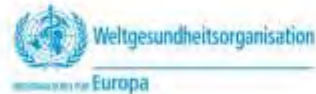


Public health and policy implications based on the data from the Register of occupational diseases

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Occupational diseases registration

- Occupational diseases and work-related injuries, as already mentioned, can present a heavy burden on employees and employers
- They also cause economic cost
- In spite of these facts, information on incidence and prevalence of occupational diseases is very rare reliable and only exceptionally reflects the real situation
- Which instruments can we use and what is the public health value and use of these data ?
- In ideal situation, reliable and comparable system for monitoring of occupational diseases, including Occupational Diseases Registers should provide estimation of the trends by using consistent methodology (at the national and international level).

What is surveillance and registration of occupational diseases?

- *Surveillance is the collection, analysis, and dissemination of results for the purpose of prevention. Surveillance tells us what our problems are, how big they are, where the solutions should be directed, how well (or poorly) our solutions have worked, and if, over time, there is improvement or deterioration.*
- *Surveillance is essential to successful sustained public health intervention for the purposes of prevention. Surveillance systems must be tailored to the specific disease or injury that is to be prevented. Surveillance should not be limited only to the occurrence of death, disease, or disability. Public health is a multilevel cascade of activities involving recognition, evaluation, and intervention.*

• *Ref: Halperin W.E, American Journal of Industrial Medicine 29:321-323, 1996*

How do we use surveillance data (disease registers and death register)?

The World Health Organization (WHO) has been developing the methodology performing studies concerning the global burden of disease. The Global Burden of Disease (GBD) project has provided the most comprehensive estimates of mortality and morbidity for more than 135 causes of disease and injury including occupational factors. Also, new Global Burden of Disease project estimates – the project led by IHME (Institute of Health Metrics) from 2015 provides more recent updates on global burden of diseases related also to occupational factors influencing health (morbidity and premature mortality attributed to these factors).

What is the concept of burden of disease?

The burden of disease (BOD) is the impact of a health impact caused by specified factors and measured by premature mortality and morbidity.

It is a statistical measure indicative of premature death and loss of healthy life years because of disease and is often measured by disability-adjusted life years (DALYs). The health is taken as the health and well-being entity, taking into account the quality of life and/or disability caused by ill health.

In addition to diseases, also work related accidents contribute to BOD, may cause premature death and the consequences of serious injuries may have negative impact to the quality of life.

Out of individual level, from the population and public health point of view, work related diseases and accidents are responsible for costs to individual employees, employers, companies, insurance companies and to the society at large.

Brief description of the applied methodology

- Attributable fraction (AF) takes into account both the relative risk of becoming ill from an exposure and the proportion of workers exposed to it. The calculation of burden of disease is carried out on the basis of disease and cause of death registers and epidemiologic studies concerning specific exposed groups. *Attributable fraction* (AF) is defined as the fraction of diseases (morbidity or mortality), *which could have been avoided by removing the exposure or some other risk factor*. Often the term *population attributable fraction* (PAF) or population attributable risk is used, when studies/evaluations refer to the whole population

Confounding factors

- The relative risks obtained from epidemiologic studies are also affected by various confounders (smoking frequency, alcohol consumption, physical exercise, obesity or other occurring occupational or environmental exposures).
- These factors depend on the study design, and the health outcomes and exposures under study. They are difficult to eliminate to the full extent, although they are taken into account in most epidemiologic studies.

Disability Adjusted Life Years (DALYs)

- DALYs are frequently used as the measure for the calculation of burden of disease.
- The concept has been mainly developed within the WHO. DALYs offer the possibility to take into account both premature mortality and the negatively impacted quality of life due to a disease. The DALY is calculated as the sum of years of life lost due to premature mortality (YLLs) and the years lived with disability due to disease (YLDs)

What is the public health value?

Information about premature mortality due to the occupational exposure to different factors harmful for health as well as the DALYs is essential to develop occupational health interventions for the purpose of prevention of diseases and the protection of workers' health and well-being

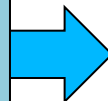
Prevention (Last 1988)

- Primary (prevention of diseases before the initiation)
- Secondary (early detection)
- Tertiary (reducing long term impairment and disability)

Health approach promoted by WHO

Occupational Health

- Labour contract
- Only at the workplace
- Employer's responsibility
- Only work-related health issues
- Negotiation between workers and employers



Workers Health

- All workers
- Beyond the workplace
- Responsibility of everybody
- All health determinants
- Health protection not subject to collective negotiation
- Other stakeholders: health and environment authorities, insurance

Additional Challenges

- While some cases of ill health are clearly related to work activity, for others the cause may be less clear. Many serious occupational diseases have a long period of 'latency', some up to 30 years, between exposure and development of ill health and/or disease, making the links even more difficult to establish.
- This also means that after recognising the problem and making changes in working practices to reduce exposure there may be a long delay before a reduction in the causes of ill health and death are seen.

Regional framework: Health 2020



- Health as a human right
 - Health and well-being essential for economic development and growth
 - Whole-of-government and whole-of-society approaches to equitable improvement in health
 - Shared priorities and collaboration with other sectors
 - The importance of community and individual resilience and empowerment
- ... a regional mechanism to incorporate workers' health into other policies**

Incorporation of workers' health into other policies

Relevant environmental policies and initiatives:

- Strategic Approach to International Chemicals Management (SAICM)
- Multilateral environmental agreements: Rotterdam, Basel, Stockholm, and Minamata conventions
- Emergency preparedness and response
- Climate change mitigation and adaptation strategies
- Sectoral policies for branches with highest health risks

Economic appraisal

- It becomes more and more important, not only for legitimization of occupational safety and health, but also for targeting preventive actions effectively.
- Methodologies vary, but data from different countries show the order of magnitude of calculated health impact (DALYs) and related economic loss are not varying as much.
- Indirect costs are higher and more difficult to measure than the direct ones. Not only costs, but also savings and profits from successful prevention should be calculated in the economic appraisal.

• Source: Conclusions of the OSH Symposia at the 12th World Conference on Injury Prevention and Safety Promotion, Tampere 2016, Unpublished

Instead of the conclusion

..“we must always remember that human beings are not servants of economies. Rather, economic development and production must serve men and women. Occupational safety and health is a crucial means towards that end”

Kofi Annan