

Improving diagnosis, reporting and prevention of Occupational Diseases in the world: tools and proposed approach

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Summary

- The global burden of Occupational diseases; some numbers
- Are available data robust enough?
- The need for defining diagnostic and exposure criteria
- The ILO Working Group
- The product
- Conclusions

Occupational & infectious diseases

- Identified by two components: clinical manifestation/s and external causal agent
- Affect specific populations (“exposed”)
- Can be addressed by coping strategies

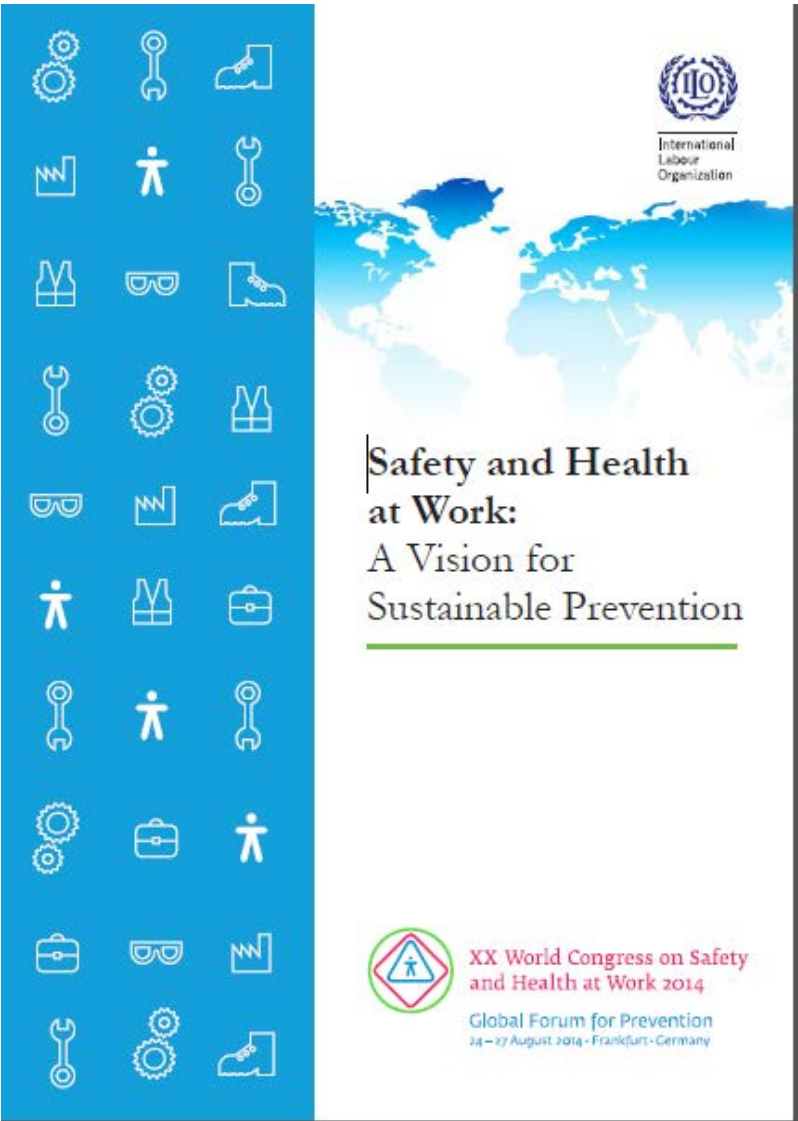
They both are AVOIDABLE

That means: the number of Ods should be “0”!

Definition of Ods: ILO and National Regulations

- ILO: “Any disease contracted as a result of an exposure to risk factors arising from work activity” (Protocol of 2002 to the Occupational Safety and Health Convention, 1981 (No. 155))
- In most countries, a disease can be defined “occupational” when the national authorities responsible for occupational diseases diagnosis and reporting acknowledge its occupational origin
- The main tool available to national authorities to acknowledge the occupational origin of a disease are the LISTS

Global estimators of work related accidents and diseases



Fatal accidents:

352,000

Work Related diseases fatalities:

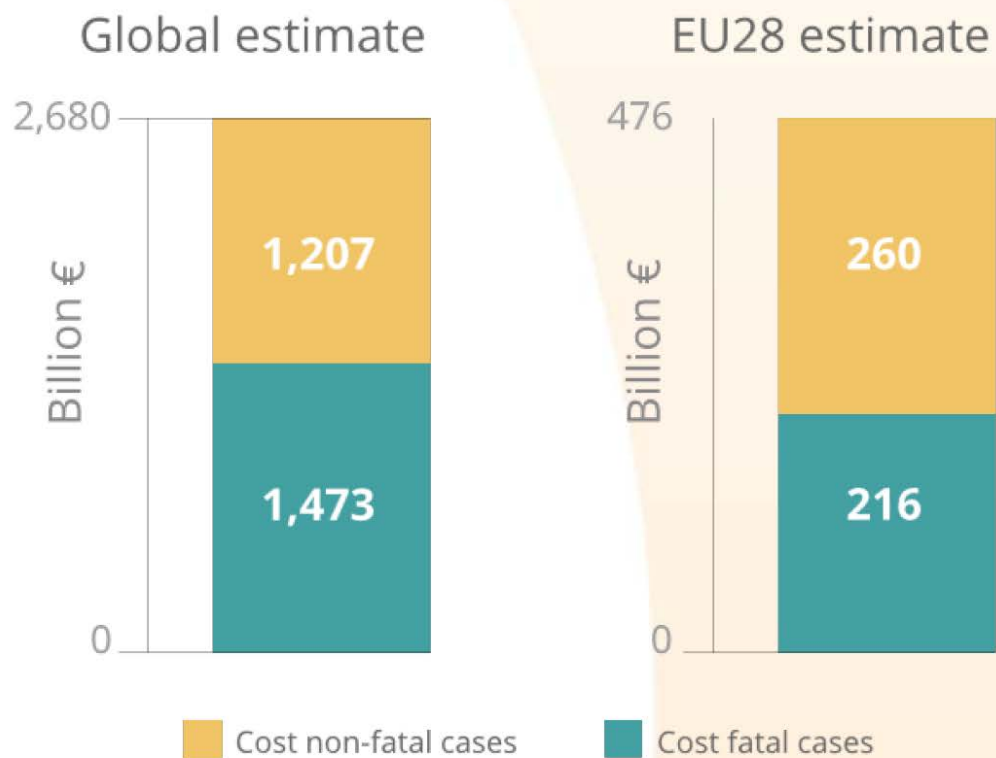
1,98 million

Accidents causing absence of 4 or more days:

313 million

The burden of occupational diseases: some data

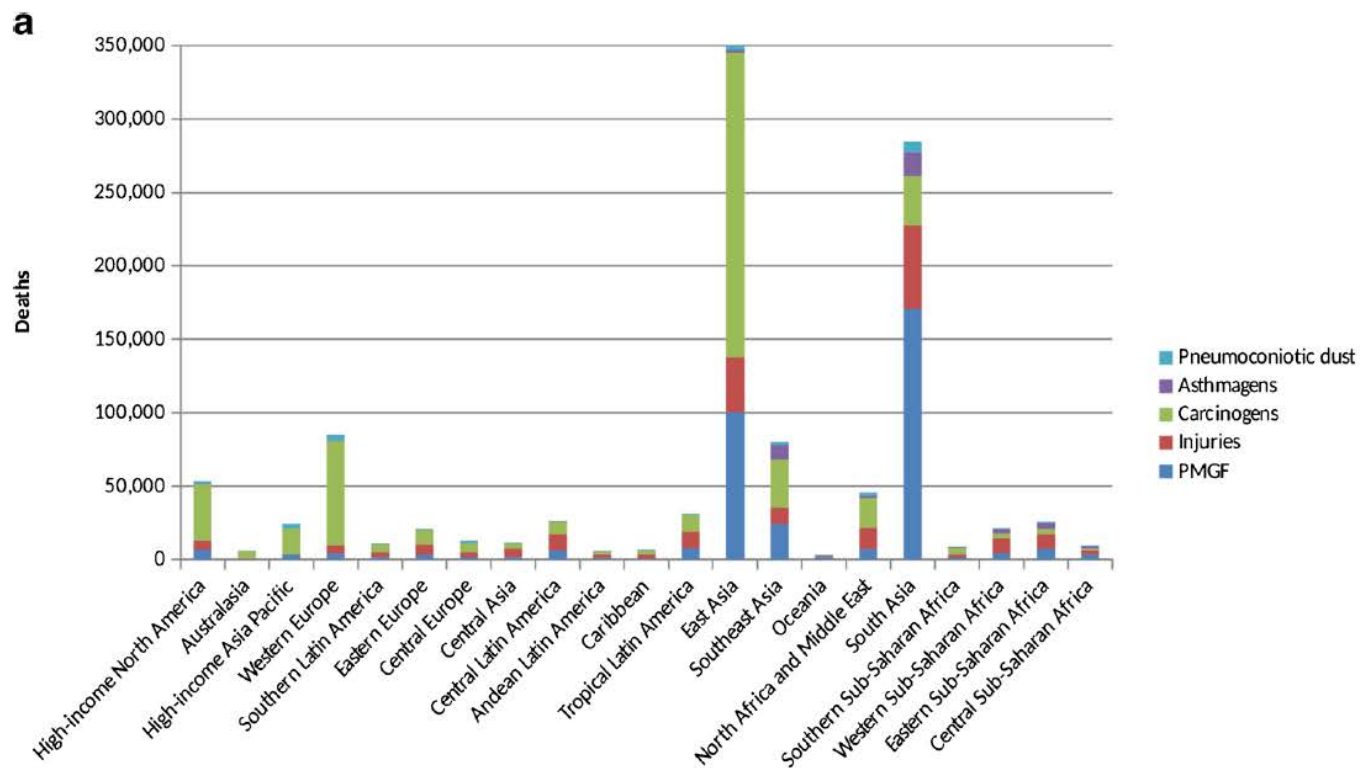
Figure 1: Cost of work-related accidents and illnesses globally and in the EU-28



The burden of occupational diseases: some data

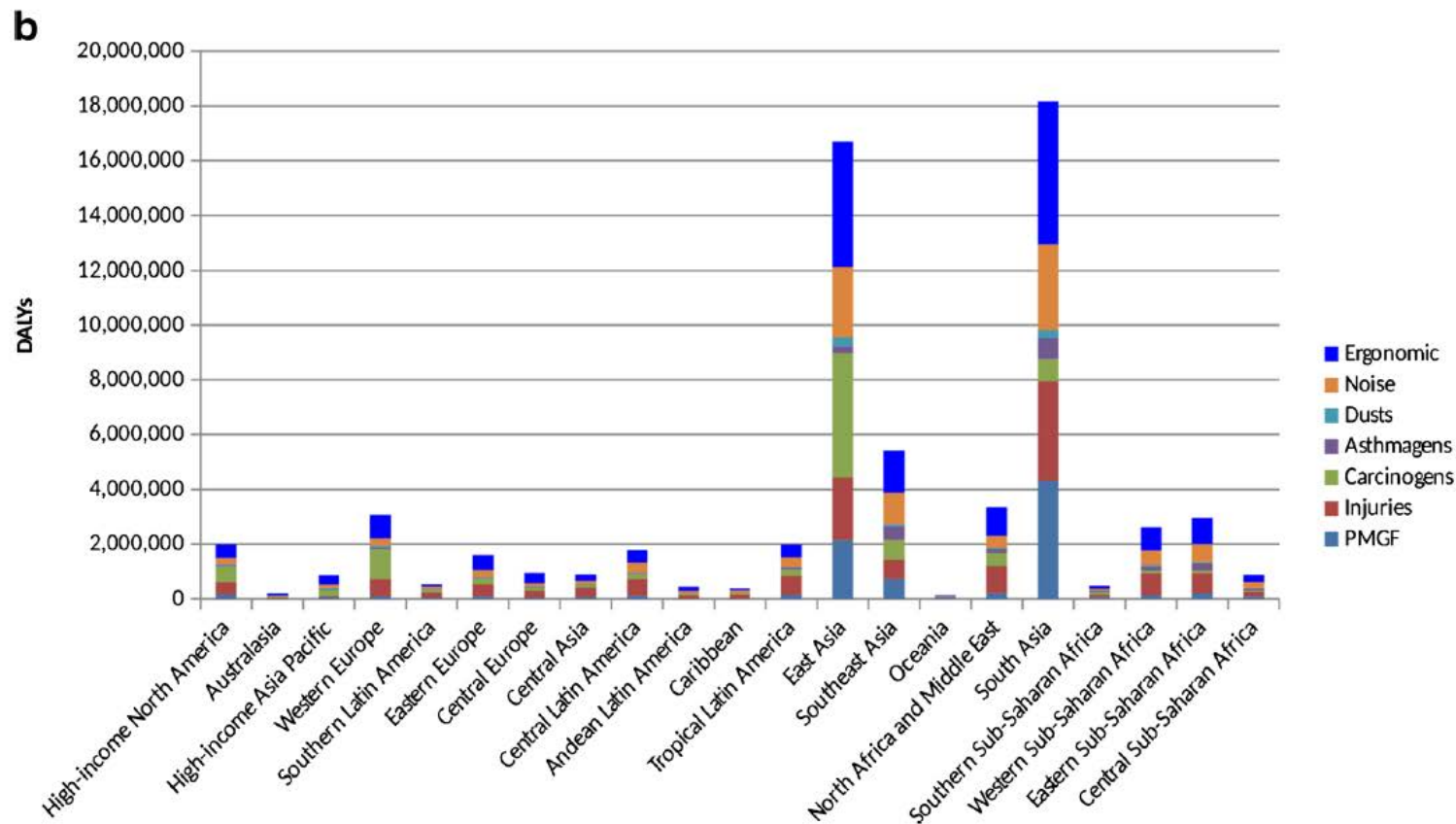
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Curr Envir Health Rpt (2017) 4:340–348



Lesley Rushton, 2017. PMGF=particulate matter, gases and fumes

The burden of occupational diseases: some data



Lesley Rushton, 2017. PMGF=particulate matter, gases and fumes

Reporting of ODs: some thoughts

pleural plaques
reported per year



Italy: 500 - 600

Austria: 10 - 12 (1)

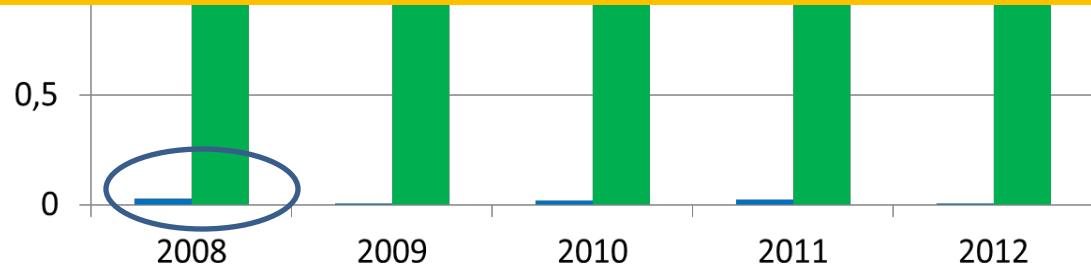
An urgent need: harmonization!!!

How to reach?

Bureaucratic vs Substantial

No harmonization without CRITERIA!

Petar Bulat (Serbia)



Open points

1. How do we decide what is an 'occupational disease'?
2. What do we do about entities that are primarily symptom based? e.g. Low back pain, asthma, migraine, epileptic attacks, burnout, Karoshi...

When listing an occupational disease?

- Need of strong evidence of the link exposure-disease
- Possibility of defining precise diagnostic criteria
- Difficulty in managing symptom-based conditions

Criteria for the diagnosis of an Occupational disease

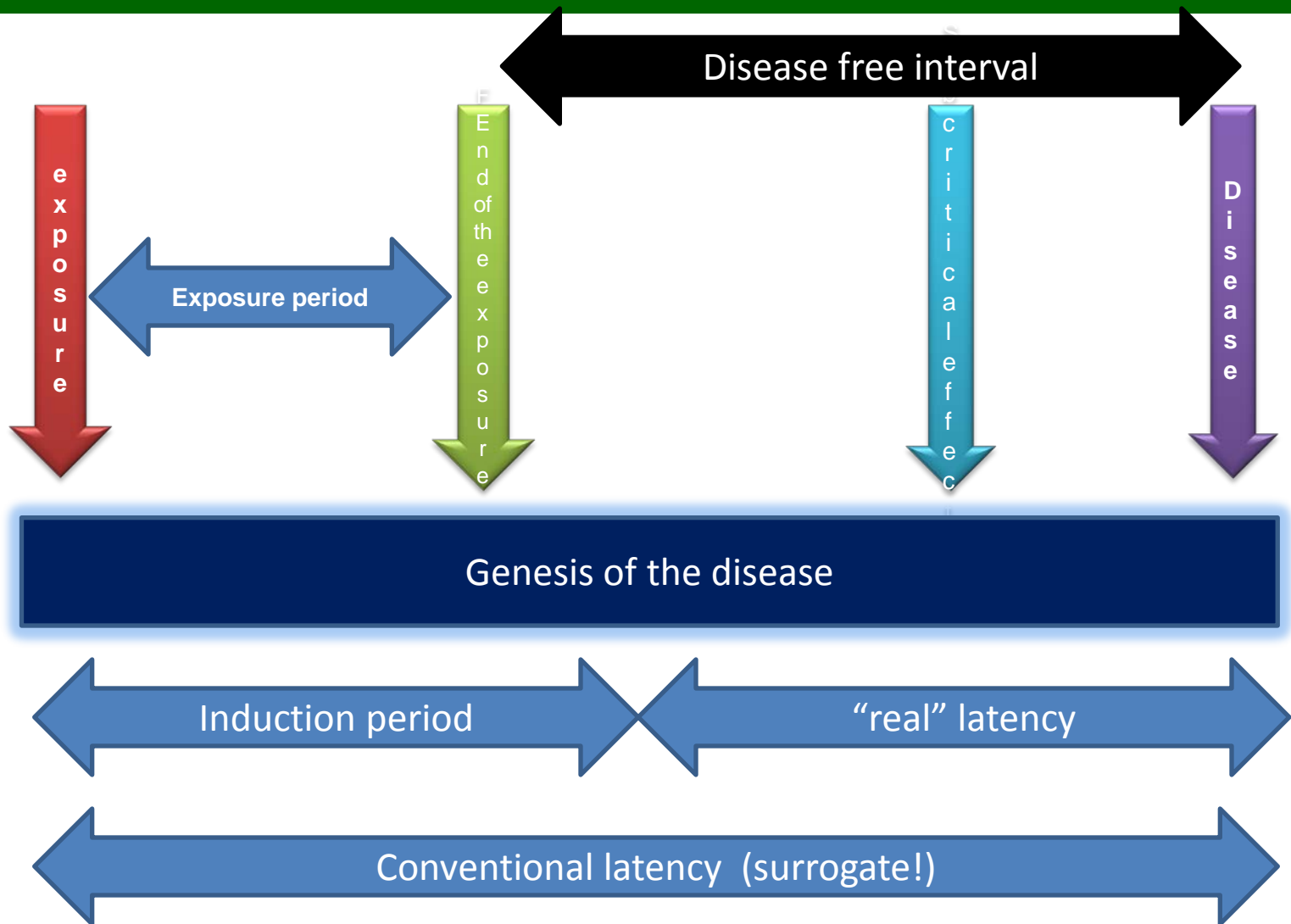
- Two steps:
 - Step 1: definition of the disease
 - Step 2: causality assessment

Definition of Disease

Disease a (set of) dysfunction(s) in any of the body systems including:

- a known pattern of signs, symptoms & findings
 - » *symptomatology - manifestations*
- probably with an underlying explanatory mechanism
 - » *etiology*
- a distinct pattern of development over time
 - » *course and outcome*
- a known pattern of response to interventions
 - » *treatment response*
- with linkage to underlying genetic factors
 - » *genotypes, phenotypes and endophenotypes*
- with linkage to interacting environmental factors

The relation exposure-effect-disease



Diagnosis of an occupational disease

Additional information

Minimum intensity of exposure

Minimum duration of exposure

Maximum latent period

Minimum induction period

Clinical features

Signs, symptoms, diagnostic tests



Occupational exposure

Occupational history,
measurements, biological
monitoring, records of incidents



Timing

Natural history and progress of
the disease



Differential diagnosis

An open point: new and emerging risks

Occupational Medicine
doi:10.1093/occmed/kqx101

CASE REPORT

The scenario of ODs changes, in some cases very quickly:
New diseases from new risks
Known diseases from new risks
Old risks in new forms
known risks causing “new” diseases....

06;56:554–558
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guner¹

one

Accepted author version posted online: 12 At

Stacy M. Holzbauer^{1,2}, Aaron S. DeVries^{1*}, James J. Sejvar³, Christine H. Lees¹, Jennifer Adjemian²,

An outbreak of neurological autoimmunity with
polyradiculoneuropathy in workers exposed to aerosolised
porcine neural tissue: a descriptive study



Daniel H Lachance, Vanda A Lennon, Sean J Pittcock, Jennifer A Tracy, Karl N Krecke, Kimberly K Amrami, Eric M Poeschla, Robert Orenstein,
Bernd W Scheithauer, James J Sejvar, Stacy Holzbauer, Aaron S DeVries, P James B Dyck

Types of emerging diseases and examples

Category	Examples
New diseases due to changes in work / conditions	<ul style="list-style-type: none">• Allergy to biological pesticides• Neuropathy in swine slaughterhouse workers• Legionnaires disease• Popcorn workers lung
New risks from known forms of stress	<ul style="list-style-type: none">• Cardiovascular diseases caused by fine dust• Breast cancer and work at night• Lung infections due to welding fumes
Consequences of parents occupational exposure on offspring	<ul style="list-style-type: none">• Congenital abnormalities• Cancer in children• Delayed neuropsychological development

How to face the problem?

- Creating systems able to detect “early signals”
- Performing active research of cases
- Continuously exploring dangerous trades
- Creating robust data reporting systems

How to deal with entities that are primarily symptom based?

If they

- cause a burden (expressed in dalys)
- Long term affect working capacity

Should be considered as a disease -
need diagnostic criteria

(already done in some national lists
(«Low Back pain»))

How to harmonize the approach in the whole UN scenario ?

- ICD 11
- The New ILO List of Occupational diseases and the related criteria

WHO report on OH in ICD10

- To have information on both diagnosis and exposure
- A guideline on how to use ICD-10 codes for coding the medical diagnosis of notified occupational diseases
- Non-exhaustive lists of exposures relevant for each of the diseases
- To help in making international comparisons and in building OD reporting systems in countries not having a well-established system

WHA Resolution 60.26. Workers Health: Global Plan of Action in ICD10

23. WHO will define indicators and promote regional and global information platforms for surveillance of workers' health, will determine international exposure and diagnostic criteria for early detection of occupational diseases, and will include occupational causes of diseases in the eleventh revision of the International Statistical Classification of Diseases, and Related Health Problems.

From OH10 to ICD11

- 2010 – Comparative analysis ICD11 and ILO list
- 2011 – Global working group on occupational health in ICD11
 - Anil Adishes (UK) – chair
 - Members: USA, Colombia, South Africa, UAE, Italy, India, China, South Korea, Australia
- 2012 – Global master plan of WHO and CCs for OH
 - Surveys of the use of ICD in OH
 - Field testing
 - Review and comments
- ILO exposure and diagnostic criteria for occupational diseases

<http://www.who.int/classifications/icd/revision/en/>

The LAST UPDATING of the THE ILO list of Occupational Diseases (approved on March 25 2010 by the ILO Governing Body)

ILO CODE	ILO ENTRY
1.01	Occupational diseases caused by chemical agents
<p>40 + 1 by chemical agent; 6 + 1 by physical agents; 8 + 1 by biological agents; Per organ: 11 + 1 respiratory; 3 + 1 skin; 7 + 1 musculoskeletal; 1+1 mental; 20 + 1 cancer; 1 + 1 “Other”</p>	



There is an opportunity to add more occupational diseases to the list according to scientific evidence and to the necessity to protect emerging working population from new work – related hazards

Above the list: prospects

- Different approaches and procedures for diagnosis
- Different meanings of words in different languages
- Difficulty in comparing data from different countries
- Main need: an harmonized approach (agreed diagnostic and exposure criteria)

The background consideration

while

the ILO secretariat coordinates the technical activity on the preparation of guidance on diagnostic and exposure criteria for occupational diseases in the ILO list

however

the ILO relies on the contributions and collaborations from the world scientific community, professional bodies and social partners.

The ILO working group on the diagnostic criteria

- Appointed in 2011
- Task: preparing documents on diagnostic and exposure criteria
- 1 mini-monograph for each of the diseases/entities in the ILO list
- “*Open Items*”: examples
- Work finalized this year

The ILO working group's approach

- Prepared 100 six-section short monographs
- Taken into account national practices
- Taken in consideration different systems in different regions
- Used expert opinions to summarize evidence.
- Retrieved scientific, technical and regulatory information

The Structure of the mini monographs

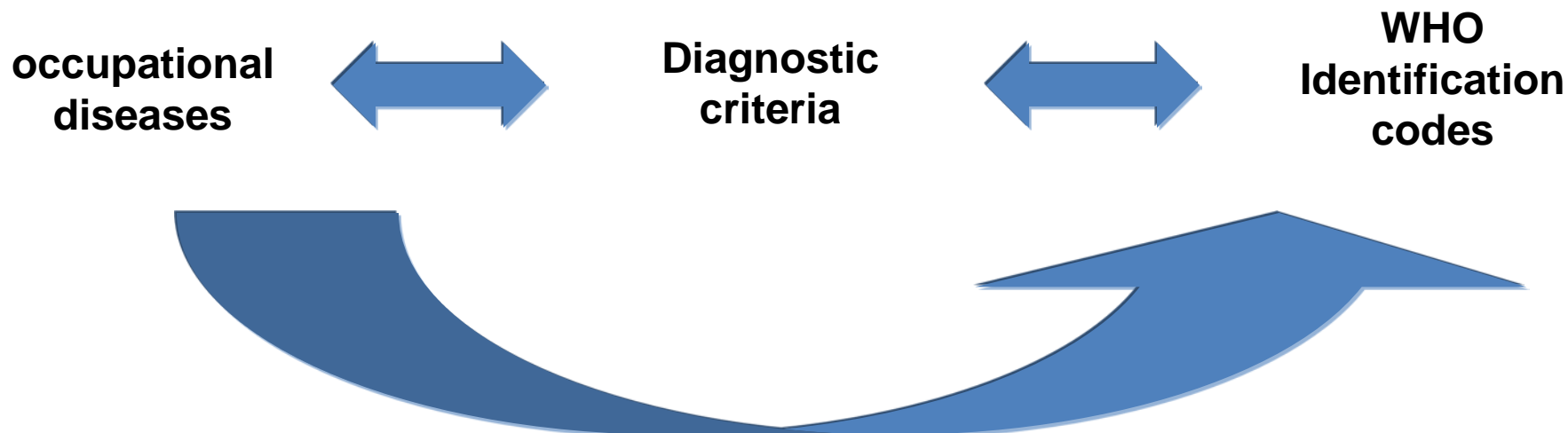
Six sections:

1. General characteristics of the causal agent/disease;
2. Occupational exposures;
3. Short profile of the toxic agent / disease;
4. Name(s) of the disease(s) and the related ICD-10 codes
 - acute, chronic and long term criteria for diagnosis,
 - minimum levels of exposure,
 - latency and induction period
5. Criteria for prevention
6. Further reading

Final considerations

- This product was a cooperative effort of volunteering scientists
- All main geographic and economic areas of the world represented
- This product in printed and digital forms will empower health and safety professionals and stakeholders in particular the developing countries
- Unique tool to promote harmonization of the approach to recognition, diagnosis, prevention and compensation of occupational diseases

**Merge of the ILO list of Occupational Diseases
with
the new edition of the WHO ICD-11**



***Thank you very
much for your
kind attention***