



Occupational and  
Environmental  
Medicine

# Overview of Occupational and Environmental Medicine

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# Faculty/Presenter Disclosure

- **Faculty:** Anil Adisesh, MB ChB, MSc, MD, FRCP, FFOM, FFCI, FRCPC, Hon. FFOM, (Ireland), CIME
- **Relationships with financial sponsors:**
  - **Grants/Research Support:** WSIB Ontario, Canadian Cancer Society, Canadian Immunology Task Force / CIHR, WCBs New Brunswick, Nova Scotia, CanPATH, New Brunswick Innovation Foundation, IRSST
  - **Speakers Bureau/Honoraria:** N/A
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  - **Patents:** N/A
  - **Other:** Director - OccupAI Inc. start-up in occupational health informatics, Chief Medical Officer at Canadian Health Solutions Inc.

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- Potential for conflict(s) of interest:
  - None



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# Mitigating Potential Bias

- The information presented in this program is based on recent information that is explicitly “evidence-based”.
- This Program and its material is peer reviewed and all the recommendations involving clinical medicine are based on evidence that is accepted within the profession; and all scientific research referred to, reported, or used in this CME/CPD activity in support or justification of patient care recommendations conforms to the generally accepted standards



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# Feedback from Prior Sessions

- “No mention of occupational therapist on the team, why is that?”
- “Did not mention nurse practitioners, either working in occupational health or in primary care”

# Learning Objectives



By the end of this session, participants will be able to:

1. Describe the roles and functions of an occupational health team and those of occupational physicians
2. Recognize the common categories of occupational medical conditions
3. Explain the relationship between the occupational and environmental aspects of OEM

# Occupational Health

Occupational health is an area of work in public health to promote and maintain **the highest degree** of physical, mental and social well-being of workers in all occupations.

Its objectives are:

1. The maintenance and promotion of workers' health and working capacity;
2. The improvement of working conditions and the working environment to become conducive to safety and health;
3. The development of work organization and working cultures that should reflect essential value systems adopted by the undertaking concerned, and include effective managerial systems, personnel policy, principles for participation, and voluntary quality-related management practices to improve occupational safety and health.

# Occupational Health Teams

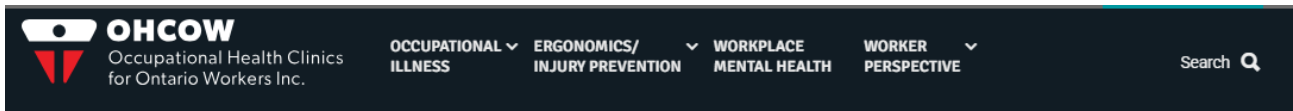
- Certified Occupational Nurses – Occupational Health Nurses
- Nurses working in Occupational Health – non-certified in OH
- Administrative Assistant
- Physician
  - Specialty trained in Occupational Medicine
  - Canadian Board of Occupational Medicine
  - Other qualifications / experience
- Occupational Hygienist
- Safety Professional
- Allied Health Professionals?





# Occupational Health Teams

- In-House provision
- Group provision
- Contracted services
- Social provision



NEWS & EVENTS ▾ APPS, TOOLS AND CALCULATORS VIEW ALL RESOURCES ▾

## ^ CLINICAL SERVICES



### Assessing whether work accidents or exposures have caused a health condition.

An OHCOW nurse will take detailed notes on your work history, your health and what you have been exposed to at work. The nurse will share this information with the OHCOW doctor, who will then examine you and ask you more questions.

The whole OHCOW team will discuss whether your workplace caused your health problem. They will recommend ways to prevent further problems. If you need to be treated, the OHCOW doctor will send you to your family doctor or other treating physician.

Your medical information is confidential. However, if you give your consent, this information will be shared with the joint health and safety committee at your workplace or with others who are helping with your case. This may help prevent your co-workers from getting sick or injured. It will also help identify whether others are already suffering from the same problem as you.



# Mad-Hatter Symptoms Confused by Diabetes

Mims Magazine 1993; 20:30



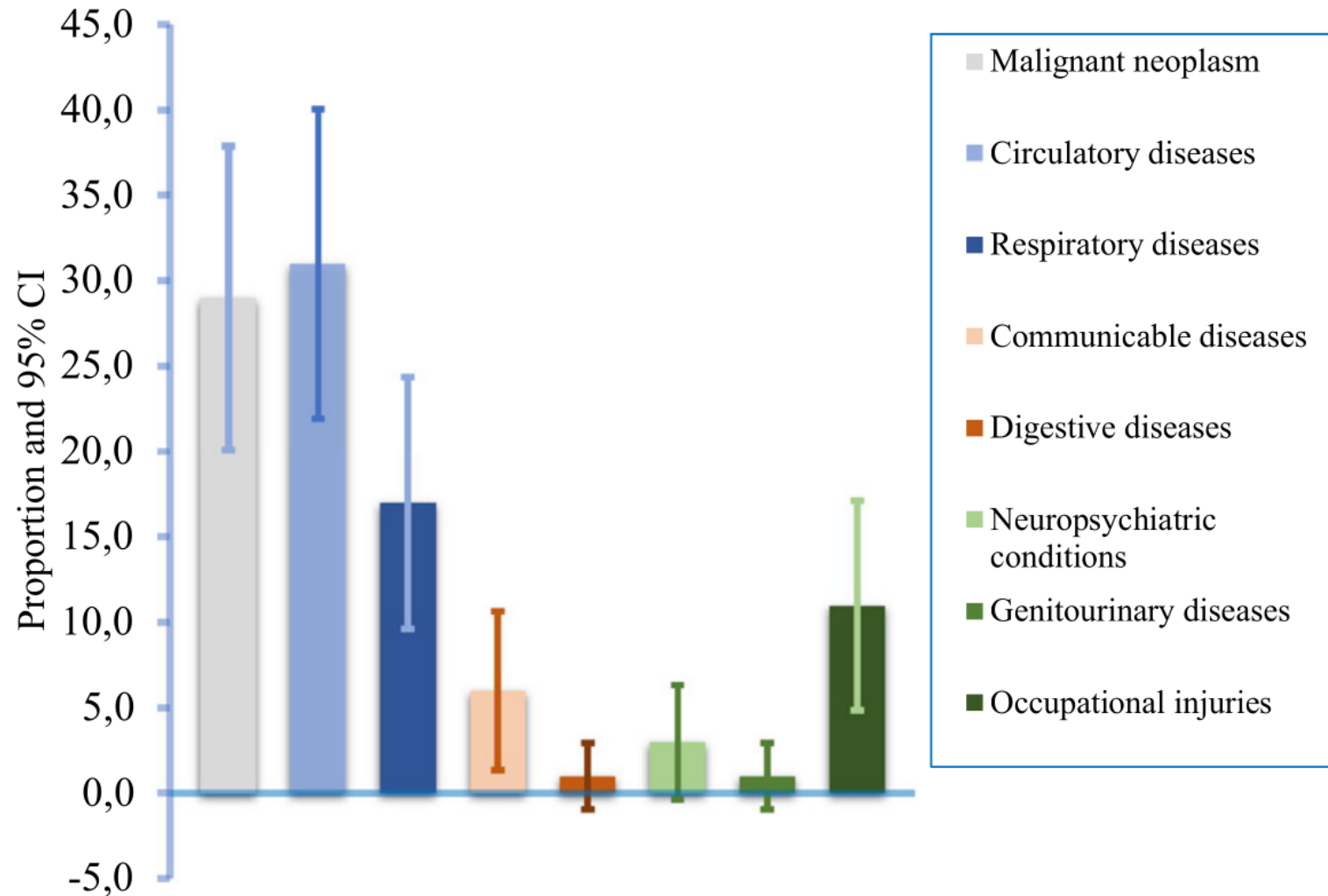
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# Global Proportion of Disease Specific, Work-Related Mortality in 2019



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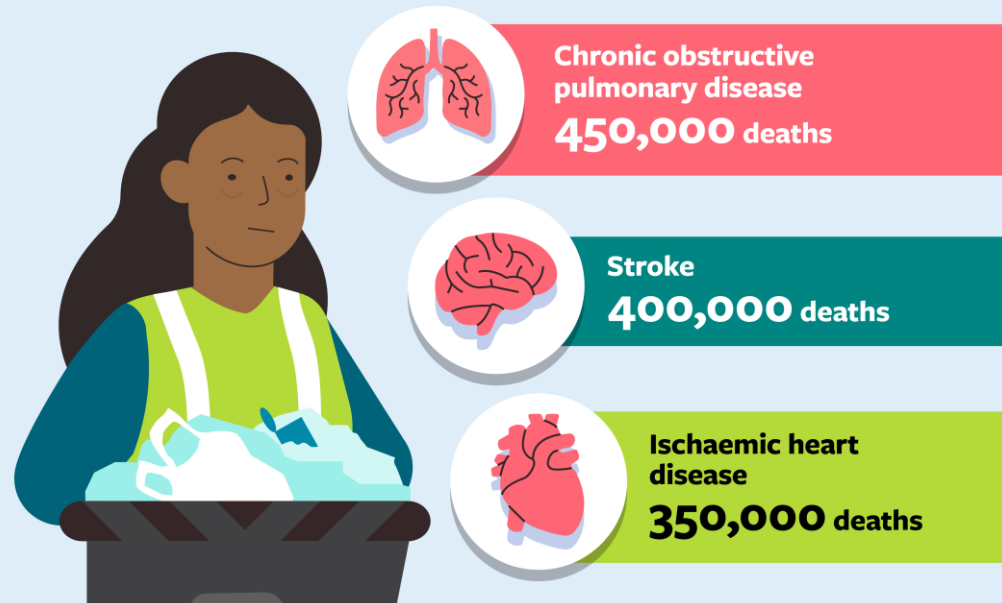


# WHO/ILO Joint Estimates of the Work-Related Burden of Disease and Injury 2000-2016

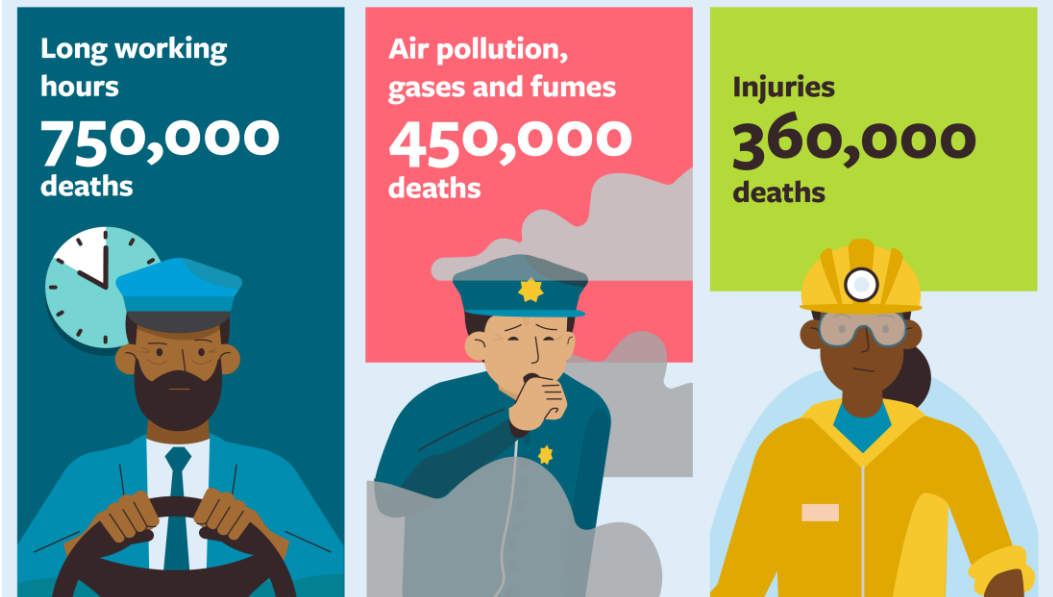


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## The work-related health conditions that cause the most deaths per year are



## The risk factors at work which cause the most deaths per year are



#WorkersHealth



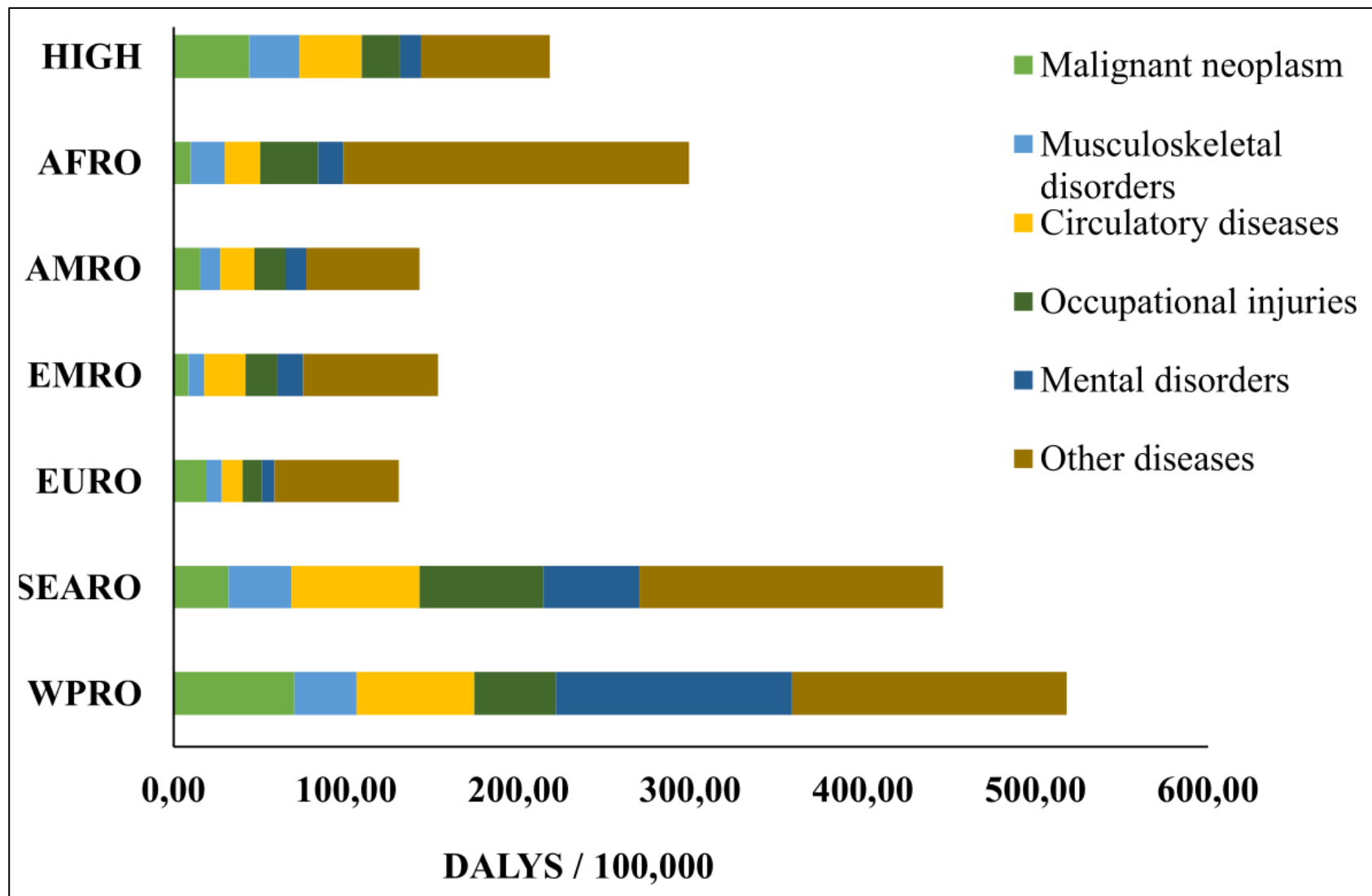
#WorkersHealth



# Cause Specific Work-Related Disability Adjusted Life Years (DALYs) by WHO Regions 2019



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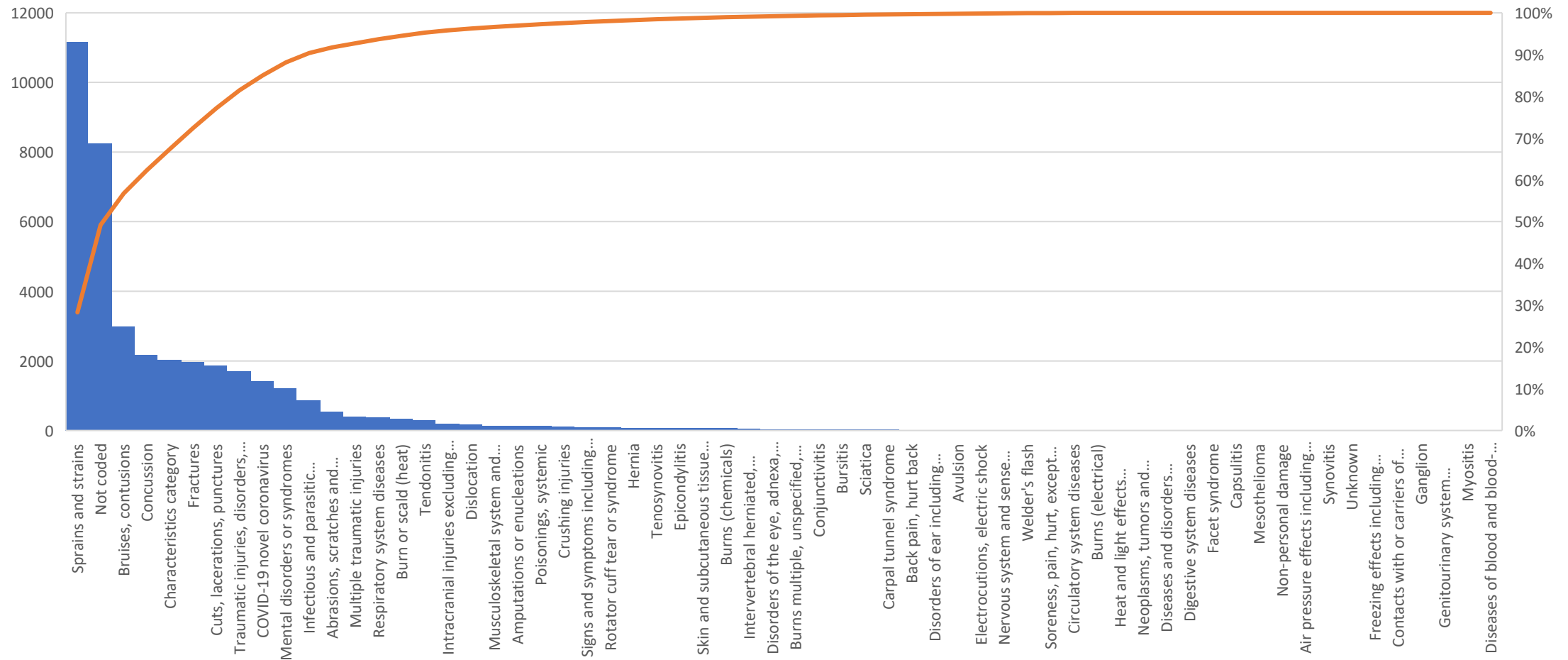
HIGH=high-income group  
 AFRO=Africa region  
 AMRO=America region  
 EMRO=Eastern Mediterranean region  
 EURO=European region  
 SEARO=South-East Asia region  
 WPRO=Western Pacific region

# What is Seen in Ontario?



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## WSIB 2024 Lost Time Claims by Nature of Injury

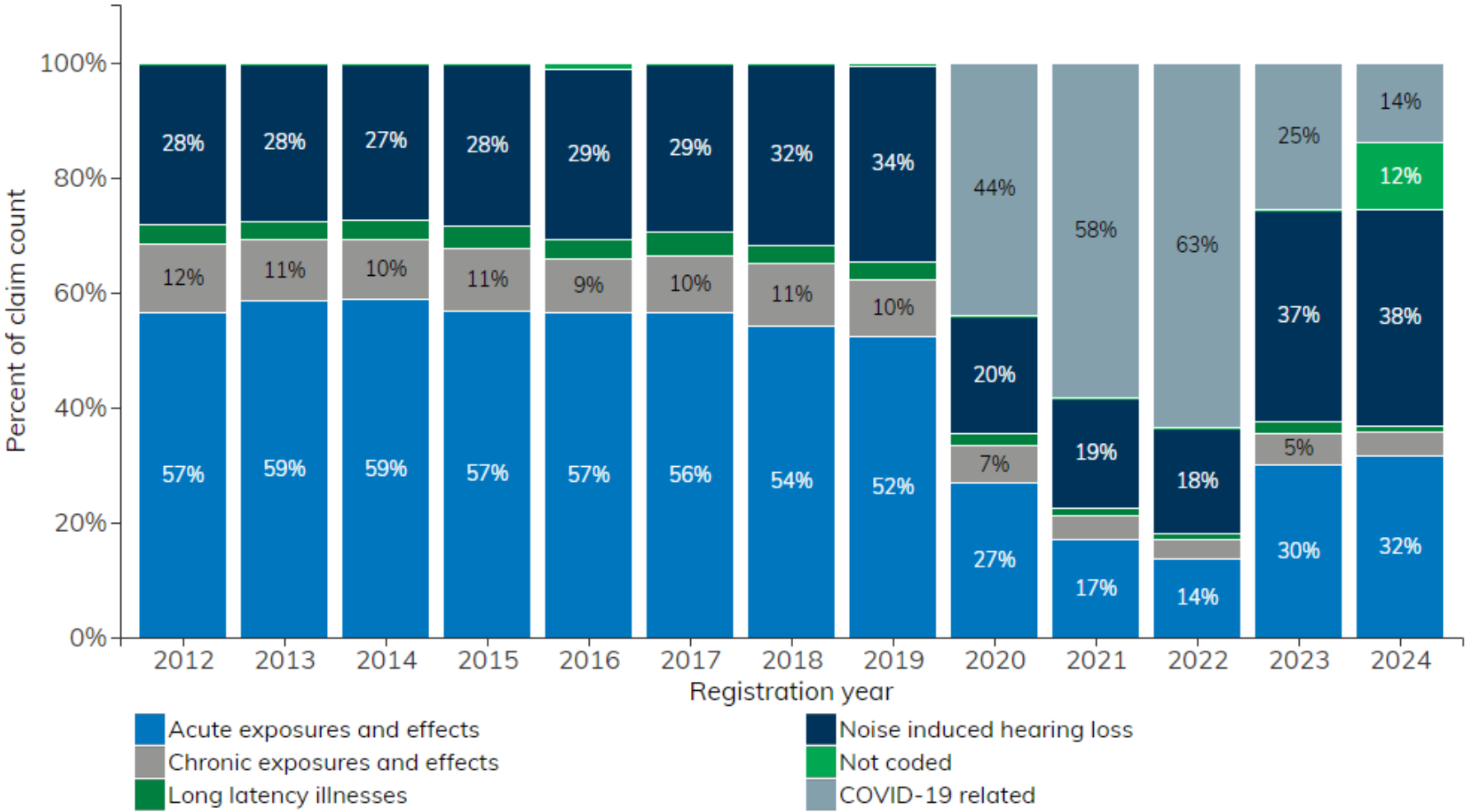


Data Source: WSIB. as at 7/31/2024

<https://safetycheck.onlineservices.wsib.on.ca/safetycheck/explore/additional/provincialDownloads?lang=en>

# What is Seen in Ontario?

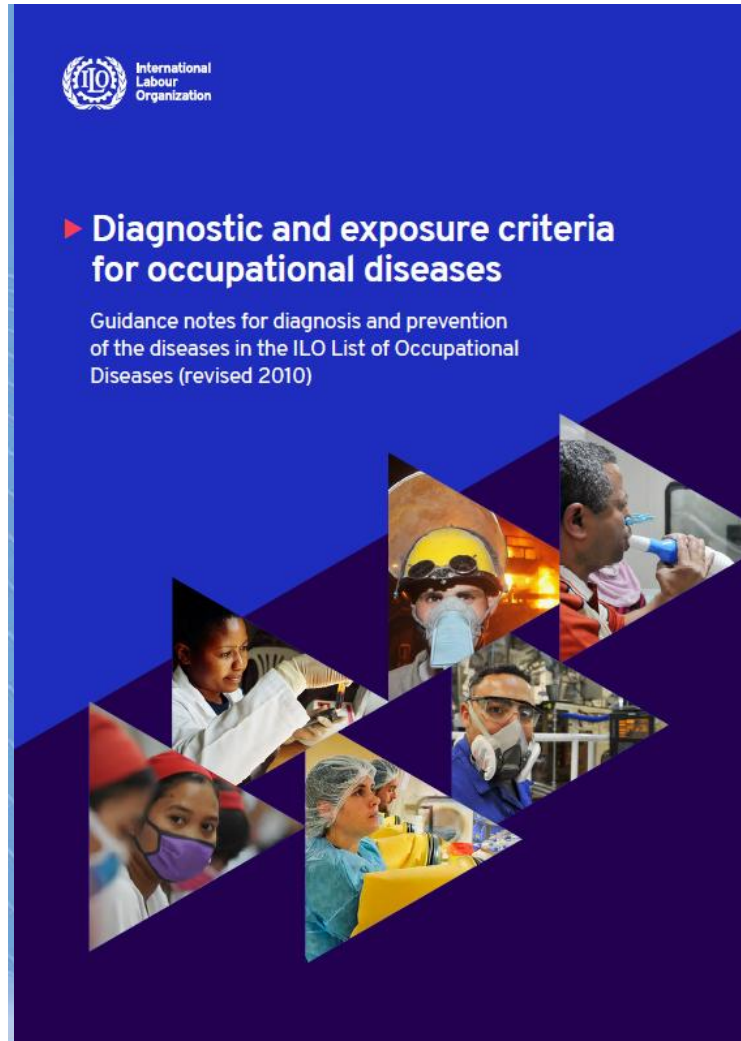
Allowed occupational disease categories by count i



# International Labour Organization (ILO) List of Occupational Diseases



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97 listed diseases with 9 open items

4 categories:

**Category 1** Occupational diseases caused by exposure to agents arising from work activities, divided into a section for diseases caused by chemical agents, diseases caused by physical agents, biological agents and infectious or parasitic diseases.

**Category 2** Occupational diseases by target organ systems; 4 sections; Respiratory, Skin diseases, Musculoskeletal disorders and Mental and Behavioural disorders.

**Category 3** Occupational cancer listed by specified agents.

**Category 4** other diseases.



# What Does an Oiler Do For a living?



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## Job Description: Marine Oiler

- 1) Oils and greases moving parts, such as gears, shafts, and bearings, of engines and auxiliary equipment used to propel maritime vessels: Examines machinery for specified pressure and flow of lubricants.
- 2) Fills oil cups on machinery with grease and lubricating oil, according to machinery lubrication instructions.
- 3) Reads pressure and temperature gauges and records data in engineering log.
- 4) Assists Engineer in overhauling and adjusting machinery.
- 5) May lubricate deck machinery when vessel is unloading cargo.



# NOC Bingo!



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Which one of these is not a job in the Canadian National Occupational Classification?

- a) Mud man/woman
- b) Worm picker-packer
- c) Currier
- d) Deburrer

# Think Work!

- What is the patient's job?
- Could the disease be due to a work exposure?
- What has the patient been exposed to at work?
- Is the exposure enough (dose) to cause the disease?
- Did the exposure start long enough ago (duration) to cause the disease?

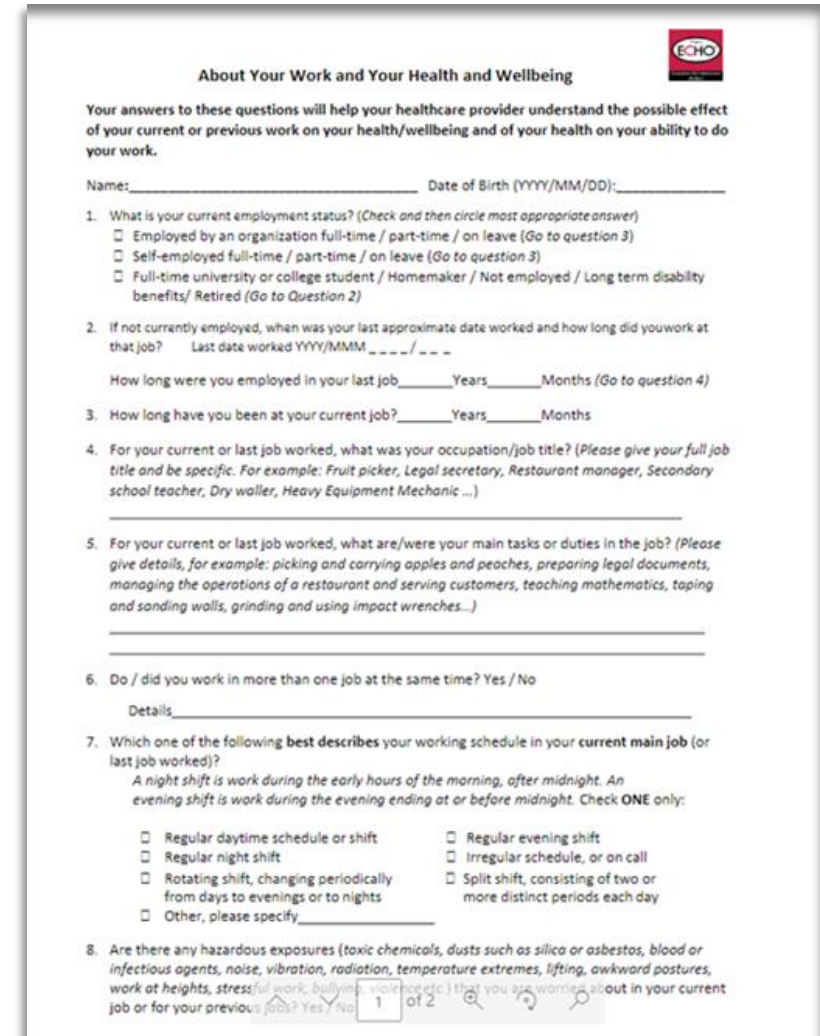


# Occupational History Recording Tool

## Why use it?

- Time management
- Record keeping
- Communication
- Collaboration
- Assessment
- Environmental exposures
- Disclosure of information
- Prognosis
- Special populations (adolescents, pregnant workers)

**New!** Guidance for the Occupational History Recording Tool



**About Your Work and Your Health and Wellbeing**

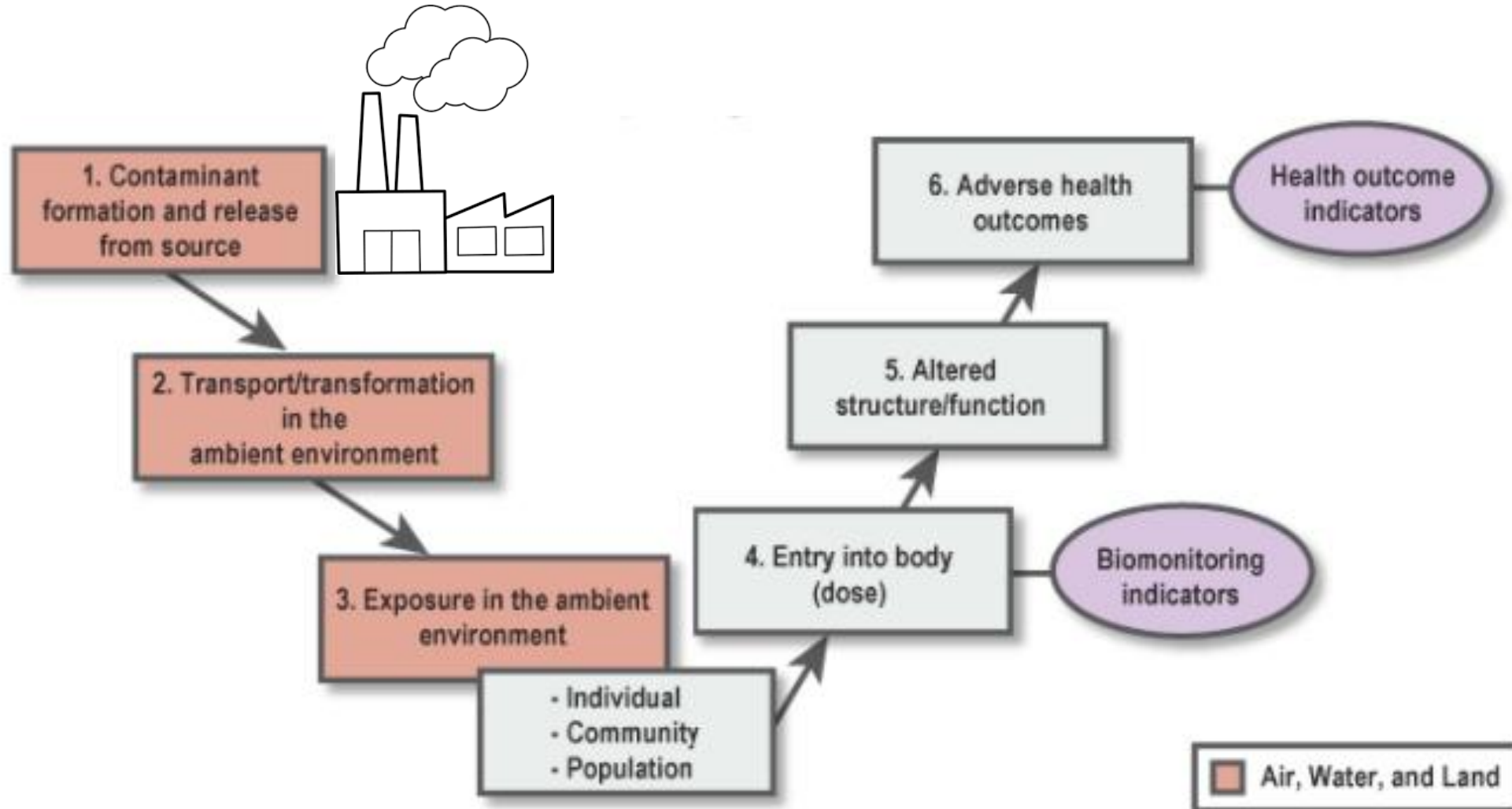
Your answers to these questions will help your healthcare provider understand the possible effect of your current or previous work on your health/wellbeing and of your health on your ability to do your work.

Name: \_\_\_\_\_ Date of Birth (YYYY/MM/DD): \_\_\_\_\_

- What is your current employment status? (Check and then circle most appropriate answer)
  - Employed by an organization full-time / part-time / on leave (Go to question 3)
  - Self-employed full-time / part-time / on leave (Go to question 3)
  - Full-time university or college student / Homemaker / Not employed / Long term disability benefits/ Retired (Go to Question 2)
- If not currently employed, when was your last approximate date worked and how long did you work at that job? Last date worked YYYY/MMM \_\_\_/\_\_\_/\_\_\_  
 How long were you employed in your last job \_\_\_\_\_ Years \_\_\_\_\_ Months (Go to question 4)
- How long have you been at your current job? \_\_\_\_\_ Years \_\_\_\_\_ Months
- For your current or last job worked, what was your occupation/job title? (Please give your full job title and be specific. For example: Fruit picker, Legal secretary, Restaurant manager, Secondary school teacher, Dry waller, Heavy Equipment Mechanic ...)
- For your current or last job worked, what are/were your main tasks or duties in the job? (Please give details, for example: picking and carrying apples and peaches, preparing legal documents, managing the operations of a restaurant and serving customers, teaching mathematics, taping and sanding walls, grinding and using impact wrenches...)
- Do / did you work in more than one job at the same time? Yes / No  
 Details \_\_\_\_\_
- Which one of the following **best describes** your working schedule in your **current main job** (or last job worked)?  
*A night shift is work during the early hours of the morning, after midnight. An evening shift is work during the evening ending at or before midnight. Check ONE only:*
  - Regular daytime schedule or shift
  - Regular evening shift
  - Regular night shift
  - Irregular schedule, or on call
  - Rotating shift, changing periodically from days to evenings or to nights
  - Split shift, consisting of two or more distinct periods each day
  - Other, please specify \_\_\_\_\_
- Are there any hazardous exposures (toxic chemicals, dusts such as silica or asbestos, blood or infectious agents, noise, vibration, radiation, temperature extremes, lifting, awkward postures, work at heights, stressful work, bullying, violence etc.) that you are worried about in your current job or for your previous jobs? Yes / No

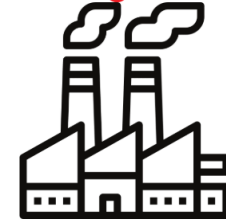
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# Environmental Exposure and Health

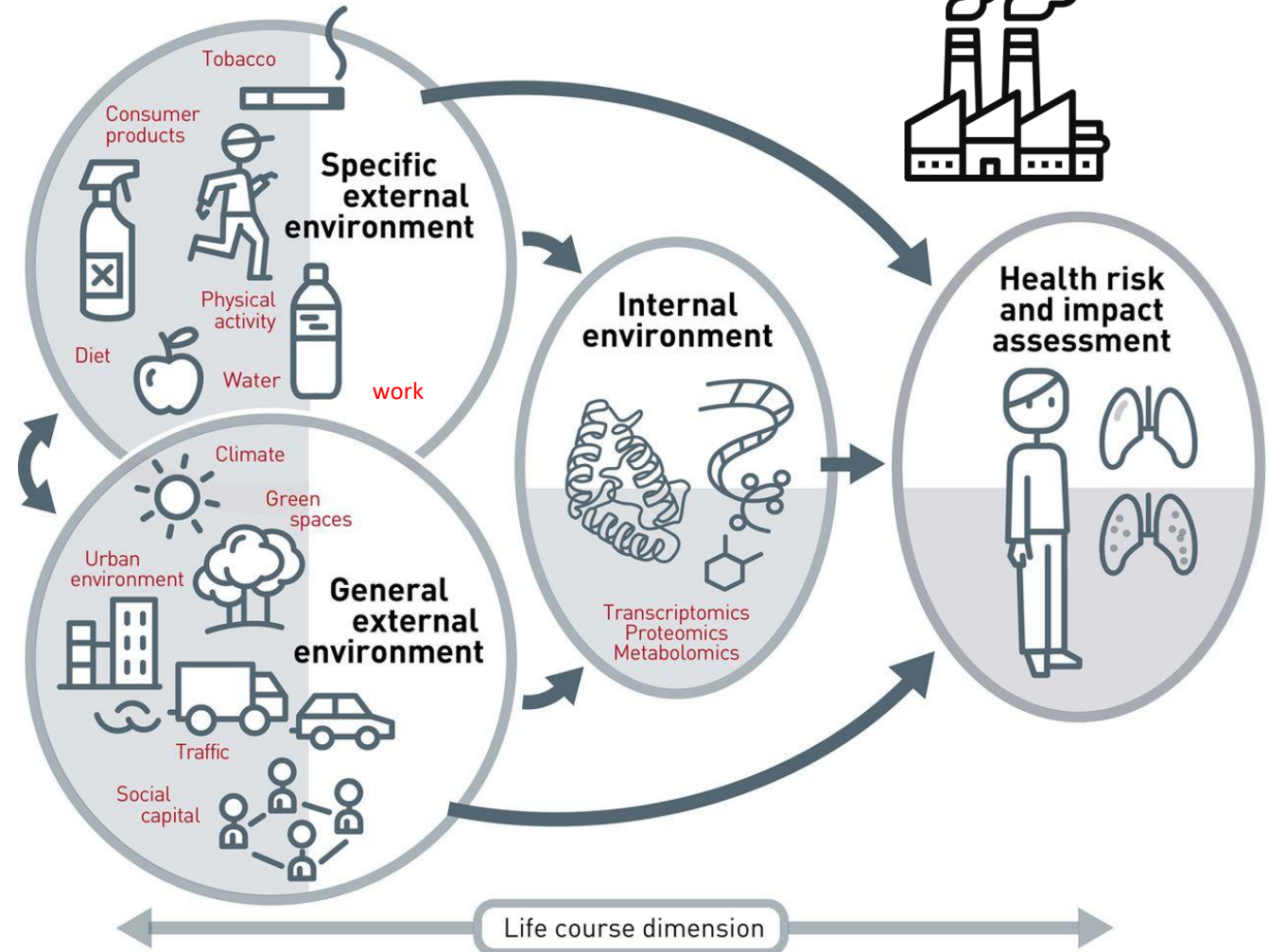


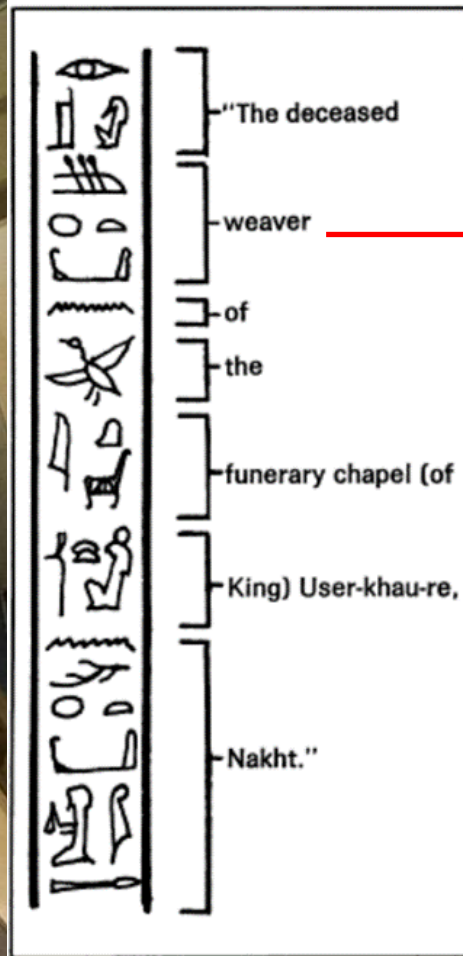


# What is the Exposome?



## The Exposome: Exposure to Disease





5244 – Artisans and craftspersons



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Thank you,

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## Coffin for the Mummy of Nakht

Western Thebes, Egypt, about 1190 BC

Nakht was a young weaver from a small temple on the west bank of the Nile. His mummy was autopsied in Toronto in 1974. When Nakht died about three thousand years ago, someone in his family loved him enough to ensure that he was buried in a good quality coffin, where his name and occupation were recorded for all eternity.