

NON-MELANOMA SKIN CANCER AS AN OCCUPATIONAL DISEASE FACT SHEET FOR POLICY MAKERS



European Cancer
Patient Coalition











European Academy of
Dermatology and Venereology

Definition:

Non-melanoma skin cancer (NMSC) refers to all types of cancer of the skin that are not melanoma. The vast majority **[95%]** of NMSC cases are basal cell carcinoma (BCC) and cutaneous squamous cell carcinoma (CSCC) and can be diagnosed by visual inspection by a dermatologist ⁽¹⁾.

Data:

According to the World Health Organization (WHO), between 2 and 3 million NMSC cases are recorded in the world every year ⁽²⁾. White populations are more susceptible to develop this type of malignancy ⁽³⁾.

AMONG EUROPEAN COUNTRIES	
	Switzerland (44.4/100.000)
	Ireland (43.4/100.000)
	The Netherlands (31.3/100.000)
	Germany (27.5/100.000)
	Luxembourg (23.9/100.000)
	Belgium (23.3/100.000)
	United Kingdom (22.8/100.000)
	France (21.1/100.000)

Rank among the countries with the highest estimated age-standardized incidence rates of NMSC in 2018, both sexes, all ages ⁽⁴⁾.

Incidence cases of NMSC in both sexes and all ages are expected to rise up to + **43.9%** until **2040** according to Globocan data ⁽⁴⁾.

43.9%

Risk factor:

Exposure to ultraviolet radiation (UVR) is the main risk factor for the development of skin cancer (5) and has been declared as a Group 1 human carcinogen by the International Agency for Research on Cancer (IARC) (6).

High-risk population:

Outdoor workers have an increased risk of developing CSCC and actinic keratosis by **77%**, and for BCC by **43%** respectively, compared with the general population (7,8). Considering that Europe has more than **14.5 million** active workers who spend at least **75%** of their working time outdoor, special attention should be paid to this kind of occupational exposure. The workers exposed to UV radiation the most are in the agriculture, hunting and construction sectors (9). The level of their exposure vastly exceeds the WHO recommended limits of 1.3 Standard Erythral Doses (SED). 1.3 SED is sufficient to cause sunburn in fair skinned individuals of skin type 1 (Blond or redhaired, freckles, always burns, never tans), when working eight hours outdoors (10). More recent European studies reveal that the risk for long-time outdoor work for CSCC and BCC is doubled compared to average population (Schmitt et al., 2018a,b, Loney et al. 2020).

Economic burden:

The economic burden of skin cancer due to **UVR** has continuously put national governments and their healthcare systems under significant economic strain. In Europe, the annual direct cost for the treatment of patients with advanced melanoma, is estimated to a range from **€2,916 in Italy** all the way up to **€22,671 in Sweden**, which remains three times higher than the next highest costs which are to be found in **France (€7,005)** and the **UK (€6,887)** (11). In addition, mortality costs in England are six times greater than those in **Sweden (€ 20,408 vs € 3,511 respectively)**. Morbidity costs in **England (€ 4550)** are found to be seven times over costs in **Denmark (€ 658)** and forty times over the costs in **Sweden (€ 103)** (11). **Danish** Data also showed that the direct yearly costs of malignant melanoma and NMSC were more than **€30 million** in the 3 years after diagnosis, corresponding to 0.2% of the total **Danish** health budget (**€14.3 billion**), (12) and approximately to 5% of the hospital budget for cancer patients (13). These figures also reflect the costs of inactivity regarding prevention.

Unregistered (informal) employment:

Unregistered employment in many sectors with an elevated level of UV radiation exposure (agriculture, hunting and construction) (9) should be taken into consideration by European policy makers and legislative authorities. Recent data shows that although 1 to 25 in Europe work in the Agriculture sector, 15% of the agricultural workforce and 32% of all employees in the agricultural sector have no formal employment contract (14), while in the construction sector the unregistered employment is set at 19% (15).

Quality of life and prevention:



Reduction of quality of life is also an important issue to consider for NMSC patients as they potentially undergo repeated rounds of surgery and, as a result, can suffer significant consequences for their appearance, self-esteem, and well-being. NMSC frequently results in chronic illness due to recurring lesions in sun-exposed skin, requiring almost continuous treatment efforts.

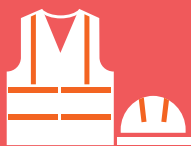
Preventive measures such as primary prevention, early detection, treatment and regular follow-up, targeting outdoor workers could reduce the costs, be beneficial from a health economic perspective⁽¹⁶⁻¹⁹⁾ and also increased quality-of-life, functional ability and overall health⁽¹⁶⁾.



Policy and Legislation:

Despite the solid evidence that outdoor workers in various workplaces across Europe are exposed to elevated levels of UVR and are consequently at a significantly increased risk of developing NMSC, this evidence has yet not been translated into a common European regulatory approach⁽²⁰⁾.

Principle 10



In 2017, the European Parliament, the Council and the Commission committed themselves to the European Pillar of Social Rights, which consists of 20 key principles for more effective rights for citizens. Principle 10 states that: *“a) Workers have the right to a high level of protection of their health and safety at work. b) Workers have the right to a working environment adapted to their professional needs and which enables them to prolong their participation in the labour market”*, setting the ground for the introduction of targeted measures for outdoor workers exposed to UVR protection⁽²¹⁾.

The World Health Organization (WHO) and the International Labour Organization (ILO) prioritized this topic and they are currently developing a methodology to assess the global disease burden of work-related skin cancer by solar UVR⁽²²⁾.

In addition, the nine co-hosting organizations of the Multi-Stakeholder Summit on Occupational Skin Cancer in 2019, representing patient advocacy groups, trade unions, occupational safety and health professionals, social security representatives, dermatologists and oncologists, called for the implementation of a systematic approach to address the Non-Melanoma Skin Cancer Epidemic⁽²³⁾.

Finally, Europe's Beating Cancer Plan, calls for: *“further legislative and soft measures to reduce exposure to carcinogenic substances in the workplace, in products and in the environment, and to UV and ionising radiations from natural and artificial sources”*⁽²⁴⁾.

Scientific work from across the EU and worldwide provides solid evidence to put prevention of UVR exposure for outdoor workers as priority to the European agenda and highlights the importance and necessity for new policies and legislation adaption. Policymakers should improve the legislative framework to protect outdoor workers more effectively and build accessibility for regular screenings and thus earlier treatments. In the European Union, NMSC should be officially recognized as an occupational disease within the next legislative period⁽²⁵⁾. The latest WHO World Cancer Report also highlights the need for protective measures against hazardous exposure to sunlight, such as avoiding unnecessary sun exposure, using protective measures when in the sun, and avoiding tanning devices⁽²⁶⁾.

This report is a call for action to increase awareness among policymakers and protection for those who work outdoors by establishing the necessary legislation on the European level and preventive measures to prevent the numbers of the disease from rapidly growing in the coming years.



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