



# Work-related deaths and disabilities - a Nordic View

Nordic Labour Inspection Conference, 12-13 November 2024

Nordic Council of Ministers' (NMR) project, Jukka Takala, Wiking Husberg and Project Team

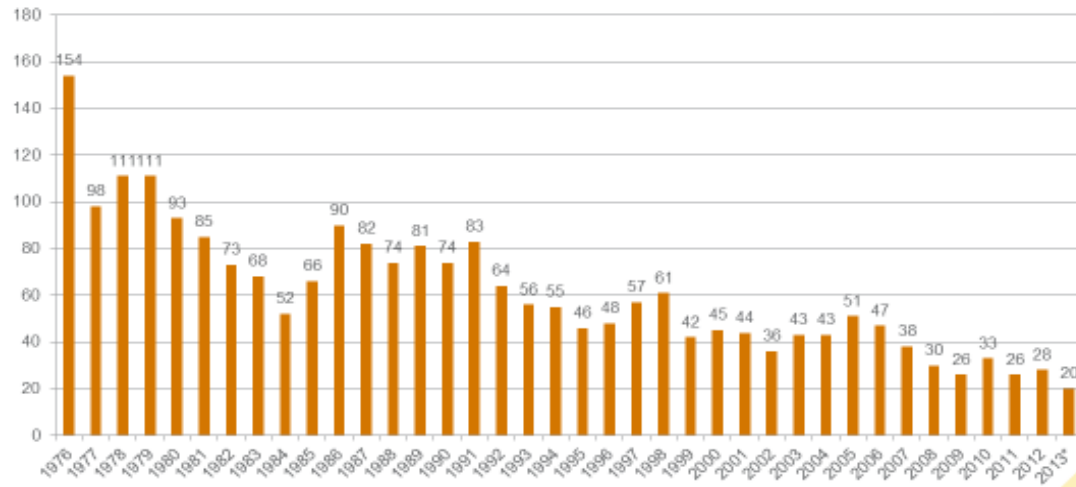


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Executive Director emeritus

**Past President (President in 2015-2022), Board Member**  
**International Commission on Occupational Health**  
**Commission Internationale de la Santé au Travail**  
**Comisión Internacional de Salud en el Trabajo**

# Why do we need to take a closer look at work-related deaths (not only occupational diseases and accidents)?

**FINLAND: fatal occupational accidents have decreased, but remain stubbornly at the same level in the last years**

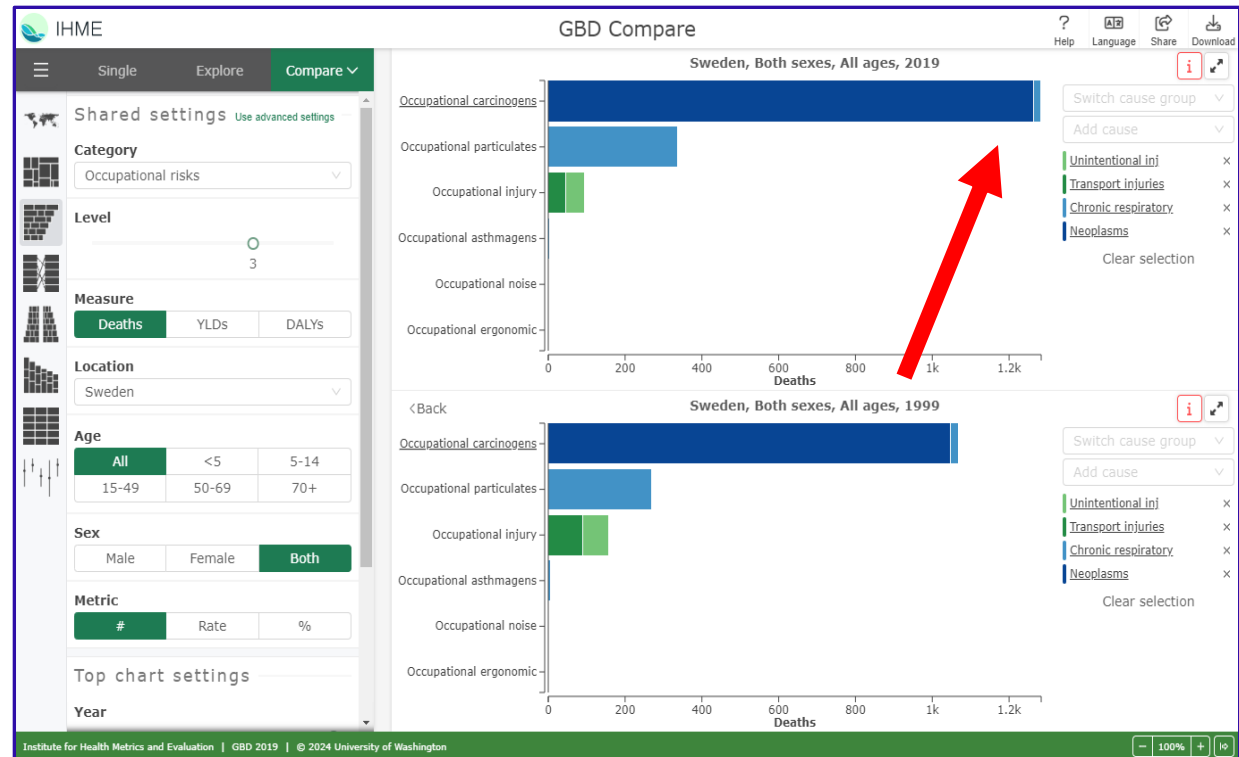


Source: Years 1976–1998 Statistics Finland: *Workplace Accident Statistics*;  
Years 1999–2011 Federation of Accident Insurance Institutions: *Workplace Accidents*  
\* provisional data

SOSIAALI- JA TERVEYSMINISTERIÖ

08/04/2024

**Sweden: on the contrary work-related deaths are increasing (not necessarily just occupational diseases)**



26/04/2024

NMR projekt



IHME

## GBD Compare



Help



Language



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Account



Single

Explore

Compare

&lt; Back

## Sweden, Both sexes, All ages, 2021

Occupational carcinogens

Occupational particulates

Occupational injury

Occupational asthmagens

Occupational noise

Occupational ergonomic

Neoplasms

Attributable risk: Occupational carcinogens

Number: 1,173.24 deaths (877.82 — 1,478.26)

Percent: 1.28% of total deaths

Rate: 11.31 deaths per 100,000 (8.46 — 14.25)

Switch cause group

Add cause

Unintentional inj

Transport injuries

Chronic respiratory

Neoplasms

Clear selection

Deaths

## Sweden, Both sexes, All ages, 1991

Occupational carcinogens

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Occupational noise

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Switch cause group

Add cause

Unintentional inj

Transport injuries

Chronic respiratory

Neoplasms

Clear selection

Deaths

## Location

Sweden

## Age

All

&lt;5

5-14

15-49

50-69

70+

## Sex

Male

Female

Both

## Metric

#

Rate

%

## Top chart settings

## Year

2021

## Bottom chart settings

## Year

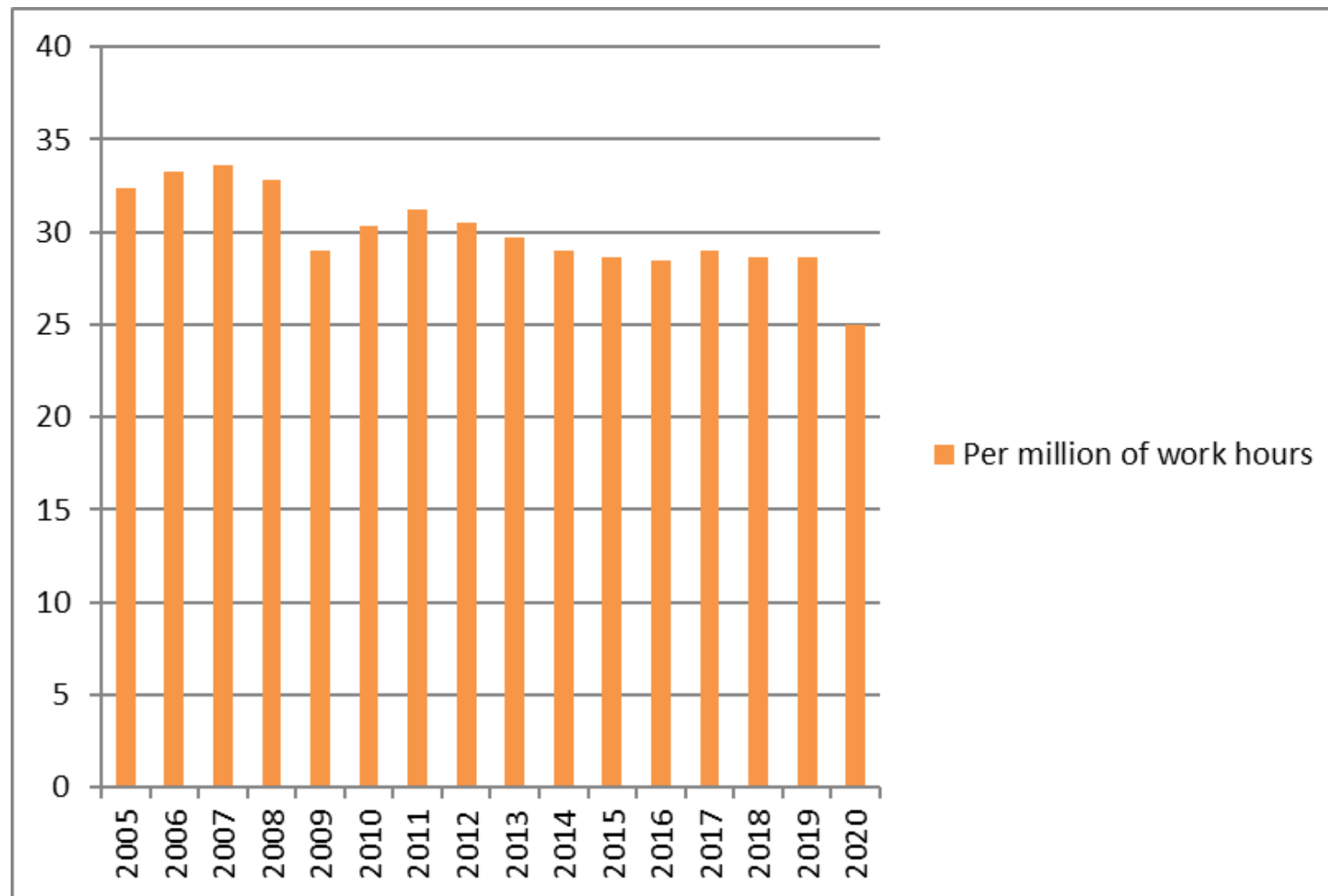
1991

Take tour



Can we  
decrease  
accidents and  
fatalities?  
Case: Finland

olycksfall per miljon  
arbetstimmar



# The ICOH/ILO Global Estimates (2019) – Fatal occupational accidents and work-related diseases



International Labour Organization

|                | Occupational injuries (2019) |                           |                              |                           |  |  |
|----------------|------------------------------|---------------------------|------------------------------|---------------------------|--|--|
|                | Project estimates            |                           | Reported by Nordic countries |                           |  |  |
|                | Fatal injuries               | Absence of 4 days or over | Fatal injuries               | Absence of 4 days or over | Fatal work-related diseases 2019<br>ICOH/ILO estimates | Occupational diseases (2020) reported to Eurostat* |
| <b>Denmark</b> | 39                           | 50 227                    | 39                           | 50 179                    | 2 472  | 2 410  |
| <b>Finland</b> | 33                           | 42 500                    | 33                           | 43 126                    | 2 203  | 1 186  |
| <b>Iceland</b> | 2                            | 2 576                     | 2                            | 1 410                     | 173  |  |
| <b>Norway</b>  | 33                           | 42 500                    | 33                           | 40 000                    | 2 332  |  |
| <b>Sweden</b>  | 36                           | 46 364                    | 34                           | 36 795                    | 4 407  | 107  |
| <b>Total</b>   | <b>143</b>                   | <b>184 167</b>            | <b>141</b>                   | <b>171 510</b>            | <b>11 587</b>  |  |

# How are the work-related deaths linked to various work place exposures?

## Finland: Top ten - exposed occupations

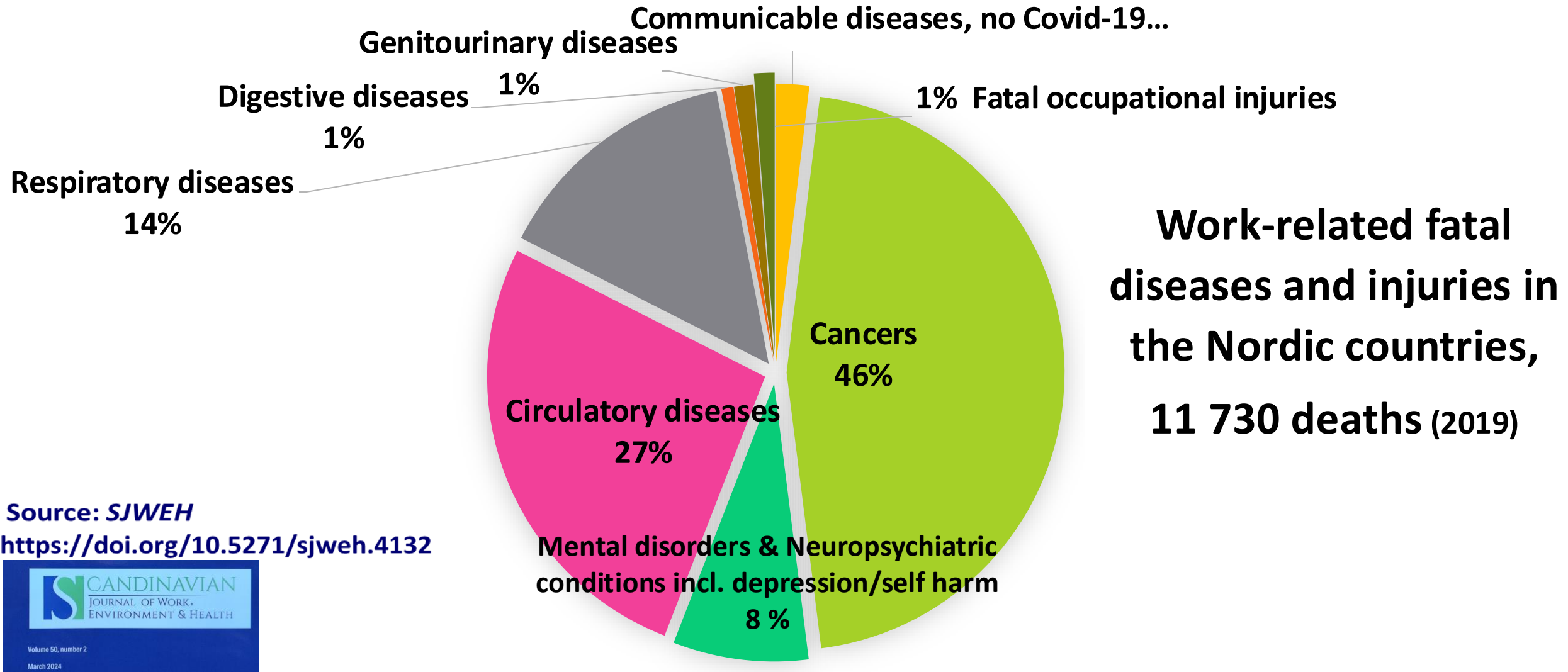
1. Work with reinforced plastics.
2. Dusty tasks in construction.
3. Dusty tasks in metal ore mining and quarrying.
4. Floor layering.
5. The manufacture of concrete products.
6. Car painting.
7. The use of formaldehyde adhesives in the wood industry.
8. Welding and flame cutting of metal products.
9. Aluminium welding and flame cutting.
10. Bakery work.

NMR project

## Sweden: The Järvholm report

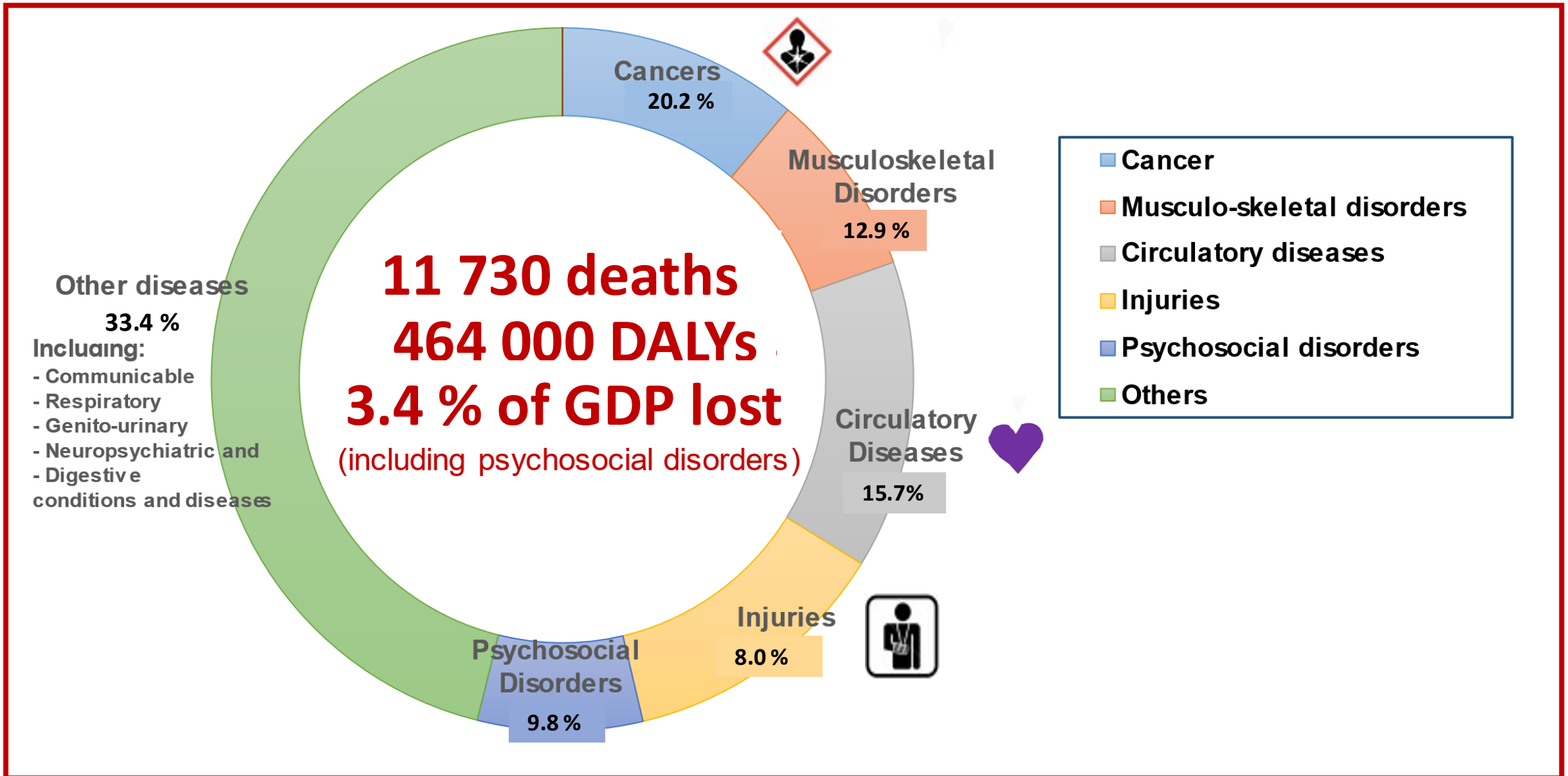
| Factor                | Number of work-related deaths per year |         |         |
|-----------------------|--|---------|---------|
|                       | Women                                  | Men     | Total   |
| Accidents             | 4,0                                    | 33,0    | 37,0    |
| Stress                | 360,3                                  | 412,2   | 772,4   |
| Shift work            | 280,9                                  | 446,8   | 727,7   |
| Dust (COPD)           | 246,6                                  | 174,8   | 421,4   |
| Asbestos              | 45,0                                   | 222,5   | 267,5   |
| Quartz                | 9,0                                    | 116,2   | 125,2   |
| Engine exhaust        | 222,7                                  | 324,7   | 547,4   |
| Passive smoking       | 75,2                                   | 119,6   | 194,8   |
| Welding fumes         | 32,0                                   | 39,0    | 71,0    |
| Ionizing radiation    | 1,0                                    | 3,8     | 4,8     |
| Uncertain connections |  |         |         |
| Noise                 | 338,4                                  | 439,0   | 777,4   |
| Physical heavy work   | 0,0                                    | 1 548,8 | 1 548,8 |

# What are the consequences of the exposures?





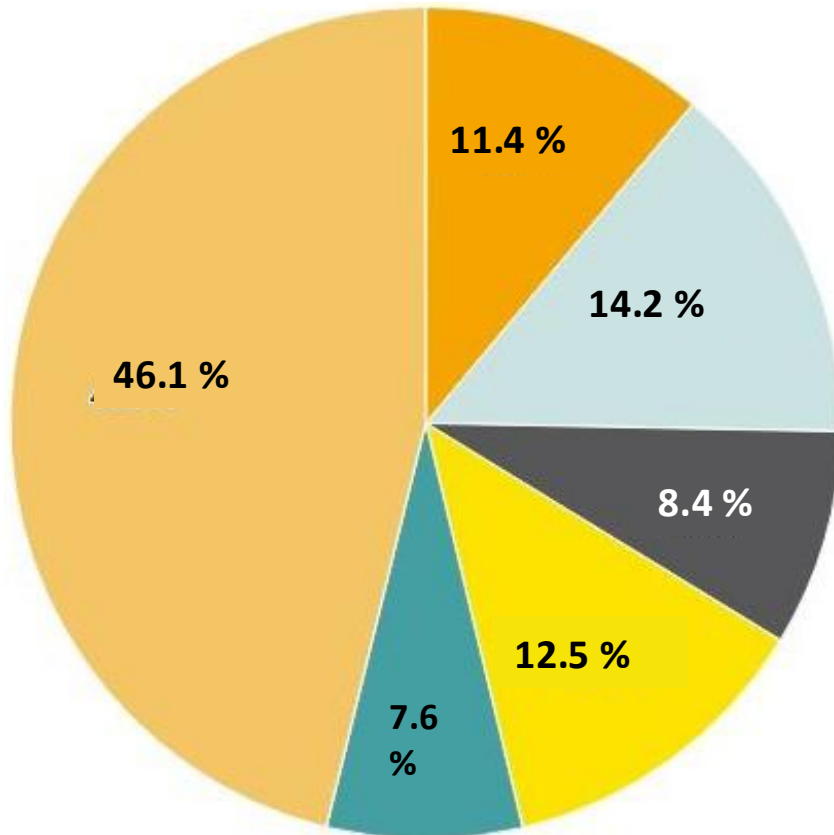
# Work-related Disability Adjusted Life Years (DALYs) at Work, Nordic countries



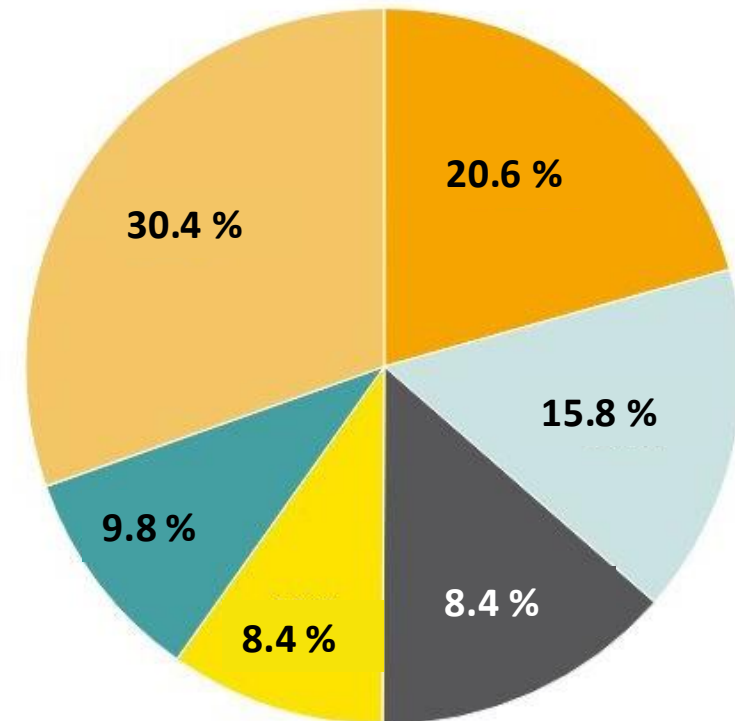


# Disability Adjusted Life Years: % from the Total

Global loss: 180 million DALY's

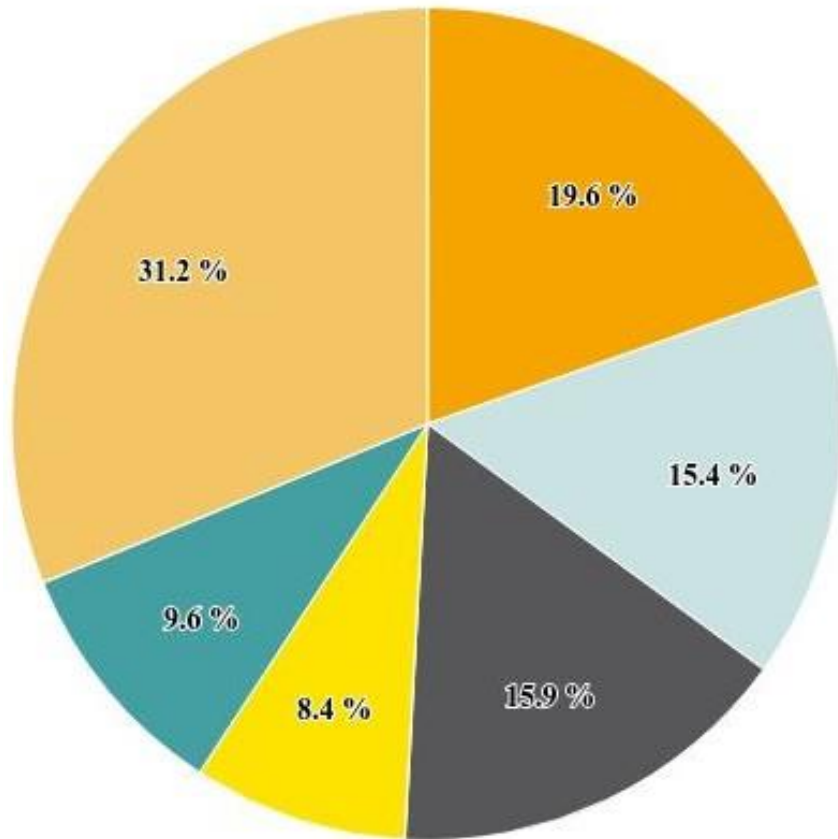


EU28: 7.7 million DALY's, Nordic countries 424 000 DALY's  
 EU Share % from HIGH Income countries  
 Total EU 27 : 19,5 million DALY's

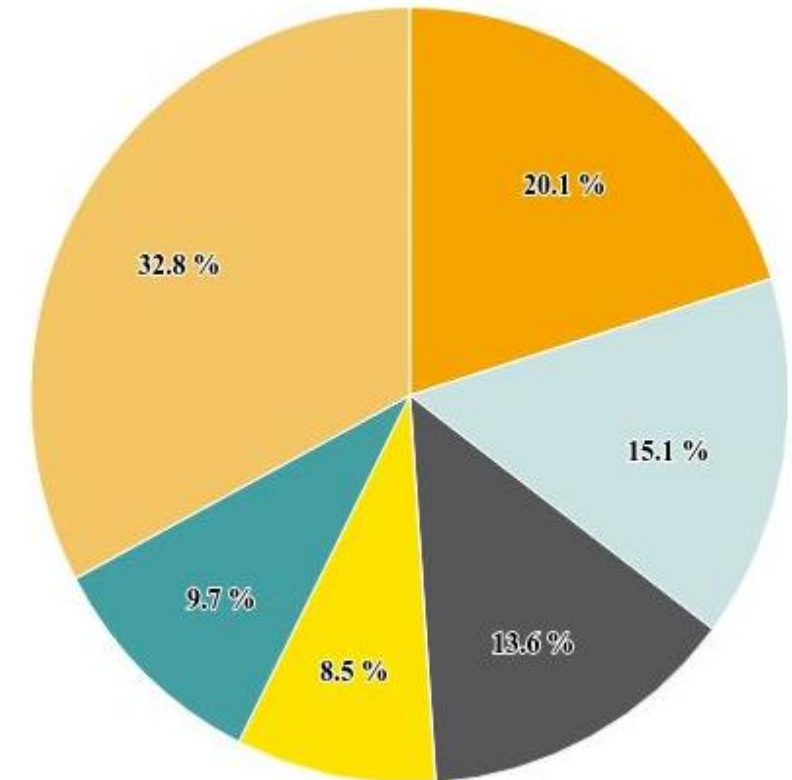


# Disability Adjusted Life Years: % from the Total

Denmark loss: 95 100 million DALY's



Sweden 154 000 DALY's, Nordic countries 424 000 DALYs  
Share %

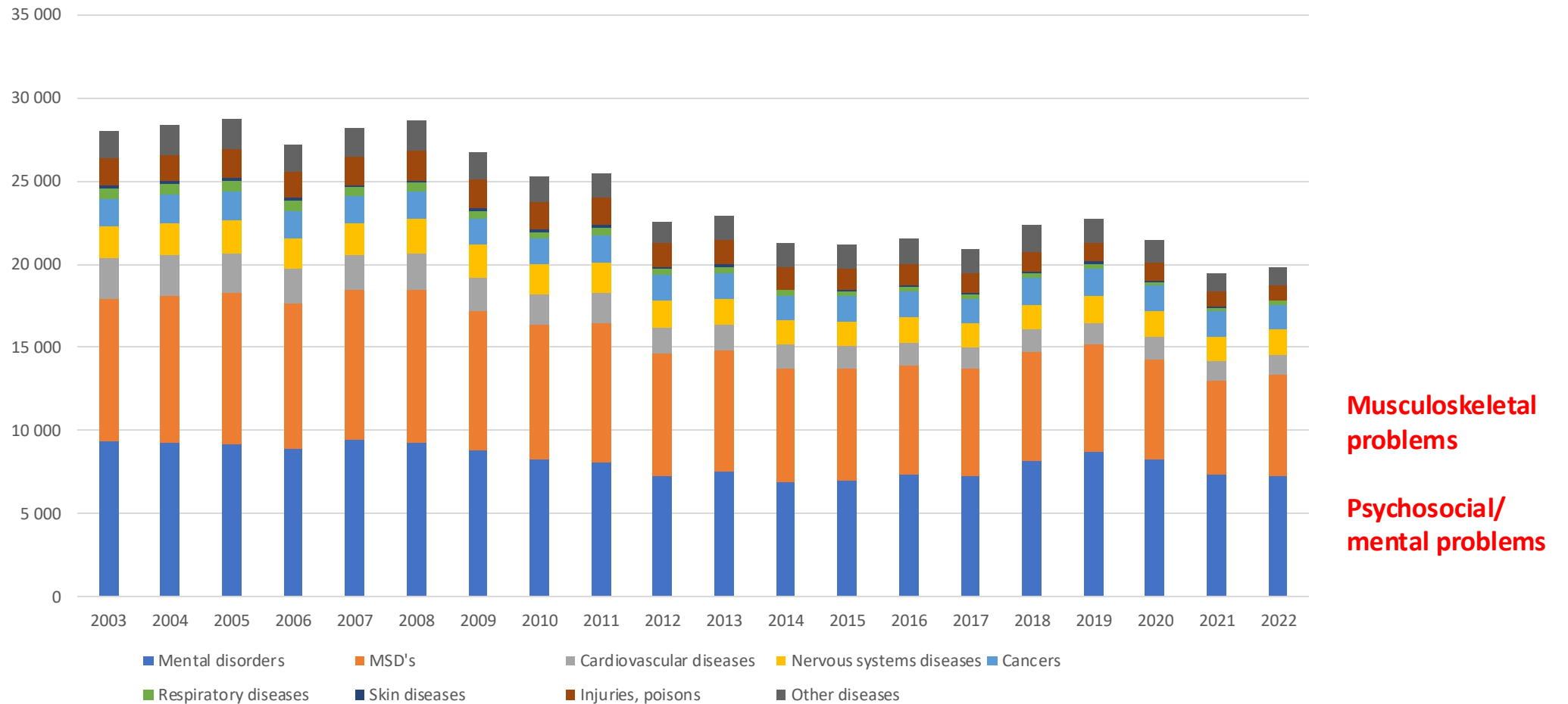


DALY

- Cancer
- Cardiovascular
- MSDs
- Injuries
- Psychosocial
- Other

<https://visualisation.osha.europa.eu/osh-barometer/accidents-diseases-well-being/work-related-diseases/who-ilo/prevalence-of-diseases/all-diseases>  
data from *Scand Journal WEH*: <https://doi.org/10.5271/sjweh.4132>

# FINLAND: Early invalidity pension per disease category



Source: The Finnish Centre for Pensions

# What does the research say about organisational and social work environment factors in relation to too early deaths?

- Psychosocial risks arise from poor work design, organisation and management, as well as a poor social context of work. These risks may lead to negative psychological, physical and social outcomes, such as work-related stress, burnout, or depression.
- In addition to psychological and mental disorders, psychosocial risks are associated with cardiovascular diseases that may have lethal consequences, such as myocardial infarction or stroke.
- Excessive stress can adversely affect the cardiovascular system by accelerating harmful cardiovascular processes, including atherosclerosis, and by contributing to triggering a cardiovascular event.
- Fatal cases caused by self-harm and suicides have been reported.
- In addition to ischemic heart disease and stroke, psychosocial factors contribute to an average population attributable fraction of 16.6 % for depression. The range of attributable fraction is 9 – 25 %, with the Nordic countries situated at the lower end.
- EU-OSH, FIOH

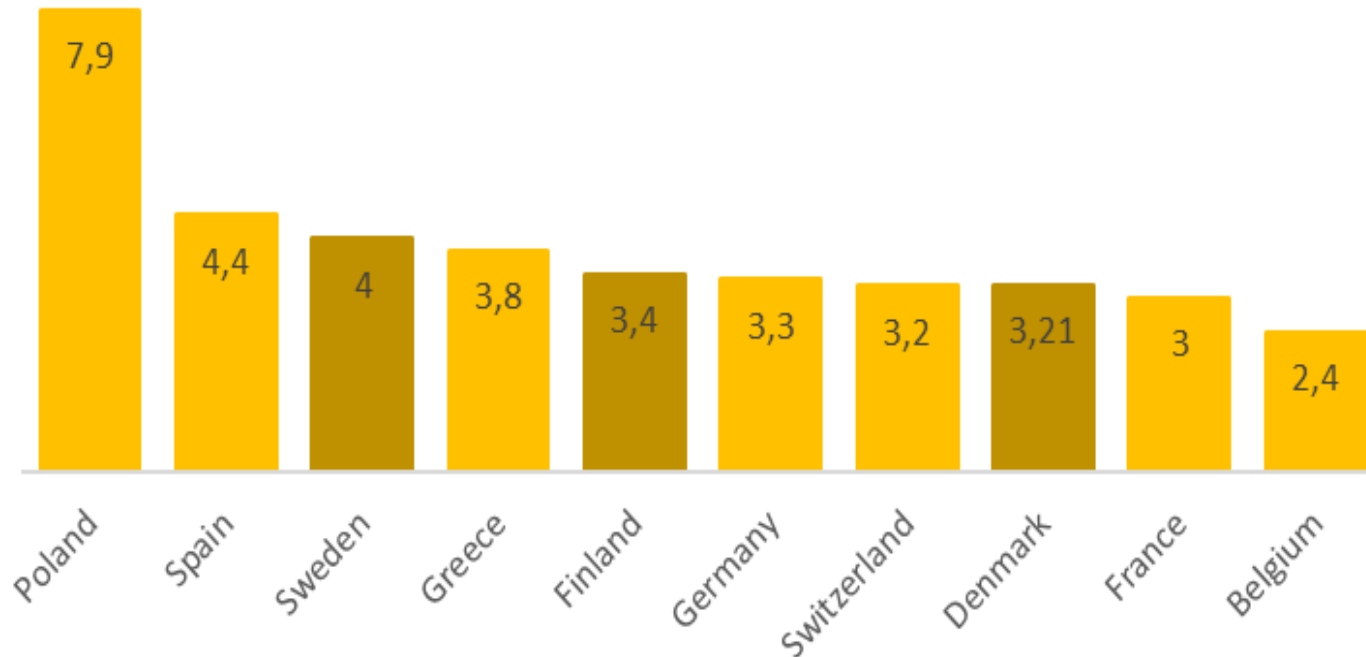
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# What are the costs for the society?

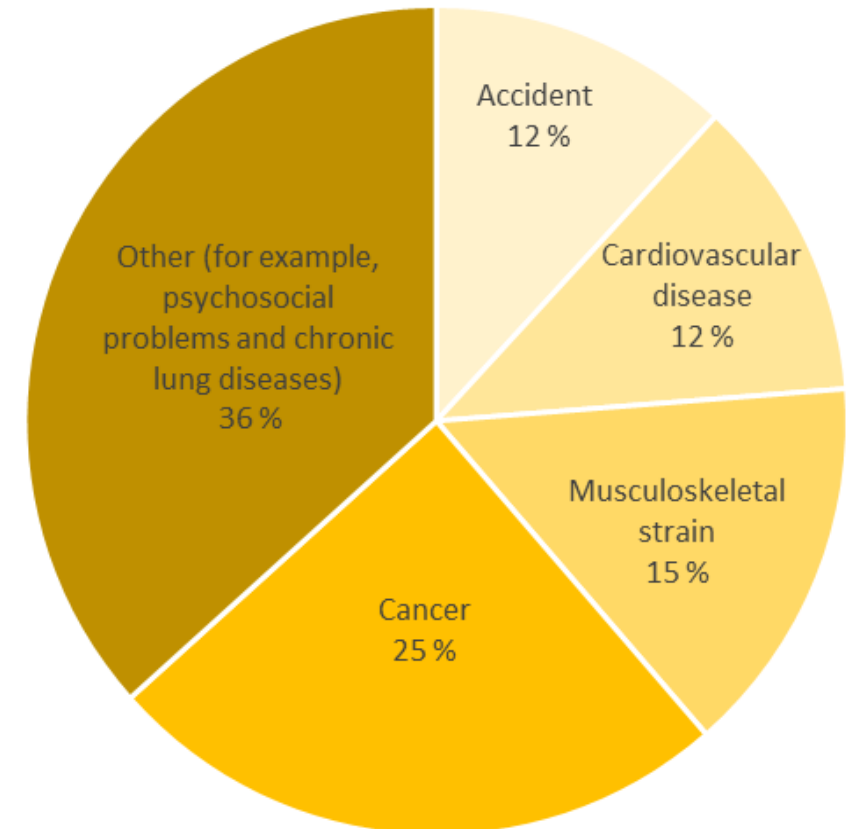
## Case Finland

**Finland: 24 billion ( $10^9$ ) euro yearly, 2 billion monthly**

**Costs of poor working environment by country, percentage of GDP**



**Costs of poor working environment by diseases group**



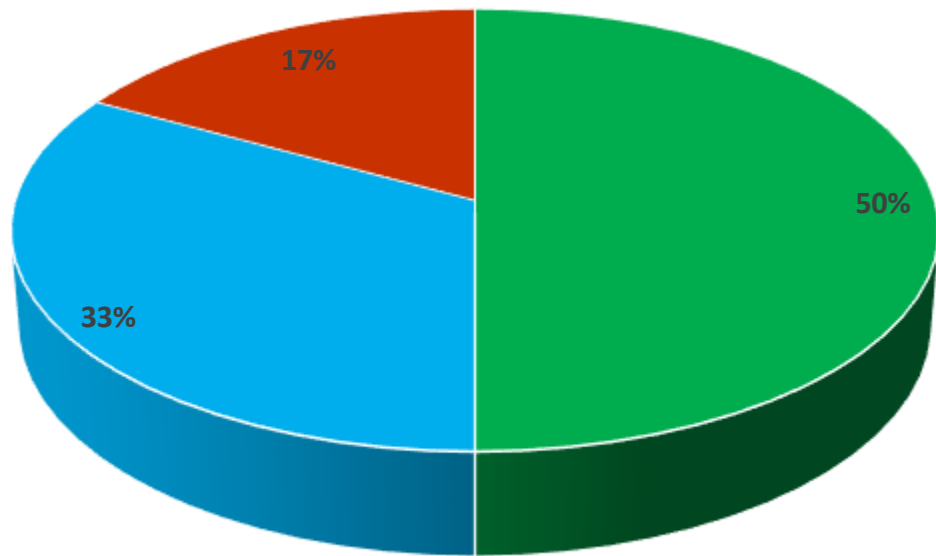
# Which conclusions can we draw from the various studies on work-related deaths?

- The focus of prevention in the Nordic countries (as well as in most other countries) remains on occupational accidents in promotion, training, risk assessment and control and inspection.
- The main indicators used to evaluate the state of working environment records on occupational accidents and diseases. The preventive action follows on what is measured. The statistics on occupational diseases concerns only legally approved occupational diseases, which leaves the (vast majority of) work-related diseases unrecorded.
- The huge decrease in occupational hygiene measurements further lessen the knowledge of exposures leading to work-related diseases.
- Occupational injury fatalities accounts for only 1 % of work-related deaths (injuries and invalidity 6-10 % measured as DALYs), whereas other work-related exposures cause the overwhelming part of deaths, disability and diseases.
- The labour inspection and improvement of working conditions as well as media, however, still has a focus on prevention of accidents.
- The direct cost for society of poor working conditions is huge 3-4 % of GDP. Every year when only calculating production losses. Occupational accidents cost 12 % of the total, whereas cancer, musculoskeletal strain, cardiovascular disease and psychosocial issues make up the majority of the costs.

# Division of inspections related to different areas in 2022

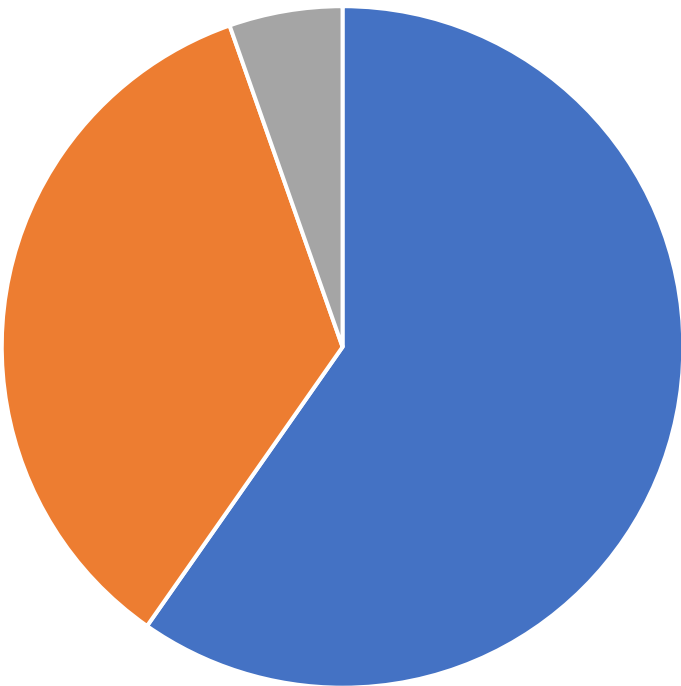
Finland

Norway



- Working conditions
- Fragmented working life (all)
- Psychosocial workload

Inspections



- Accidents
- MSD
- Cancer

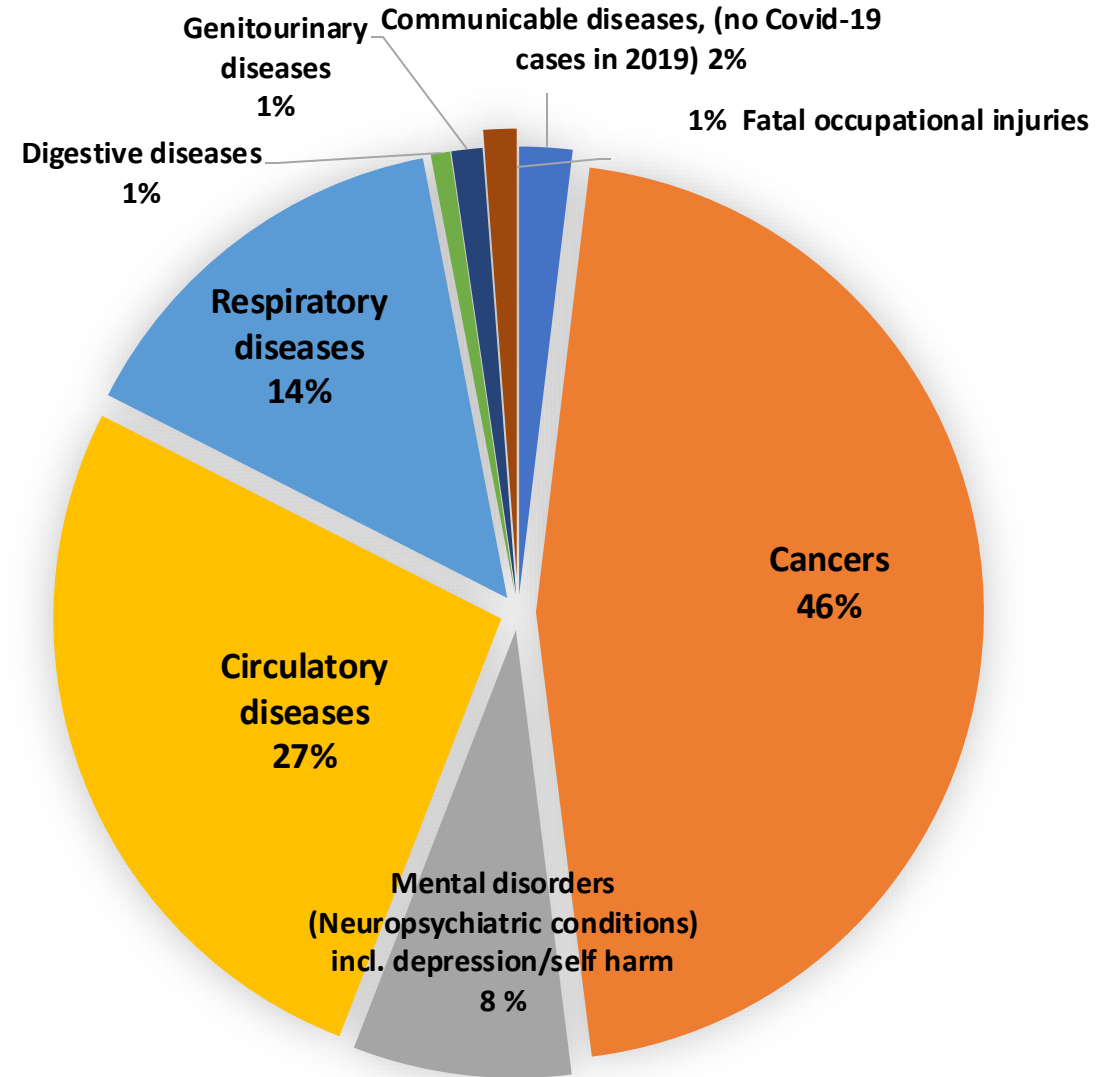


# 11 730 work-related deaths in the five Nordic countries

## Do we need to refocus the targets of inspections?

- Presently our focus is on occupational accidents and diseases.
- If we want to have a better impact on other work-related deaths and diseases, we should take a wider view on the risks in working life.
- Workplace exposure to chemicals, dust, gases, aerosols, etc. Is extensive and the number of chemicals in use is increasing.
- Organisational risks (precarious employment, night work, stress, etc.) is a challenge .

The systematic risk assessment and control need to span over a broader area



# Recommendations for a broader span of risk assessment and targets of inspections

- Work-related cancer
- Work-related circulatory diseases
- Respiratory diseases
- Occupational accidents and diseases
- Skin diseases
- Other exposure
- Asbestos, chemicals, dust, gases, etc.
- Working hours, noise, fumes, stress, harassment
- Air pollution (welding fumes, dust, bio dust, aerosols, cosmetology products)
- Risks for accidents
- Contact with chemicals, allergens, radiation
- Specific exposures, occupations and sectors

# The ILO support for a focus on work-related deaths

- **ILO C81 - Labour Inspection Convention, 1947 (No. 81), An ILO Governance (Priority) Convention**, ratified by 150 member States including Denmark, Iceland, Finland, Norway, Sweden
- **Occupational Safety and Health Convention, 1981 (No. 155)**, ratified by 82 member States, by all Nordics, one of the ILO's Fundamental Conventions,
- **Promotional Framework for Occupational Safety and Health Convention, 2006(No.187)** ratified by 67 member States, by all Nordics, one of ILO's Fundamental Conventions,

**The Fundamental Conventions require member States to take action independently of the country's ratification status.**

- *The implementation and enforcement is still globally limited. An ILO estimated number of deaths is 2.9 million deaths.*

# Priorities for Enforcement

## Convention 81 Priorities:

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### Article 3

*1.1. The functions of the system of labour inspection shall be:*

- 1. (a) to secure the enforcement of the legal provisions relating to conditions of work and the protection of workers while engaged in their work, such as provisions relating to hours, wages, safety, health and welfare, the employment of children and young persons, and other connected matters, in so far as such provisions are enforceable by labour inspectors;*
- 2. (b) to supply technical information and advice to employers and workers concerning the most effective means of complying with the legal provisions;*
- 3. (c) to bring to the notice of the competent authority defects or abuses not specifically covered by existing legal provisions.*

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# The future working environment: a holistic view

SITRA 2023

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## Thank you!

## Questions and comments?



The big picture of future opportunities