Background
Skin cancer is the most common type of cancer in the United States. Approximately 5 million adults are treated for skin cancer, including basal cell, squamous cell carcinomas, and melanoma each year. Eighty-six percent are non-melanoma skin cancers, which are largely treatable, although they can be both disfiguring and costly. Melanoma is the most dangerous form of skin cancer because of its likelihood of spreading if not diagnosed at an early stage. In 2012, there were over 67,000 new cases of melanoma (NPCR and SEER), the most deadly form of skin cancer, with over 9,000 deaths each year.

Although risk factors such as fair-skin or family history of melanoma contribute to risk for developing melanoma, most skin cancers are strongly associated with ultraviolet radiation (UV) exposure. As much as 90 percent of melanomas are estimated to be caused by UV exposure, the most preventable risk factor. While substantial efforts have focused on increasing sun protection and reducing intentional tanning behaviors, incidence rates have continued to increase in Vermont and across the U.S.

Incidence of Melanoma
Melanoma is the third most commonly diagnosed cancer among cancers that affect both sexes. Vermont males and females have significantly higher rates of melanoma (29.0 per 100,000) compared to the U.S. rates (19.9 per 100,000). The incidence of melanoma has increased significantly in both Vermont and the U.S.

Stage at Diagnosis
Melanoma diagnosed at an early stage has very good prognosis. The majority of Vermonters with melanoma are diagnosed at an early stage (in situ or localized). Nationally, 98 percent of men and women whose melanoma is diagnosed at a localized stage survive their cancer for at least five years, compared to 17 percent of those diagnosed at a distant stage (SEER Cancer Statistics Review).

Cancer Stage at Diagnosis - % of total cases of cancer, by type, according to stage at diagnosis, Vermont, 2008-2012
UV Exposure and Prevention

Melanoma can occur at any age, including adolescence. Both exposures to natural and artificial UV radiation and sunburns during childhood increase the risk of developing melanoma. Vermonters age 18-34 are more likely to have reported at least one sunburn in the last year than those aged 35 and older.

Only 27 percent of Vermont middle school students, and just 16% of high school students, reported wearing sunscreen (SPF 15+) always or most of the time when outside for over an hour on a sunny day (YRBS). Protective practices during childhood are particularly important since sunburns during that time increase the risk of melanoma by as much as 80 percent.

In 2011, 10 percent of Vermont high school students reported using a tanning booth or sunlamp in the past year (YRBS). Female high school students were four times as likely to have reported using a tanning device (17%) compared to high school males (4%). The use of tanning devices before age 35 years increase melanoma risk by as much as 75 percent. Younger women appear to have increased exposure to UV radiation, and women under the age of 40 have higher rates of melanoma compared to men. Men over age 65 have significantly higher rates of melanoma compared to women.

Melanoma Incidence Rates, by Age - Vermont, 2008-2012

There is no consistent federal legislation restricting indoor tanning for minors; however, many states have passed legislation regarding access for minors. In 2012, Vermont became the second state (after California) to prohibit the use of tanning facilities by minors under the age of 18. In 2014, the U.S. Food and Drug Administration reclassified sunlamp products (tanning beds and booths) from low risk (class I) to moderate risk (class II) devices allowing more regulatory control, including requiring devices to include a “black-box warning” on devices stating that the device should not be used by persons under the age of 18 years.

Technical Notes

Incidence rates are per 100,000 and are age adjusted to the 2000 U.S. standard population and exclude basal cell and squamous cell skin cancers. Incidence rates exclude in situ carcinomas. Incidence was coded using the International Classification of Disease (ICD) for Oncology (ICD-O). Vermont cases include Vermont residents only. A reporting delay by Department of Veterans Affairs (VA) has resulted in incomplete reporting of Vermont VA incident cases in 2011 and 2012.


This publication was supported by the Grant or Cooperative Agreement Number, DP003911, funded by the Centers for Disease Control and Prevention. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the Centers for Disease Control and Prevention or the Department of Health and Human Services.