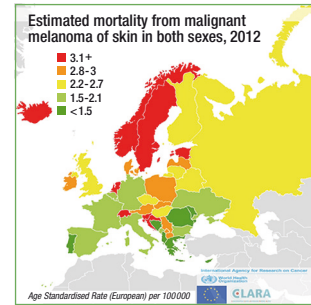
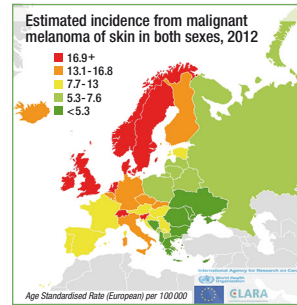
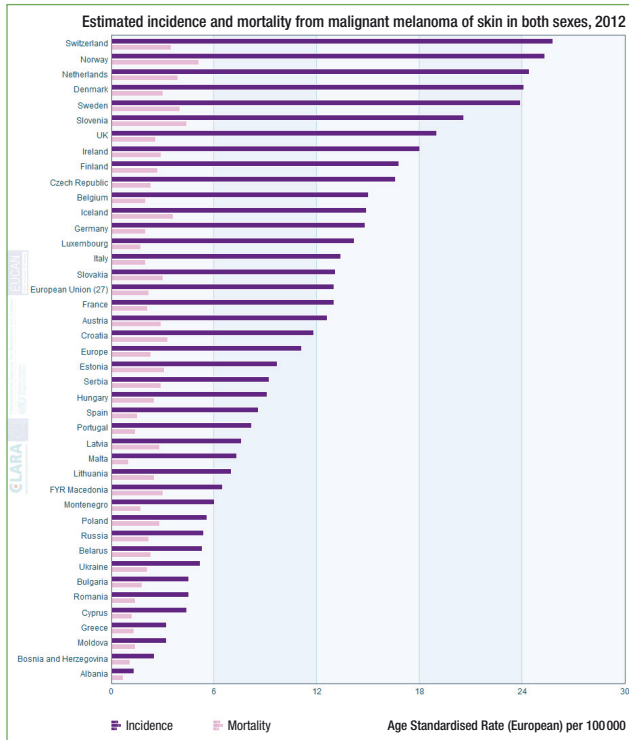


Malignant Melanoma of the Skin (MM) Factsheet



National differences in Europe in 2012 Estimated incidence and mortality¹

- The countries with the highest estimated incidence rates in Europe were Switzerland, Norway and the Netherlands.
- Switzerland had the highest estimated age-standardised incidence rate** (ASR-E), 25.8 new cases per 100 000 person-years (PY), compared with the European* ASR-E of 11.1. The European countries with the lowest estimated incidence were Moldova, Bosnia and Herzegovina and Albania, with ASR-Es less than or equal to 3.4.
- The European countries with the highest estimated mortality were Norway (ASR-E: 5.1), Slovenia (ASR-E: 4.4) and Sweden (ASR-E: 4), compared with the European average of 2.3 deaths per 100 000 PY. Bosnia and Herzegovina (ASR-E: 1.1), Malta (ASR-E: 1.0) and Albania (ASR-E: 0.7) had the lowest estimated mortality rates from MM among European countries in 2012.

Gender differences in 2012 Estimated incidence and mortality¹

- MM incidence rates were similar for men and women; however mortality rates were higher in men than in women.
- The incidence ASR-Es at European level were 11.4 for men and 11.0 for women.
- The mortality ASR-E was 2.6 for men, compared with 1.8 cases per 100 000 PY for women.

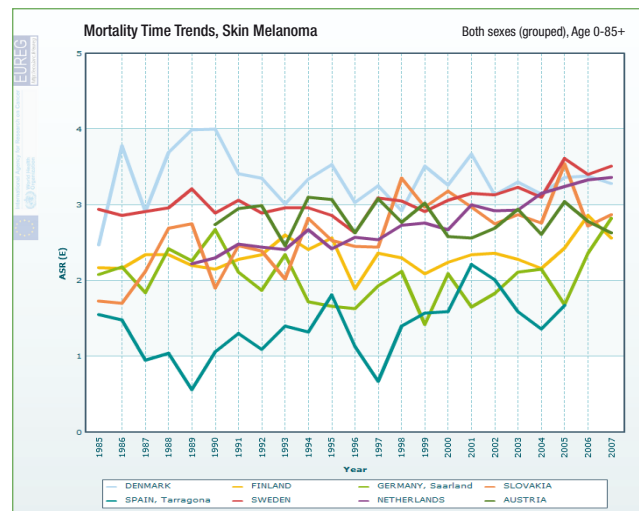
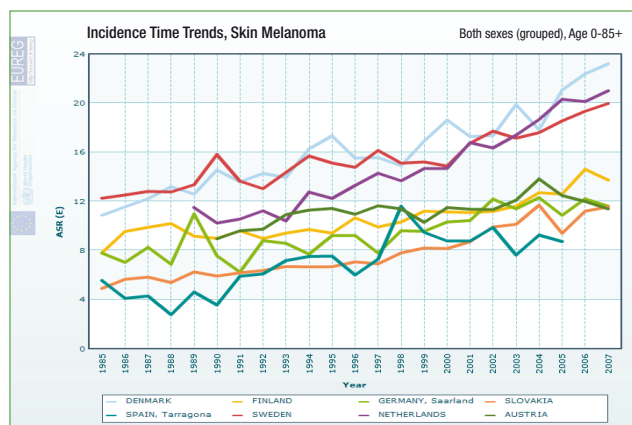
** ASR-E: age-adjusted rate to the standard European population (Doll & Cook, *Int J Cancer*, 1967) to account for the different age structure in various countries.

- Malignant Melanoma of the skin (MM) is one of three main types of skin cancer. MM is formed in skin cells called melanocytes which colour the skin.
- Approximately 100 000 Europeans* were estimated to have been diagnosed with MM in 2012, which made up 3% of all new cases of cancer in Europe in that year.¹
- In the same year, 22 200 Europeans were estimated to have died from the disease, accounting for 1% of all cancer deaths in Europe.¹
- Worldwide: 232 000 persons were estimated to have been diagnosed with MM and 55 000 to have died from the disease in 2012. Australia and New Zealand had the highest recorded rates of melanoma in the world.²

* The European Cancer Observatory (ECO) estimates refers to the 39 European countries defined by the United Nations plus Cyprus.³

Temporal changes in selected European countries^{4,5}

- Since the 1970s, there have been increases in MM incidence in most European countries. However, for the last two decades the rate of increase in many countries has been slower.
- Completeness of MM registration may be responsible for some variation in incidence patterns. However, increases in incidence of MM has been observed in countries with almost complete registration as well (e.g. Nordic countries). Other issues, such as changes in diagnostic criteria, public awareness and sun exposure, may be equally important in explaining the incidence variation.
- Mortality trends of MM show more variability than incidence. The reasons lying behind the mortality trends, similarly to the incidence trends, are equally difficult to establish.



Screening and prevention

- Primary prevention consists of limiting exposure to sunlight, using sunscreens and avoiding UV-emitting tanning devices.
- There are no population-based, organised screening programmes for MM in Europe.
- The literature regarding melanoma screening is complicated by differences in the types of screening methods used, variation in target populations, and variations in services called 'screening'.¹⁸ Because randomised trials have not been conducted, there is no scientific evidence that screening leads to a decrease in mortality or morbidity related to MM.¹⁹
- MM chemoprevention agents are a theoretically attractive alternative, but have not yet been shown to be beneficial.²⁰

MM aetiology

- UV exposure: MM is usually caused by DNA damage resulting from exposure to ultraviolet (UV) light from the sun^{6,7} or from tanning beds.⁸ IARC has classified indoor tanning devices as 'carcinogenic to humans'.⁹
- Genetic predisposition: Approximately 5% to 10% of MMS occurs among people with a family history of the disease.¹⁰ Several genes have been identified as risk factors for developing MM. Among them, the CDKN2A is known as the most common cause of inherited susceptibility to MM.¹¹
- Other risk factors: tobacco use,¹² alcohol consumption,¹³ antioxidant-poor diet,^{13,14} hormone use and reproductive factors,^{15,16} have been investigated. The results are neither consistent nor conclusive.¹⁷

A list of references (1-25) is available (in PDF) at: http://www.enccr.eu/images/docs/factsheets/ENCR_Factsheet_MalignantMelanoma_2015_References.pdf.

Conclusions

- About 86% of melanomas can be attributed to exposure to ultraviolet (UV) radiation from the sun.²¹
- MM accounts for a small percent of skin cancer cases (5%, as demonstrated by the US data), but the vast majority of skin cancer deaths (75%, the US data).²²
- Since the prognosis for patients with thin MM is highly favourable,²³ early diagnosis has been suggested,²⁴ although no supporting data from randomized trials are available. The role of over diagnosis in inflating survival should be considered and acknowledged.²⁵
- Avoiding UV exposure, especially at the young age, remains the main preventive tool.

The European Cancer Observatory data (<http://eco.iarc.fr>) were used for the production of this factsheet.