

# Occupational cancer risk factors in Europe – Findings of the Workers' Exposure Survey for health and social care workers

## Summary

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## Abbreviations

EU-OSHA      European Agency for Safety and Health at Work

EU              European Union

HeSCare      Health and social care

OccIDEAS    Occupational Integrated Database Exposure Assessment System

UV             Ultraviolet

WES           Workers' Exposure Survey on cancer risk factors in Europe

## Executive Summary

The European Agency for Safety and Health at Work (EU-OSHA) conducted the [Workers' Exposure Survey on cancer risk factors in Europe](#) (WES), which estimates exposure to cancer risk factors among European workers, including in the health and social care (HeSCare) sector, which is one of the largest employment sectors in the EU. The survey aims to increase knowledge on the current prevalence and circumstances of exposure to known cancer risk factors faced by workers, and on prevention strategies in place, overall and by sectors of activity.

WES included 24,402 telephone interviews conducted on workers aged 15 years or older from six EU Member States. Among those, 3,041 were affiliated with the HeSCare sector. For exposure assessment, WES uses the Occupational Integrated Database Exposure Assessment System ([www.occideas.org](http://www.occideas.org)), where probable exposure to selected cancer risk factors during the last working week was automatically estimated based on answers to a detailed questionnaire. The survey was finalised in 2023, covers 24 known cancer risk factors in almost all sectors of occupation, and is representative of the workforce in Germany, Ireland, Spain, France, Hungary and Finland.

Among the HeSCare sector survey respondents, the majority worked in the Healthcare sub-sector (n=2,478), 329 in residential care and 234 in social work. Almost two-thirds of HeSCare sector workers (65.3%) were females. Most respondents in the sector were born in the reporting country (87.1%) and were employed with a contract of unlimited duration (72.9%).

The most frequent job category in the HeSCare sector as defined by WES was health worker (91.3%). Work tasks commonly reported in the sector that may lead to exposure to cancer risk factors were sterilising equipment, particularly medical (18.8%) and driving or maintaining vehicles as part of their work (18.2%). Among the cancer risk factors considered, the most common exposures were to ionising radiation (7.4%), diesel engine exhaust emissions (6.2%), solar ultraviolet (UV) radiation (6.1%), formaldehyde (5.2%) and benzene (4.8%). The most frequent cancer risk factors with probable exposure at a high level were ethylene oxide (55.2% of workers exposed at a high level) and formaldehyde (43.7% of workers exposed at a high level).

An estimated 29.5% of HeSCare workers were exposed during the last working week to at least one of the 24 cancer risk factors assessed in the survey and 7.8% were exposed to two or more cancer risk factors. Males were more often exposed to at least one cancer risk factor during the last working week (34.3%) than females (24.3%) and were also more often exposed to two or more cancer risk factors (10.2%) than females (5.8%). Similarly to the overall WES findings (EU-OSHA, 2023a), the most frequent co-exposures assessed in HeSCare were diesel engine exhaust emissions and solar UV radiation.

The most common circumstance of exposure to ionising radiation in the sector was working with or near machines that used X-rays for purely diagnostic purposes. The use of radio-protective shields and radio-protective garments were commonly reported by workers in tasks linked to an exposure to ionising radiation. For diesel engine exhaust emissions, the most common circumstance of exposure was driving, maintaining or travelling in diesel-powered vehicles. Exposure to solar UV radiation occurred when working outside during the day (in a vehicle with the windows down at least one hour per day, or in the open) or when working with or near reflective surfaces. Commonly reported protection measures for solar UV radiation exposure included wearing clothing that covered most of the body, sunglasses, a hat or other head cover, which may have been influenced by the season in which interviews were conducted (September 2022 to February 2023).

WES results in the HeSCare sector provide valuable and up-to date sector-specific information about workers' exposures to known occupational cancer risk factors and the use of preventive/protective measures in the workplace. These findings inform targeted prevention such as the adoption of more task-specific measures, contribute to awareness raising and support EU policy initiatives.

Along with strengths of the survey, some limitations associated with the adopted approach include that exposure assessments were based on self-reports of tasks rather than on objective observations or workplace measurements, which may be prone to information bias. Also, frequency and duration of the tasks leading to exposure were not recorded, as only information about the last working week was captured. Detailed information about the frequency and duration of tasks leading to the exposures

studied in WES would have helped with more detailed exposure characterisation about these cancer risk factors. Finally, the appropriate use of protective measures such as respiratory equipment or the correct maintenance of ventilation systems are important elements not specifically evaluated with WES.

Furthermore, as a future prospect, the survey could potentially be expanded to other EU Member States covering more known or suspected occupational cancer risk factors and larger numbers of workers. A larger sample size and the inclusion of specific carcinogens that are of concern in HeSCare work would allow for a more granular and informative analysis at the sub-sector level and provide more insights to gender-specific issues.

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