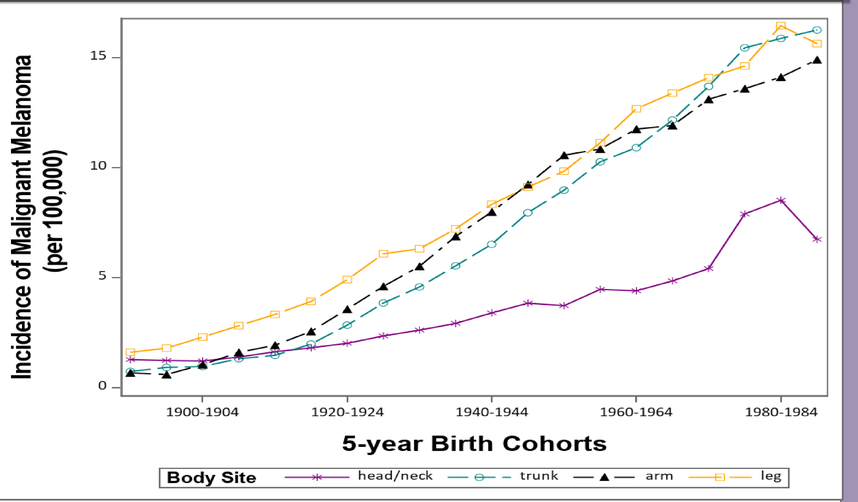

Figure 2: Age-adjusted incidence of malignant melanoma in females for 5-year birth cohorts by body site of original lesion.

Table 2: Age-adjusted incidence rate ratios (RR) of malignant melanoma in females by body site of original lesion. RRs express the ratio of each 5-year birth cohort to the previous within each range of years.

	1890-1939 Birth Cohorts		1940-1989 Birth Cohorts	
Anatomic Site	N	RR [95% CI]	N	RR [95% CI]
head/neck	6056	2.8 [2.5, 3.2]	4556	2.3 [1.9, 2.8]
trunk	4896	9.5 [8.1, 11.2]	14485	2.6 [2.3, 2.9]
arm	8088	10.2 [8.9, 11.5]	13031	1.9 [1.6, 2.2]
leg	8228	4.4 [3.8, 5.1]	15889	2.1 [1.9, 2.3]

References

1. Howlader N, Noone AM, Krapcho M, Miller D, Brest A, Yu M, Ruhl J, Tatalovich Z, Mariotto A, Lewis DR, Chen HS, Feuer EJ, Cronin KA (eds). SEER Cancer Statistics Review, 1975-2016, National Cancer Institute. Bethesda, MD, https://seer.cancer.gov/csr/1975_2016/, based on November 2018 SEER data submission, posted to the SEER web site, April 2019.
2.Chang, D, Murzaku, EC, Penn, L, Abbasi, NR, Davis, PD, Berwick, M, & Polsky, D. More Skin, More Sun, More Tan, More Melanoma. *Am. J. Public Health2014; 104(11), e92-299.*
3. Dennis, LK, White, E, & Lee, JAH. Recent cohort trends in malignant melanoma by anatomic site in the United States. *Cancer Causes Control*. 1993; 4:93-100.
4. Surveillance, Epidemiology, and End Results (SEER) Program (www.seer.cancer.gov) Research Data (1975-2016), National Cancer Institute, DCCPS, Surveillance Research Program, released April 2019, based on the November 2018 submission.
5. Surveillance, Epidemiology, and End Results (SEER) Program Populations (1969-2017) (www.seer.cancer.gov/popdata), National Cancer Institute, DCCPS, Surveillance Research Program, released December 2018.