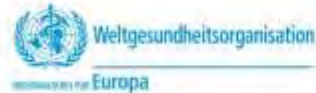


# General approach and criteria for formulating occupational diseases list and the connections with other health registries

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# Content

- Occupational disease
- History
- Global burden of occupational diseases
- Criteria for verification of occupational diseases
- Registration of occupational diseases and links with other registries

# Occupational Disease (ILO)

- A disease contracted as a result of an exposure to risk factors arising from work activity.

# Occupational Disease

- An occupational disease is a case of disease recognised by the national authorities as being caused by a factor at work.

# Occupational Disease

- Occupational diseases are illnesses primarily caused by a physical, chemical or biological factor at the workplace.

# Occupational Disease-Serbia

- Certain illnesses incurred during the insurance period, caused by long-term direct influence of processes and working conditions in the workplace, or in the jobs which insured worker performed.

# History

- International Labour Organization (ILO) established in 1919.
- 1919 ILO declared that Anthrax is occupational disease.
- 1925 First ILO List of occupational diseases (ILO Convention 18):
  1. Poisoning by lead
  2. Poisoning by mercury
  3. Anthrax infection

# History

- 1934 Second ILO List of occupational diseases (ILO Convention 42):
  1. Poisoning by lead
  2. Poisoning by mercury
  3. Anthrax infection
  4. Silicosis
  5. Phosphorous poisoning
  6. Arsenic poisoning
  7. Poisoning by benzene or its homologues
  8. Poisoning by the halogen derivatives of hydrocarbons of the aliphatic series
  9. Pathological manifestations due to radium and other radioactive substances or X-rays
  10. Primary epitheliomatous cancer of the skin



# History

- 1964 Third ILO List of occupational diseases (ILO Convention 121)
  - 29 Occupational diseases
- 2002 (revised 2010) ILO List of occupational diseases (ILO Recommendation 194)
  - 106 Occupational diseases

# Occupational Diseases vs. Work-Related Diseases

- Occupational disease is a case of disease recognised by the national authorities as being caused by a factor at work.
- Work-related diseases (WRD) comprise occupational diseases and also other diseases, whose etiology is partly affected by work-related factors (like musculoskeletal diseases, cardiovascular diseases, many respiratory diseases and mental disorders).

# Occupational Diseases vs. Occupational Injuries

- Occupational disease is a case of disease recognized by the national authorities as being caused by a factor at work.
- Occupational injury is any personal injury, disease or death resulting from an occupational accident.
- Open issues:
  - Acute poisoning?
  - Viral hepatitis?
  - ...

# Occupational Diseases List

- Open list (Sweden)
- Closed list (France, Serbia, Russia?)
- Mixed list (Germany, Finland, Belgium...)

# International Labour Organization List of Occupational Diseases

- Extensive (106 diseases on list);
- Not obligatory for member countries;
- Criteria for verification are missing so member countries have opportunity to develop national criteria.

# Russian List of Occupational Diseases

- Enacted on 27.04.2012.
- Extensive (almost 200 diseases on the list);
- Broad clinical and exposure criteria;

# EU List of Occupational Diseases

- Enacted 19.09.2003.
- Extensive
  - Annex I (European schedule of occupational diseases) 109 diseases
  - Annex II (Additional list of diseases suspected of being occupational in origin) 38 diseases
- Acute diseases on the list!
- Criteria-detailed for some diseases but not for all.

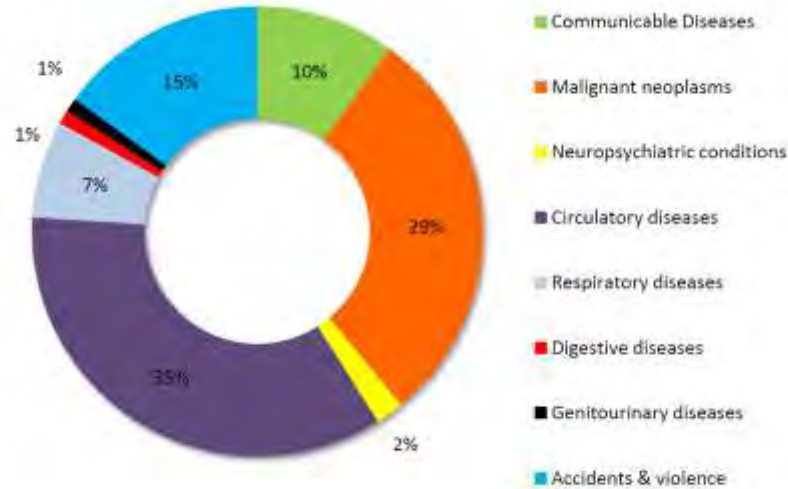
# Global burden of occupational diseases

- According to the global estimates, occupational accidents and work-related diseases result in over 2.3 million fatalities annually.
- There were over 350,000 fatal occupational accidents and over 1.9 million fatal work-related diseases (having in mind that at least 50% of work-related diseases are occupational ones one could calculate that there were more than 1 million fatal occupational diseases).
- Economic costs of work-related injury and illness vary between 1.8 – 6% of GDP in country estimates, averaged at 4 %.

Noora Nenonen et al: Global estimates of occupational accidents and fatal work-related diseases in 2014



# Work-Related Mortality (%)



Noora Nenonen et al: Global estimates of occupational accidents and fatal work-related diseases in 2014

# Occupational Disease Diagnostic

- General practitioner?
- Occupational health specialist?

# Occupational Disease Verification

- Occupational health specialist?
- National Institute of Occupational Health?
- National Board of Experts?
- One or two instances (right to appeal)?
- Detailed or broad criteria?

# Occupational Disease Reporting

- Who should report?
  - Employer?
  - Verification body?
- Responsible authority?
  - National Institute of Public Health
  - National Institute of Occupational Health
  - National insurance

– ?



# Occupational Disease Registration

- Important for:
  - Prevention
  - Public health
  - Country economy
  - Compensation
  - Judicial proceeding

# Occupational Disease Registration

- National laws or regulations should specify that notification of an occupational disease by an employer is mandatory, at least whenever the employer receives a medical certificate to the effect that one of his or her workers is suffering from an occupational disease.

# Occupational Disease Registration

- National laws or regulations should specify that notification of occupational diseases include at least the following information:
  - enterprise, establishment and employer: name and address of the employer, economic activity of the establishment;
  - person affected by the occupational disease: name, address, sex and date of birth; employment status; occupation at the time when the disease was diagnosed; and length of service with present employer;
  - occupational disease: name and nature of occupational disease; harmful agents, processes or exposure to which the occupational disease is attributable.

# Occupational Disease Registration

- Significant underreporting
  - On global level only 82 out of 120 countries had national registry on OD (in Europe 40 out of 48).
  - Low level of OD registration, in countries with registration, Europe 30%.

WHO Global Plan of Action on Workers Health (2008-2017) Global Country Survey (2008/2009)



# Causes of OD Underreporting

- Lack of occupational health education within graduate studies of medicine;
- General lack of causal diagnostics in medicine (doctors are focused on disease diagnostic and therapy not on causes of disease).

# Causes of OD Underreporting

- Occupational health, as discipline, between MoH and MoL, lost power in last decades.
- Employers are not forced to report ODs.
- Labour inspectors not sufficiently trained in the field of ODs.

# Way Forward

- Apart from improvement of diagnostics of ODs the most promising action is cross linking of OD Registry with other registries:
  - Registry on employees exposed to carcinogens
  - Cancer registry
  - National death registry
  - National disease registry
- Development of electronic OD registry

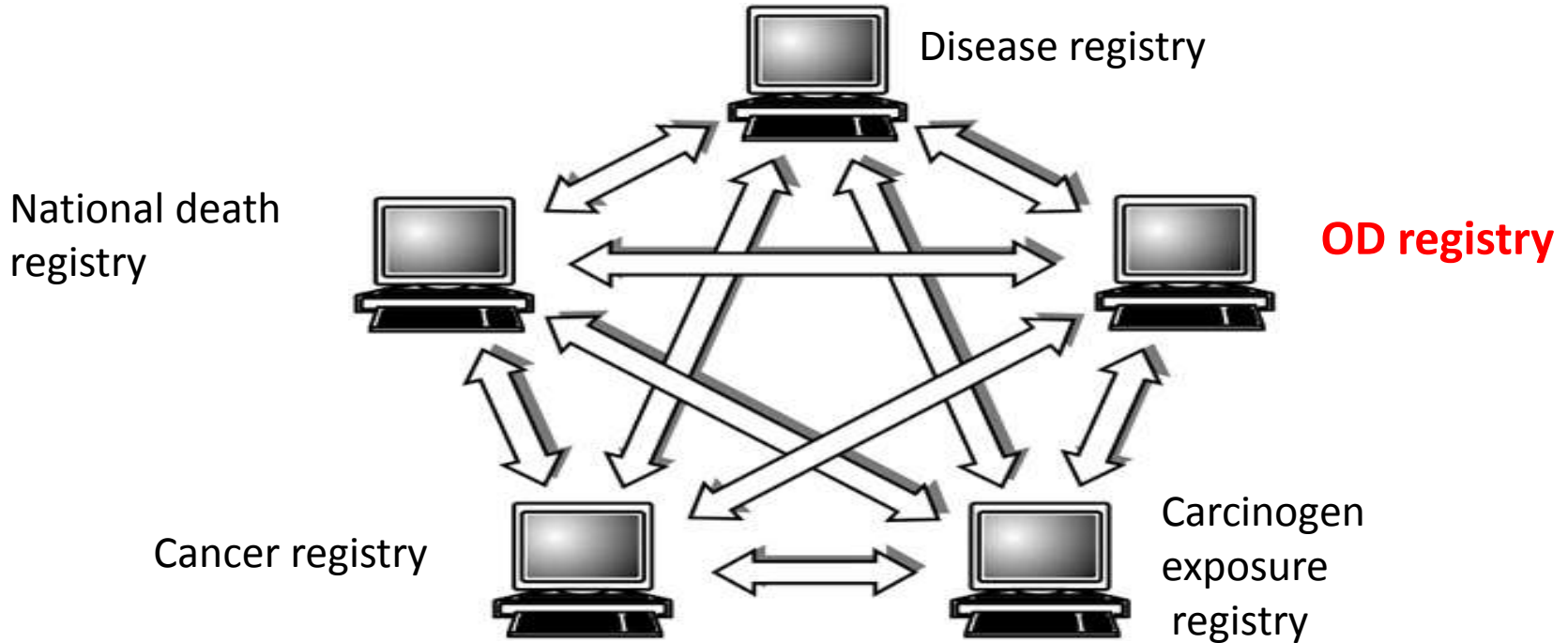
# Registry on Employees Exposed to Carcinogens

- All workers exposed to carcinogens should be registered (GPA Action 1.8 ).
- Employers should send their lists of exposed workers and relevant carcinogens.
- Information should be collected by responsible national institution, which will publish the relevant statistics annually.
- Available only in limited number of developed countries.

# Cancer Registry

- Provides only data on cancer cases.
- Excellent source of data for Occupational diseases registry through cross checking with Registry on employees exposed to carcinogens.
- Electronic form available in number of countries but still not linked with other registries.

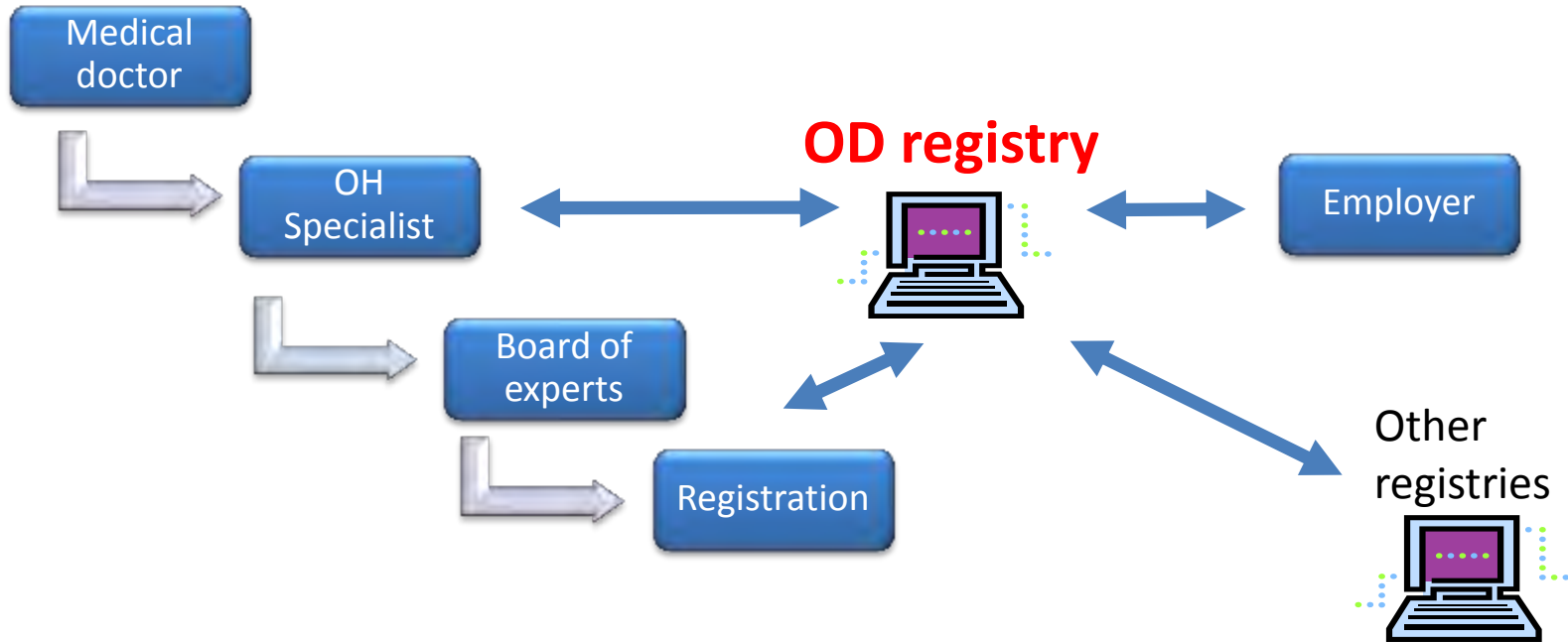
# Registry Data Flow



# Electronic Occupational Disease Registry

- It might be based on:
  - Web technology
  - Updated software for general practitioner
  - General practitioner
  - Occupational health specialist
  - Employer
  - Board of experts

# Electronic Occupational Disease Registry





# Challenges

- Collaboration and coordination of different ministries is necessary in establishing reliable registries. Unfortunately, it is main obstacle in full implementation of electronic registries.
- Lack of GPs education in the field of occupational diseases and their involvement in process of occupational disease diagnostics.
- Harmonization of OD diagnostic criteria on global or at least at regional level in order to exchange and compare data on international level.