

# **Analysis of data on diagnostic criteria for occupational diseases in HR and their comparability at the national level**



**Marija Bubaš, MD, PhD, occupational and sports medicine specialist  
Croatian Institute for Health Protection and Safety at Work**

# Previously tackled issues



Occasions	Topics
Congress of Preventive medicine, Ohrid Macedonia <b>2006</b>	<b>Periodical health examinations of workers employed in high risk occupations</b>
Congress of Croatian Society of Occupational Physicians, Dubrovnik, <b>2007</b>	<b>Recognition of occupational diseases (OD)</b>
Spring meeting of Croatian Society of Occupational Physicians, Tuheljske Toplice, <b>2008</b>	<b>Differences in risk assessment within single occupation</b>
Congress of Occupational Safety and Health, Bjelolasica <b>2008</b>	<b>Algorithms for recognition of OD</b>
Congress of Croatian Society of Occupational Physicians, Dubrovnik, <b>2011</b>	<b>Tricky cases of OD</b>
Congress of Croatian Society of Occupational Physicians, Šibenik, <b>2015</b>	<b>Harmonization with EU in diagnosing OD</b>

# Occupational diseases in HR: accomplishments, obstacles and harmonization with EU



**“One cannot calculate everything of value, nor has value all that can be calculated.”**

**-Albert Einstein**



# EU 20 years ago vs. today

Work-related health problem <b>EU 20 yrs ago</b>	Person s that work, or worked previou sly %	Person s that work %
Noise induced hearing loss	-	32
Skin disorders	14.3	15
Respiratory disorders due to allergy	5.8	8
Silicosis	-	7.5
Asbestosis	-	6.7

Work-related health problem <b>EU today</b>	Person s that work, or worked previou sly %	Persons that work %
Bone, joint or muscle problem which mainly affects back	28.4	29.5
Bone, joint or muscle problem which mainly affects neck, shoulders, arms or hands	18.8	20.1
Stress, depression or anxiety	13.7	14.5
Bone, joint or muscle problem which mainly affects hips, legs or feet	12.6	11.3
Breathing or lung problem	5.2	4.8
Infectious disease (virus, bacteria or other type of infection)	2.5	3.1
Noise induced hearing loss	1.4	1.3
Skin disorders	1.3	1.4
Other types of complaint	5.8	5.3

Source: LFS ad hoc modules 1999 and 2007 – 9 countries



# HR 10 years ago vs. today

Work-related health problem <b>HR 10 yrs ago</b>	Persons that work, or worked previously %	Persons that work %
Asbestosis		
Raynaud syndrome		
Skin diseases		
Infectious diseases		
Noise induced hearing loss		
Overuse syndromes		

Source: Registry of Occupational Diseases, CIOH

Work-related health problem <b>HR today</b>	Persons that work, or worked previously %	Persons that work %
Overuse syndromes		
Raynaud syndrome		
Skin diseases		
Noise induced hearing loss		
Infectious disease (virus, bacteria or other type of infection)		

Source: Registry of Occupational Diseases, CIHPSW

# Number of OD in HR - today

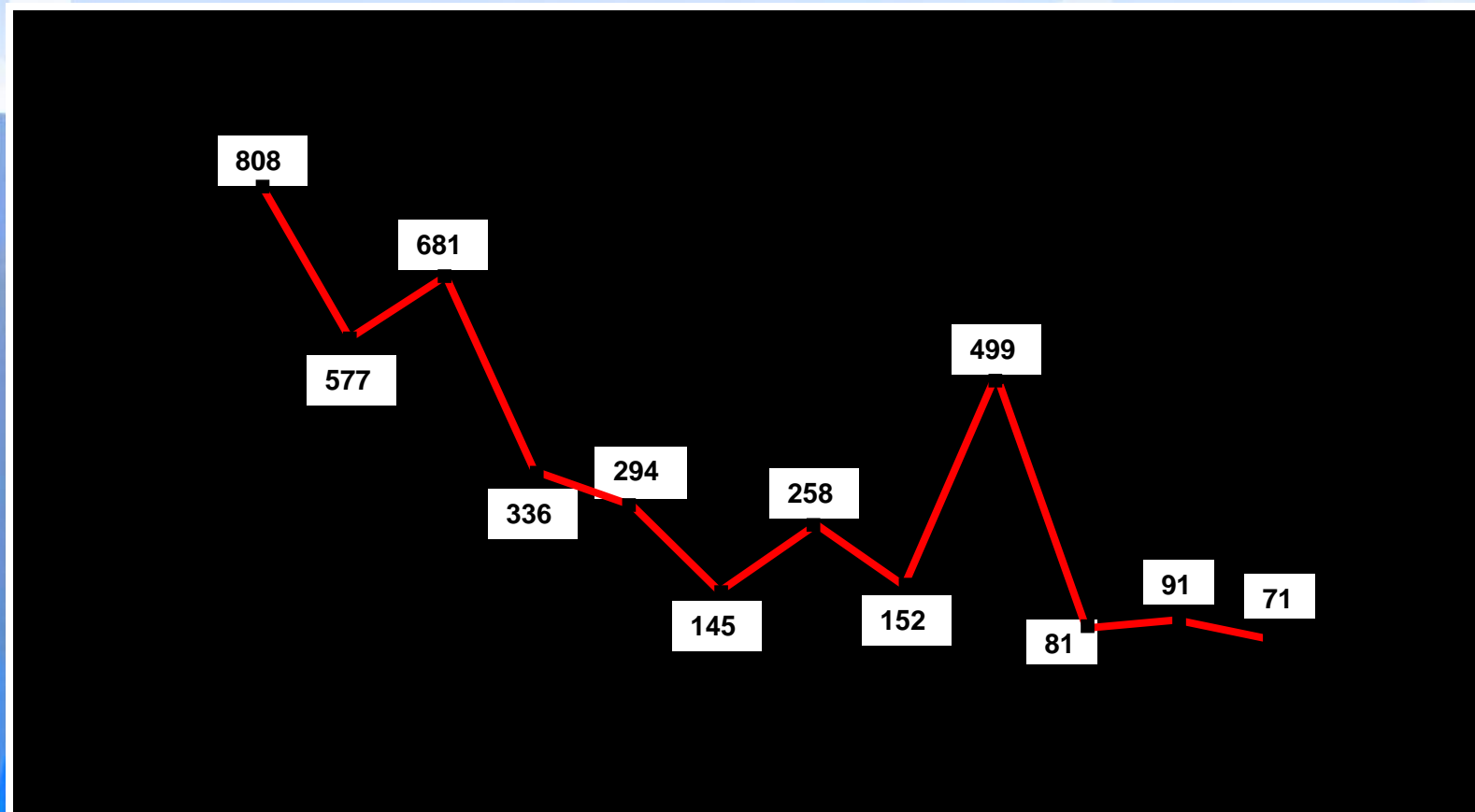


<b>Cases*/ Year</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>Total</b>
<b>New cases</b>	<b>83</b>	<b>103</b>	<b>62</b>	<b>248</b>
<b>Active cases „circulated the system” due to the need for supplementation of documents</b>	<b>20</b>	<b>14</b>	<b>37</b>	<b>71</b>
<b>Total</b>	<b>103</b>	<b>117</b>	<b>99</b>	<b>319</b>

\* OD due to exposure to asbestos are not included

Source: Registry of Occupational Diseases, CIHPSW

# Number of OD, HR in 20 yrs period



Source: Registry of Occupational Diseases, CIOH

Source: Registry of Occupational Diseases, CIHPSW





# OD and **ICD-10** in HR today

<b>Most frequently reported OD</b>	<b>ICD-10 codes</b>	<b>Number of recognised cases 2012-2014</b>
<b>Overuse syndromes</b>	G56.0	59
<b>Overuse syndromes</b>	M65, M75, M77	12
<b>Raynaud syndrome</b>	I73.0	36
<b>Dermatitis</b>	L23, L24	17
<b>Noise induced hearing loss</b>	H90.3	16
<b>Tuberculosis</b>	A15, A16, A18	16
<b>Other, without asbestos induced OD</b>		42
<b>Total</b>		198



# Reporting and recognizing OD in HR 2012-2014 in the view of analysis of diagnostic criteria



Number of rejected cases 2012-2014	ICD-10 codes	Most frequently reported OD	ICD-10 codes	Number of recognised cases 2012-2014	Etiologic fraction $EF = \frac{N_e - N_n}{N_e}$
17	G56.0, M23, M51, M75	Overuse syndromes of the wrist	G56.0, M65, M75, M77	71	0.91
4	I73.0	Raynaud syndrome	I73.0	36	0,88
7	L23	Dermatitis of the hands	L23, L24	17	0,58
10	H90	Noise induced hearing loss	H90.3	16	0,37
3	A15, A16, A18	Tuberculosis	A15, A16, A18	16	0,81
73	Total			198	0.91



- ✓ does workplace exposure assessment contribute to recognition procedure
- ✓ does risk assessment contribute to workplace exposure assessment
- ✓ do they have any influence on diagnostic process of occupational diseases
- ✓ **an audit to determine the variation in practice may be a useful starting point for debate leading to the establishment of a valid standard**

# Where are the loops?



Differences Diseases	Description of working conditions, hazards and exposures	Availability of good quality risk assessment	Workplace exposure assessment or confirmation from employer	EMNG UL	Photoplethysmography	Audiometry	Results of previous audiometries, or other tests	Chest x-ray	Other specific tests (patch test, sputum BK)	Opinion of a dermatologist, or ortopedist, or neurologist, or infectologist, ORL	Opinion of an occupational health specialist
Overuse syndromes of the wrist	90%	21%	91%	100%	-	-	-	-	-	100%	79%
Overuse syndromes arms, shoulders, legs	70%	23%	98%	68%	-	-	-	-	-	99,1%	63%
Raynaud syndrome	96%	35%	-	-	92%	-	-	-	-	97%	87%
Dermatitis of the hands	72%	23%	12%	-	-	-	-	-	100%	100%	82%
Noise induced hearing loss	56%	34%	-	-	-	78%	8%	-	-	100%	47%
Tuberculosis	89%	-	87%	-	-	-	-	100%	100%	100%	92%

# What is needed for and OD to get recognized



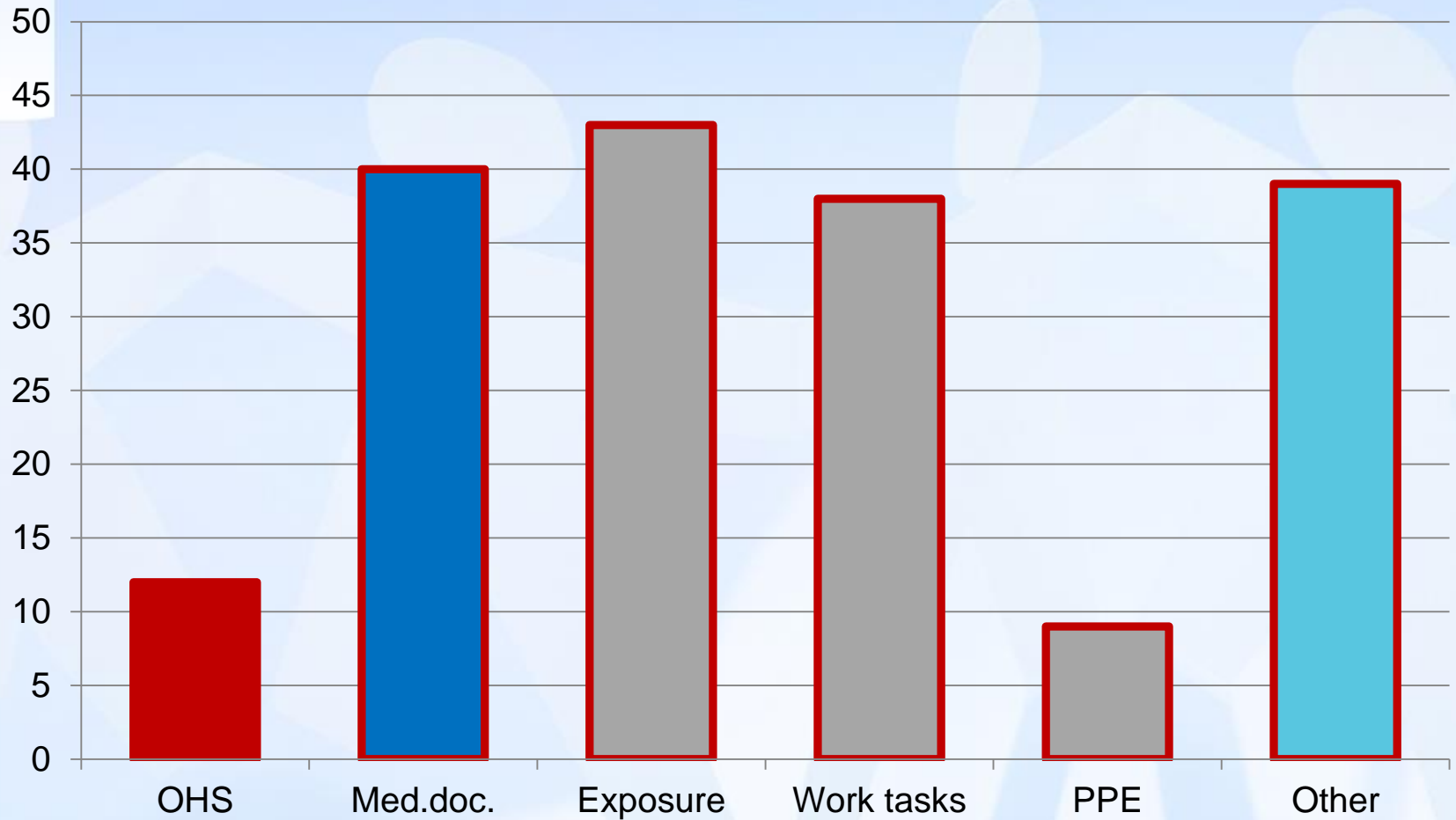
<b>Needed</b>	<b>2006</b>	<b>2015</b>
<b>List of OD</b>	<b>+</b>	<b>+</b>
<b>Description of working conditions, hazards and exposures</b>	<b>+</b>	<b>+</b>
<b>Principles of diagnostic procedure</b>	<b>+/-</b>	<b>+/-</b>
<b>Diagnosing a disease, confirming exposure to incriminated hazardous agent (workplace exposure assessment)</b>	<b>+/-</b>	<b>+/-</b>
<b>Availability of high quality risk assessment</b>	<b>+/-</b>	<b>+/-</b>

# What is needed for and OD to get recognized



Needed	2006	2015
Competent expert: occupational health specialist	+	+
Other specialists	-	+/-
Availability of occupational health services	+/-	+/-
Availability of results from periodic health examinations	+/-	+/-
Availability of workers' health records with GP		
Second opinion	-	-
GP	-	today GP is filling in the application form

# What's missing in the big picture?



# Fraction attributable to work



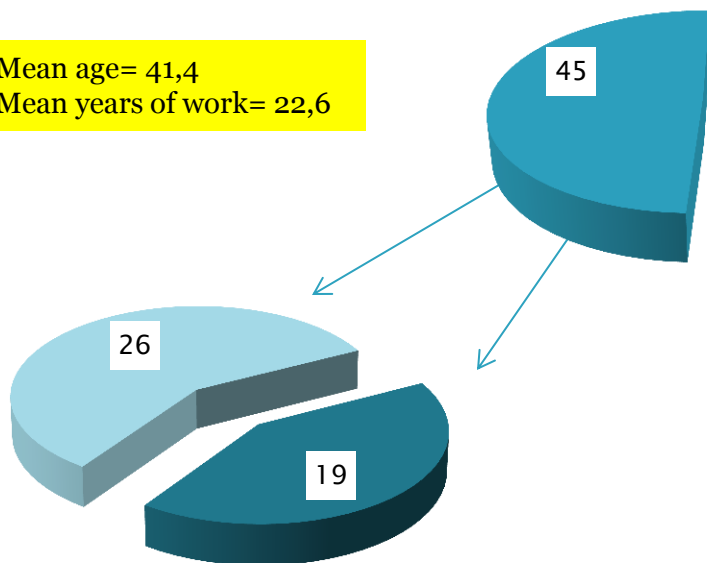
<b>Disease</b>	<b>Fraction attributable to work * men/women (%)</b>
Low back pain	41/32
Hearing loss	22/11
Chronic obstructive pulmonary disease (COPD)	18/6
Asthma	14/7
All cancers	-
Lung cancer	10/5
Leukemia	2/2
Ischemic heart diseases	-
Mesothelioma	70 (all)
Silicosis	almost 100 (all)
Mental disorders	-
<b>Dermatitis of the hands</b>	<b>58 (all)</b>



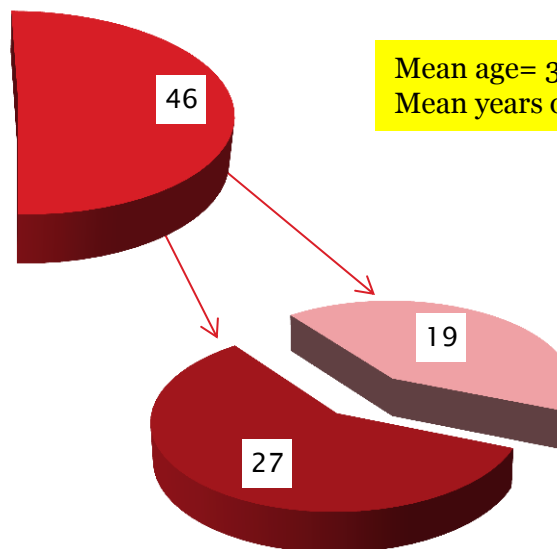
# Efficacy of periodic health examinations or how to find new cases of OD

- number of subjects employed in clinics
- number of subjects employed in outpatient centers

Mean age= 41,4  
Mean years of work= 22,6



Mean age= 36,8  
Mean years of work= 19,7



- have skin changes at the time of the survey
- without skin changes

- have skin changes at the time of the survey
- without skin changes

46 subjects met preconditions of having an occupational contact dermatitis (allergic or irritant)  
So, who's is actually first in the lineto start the process of their recognition??

I find the great thing in this world is not so much  
where we stand, as in what direction we are  
moving - O. W. Holmes

