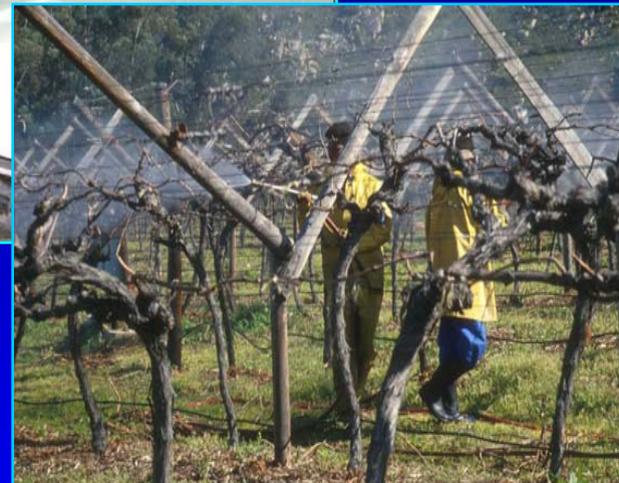
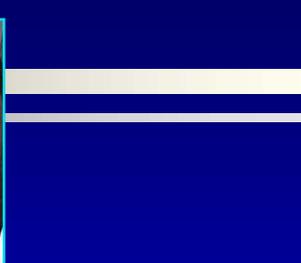


# AN INTRODUCTION TO OCCUPATIONAL HEALTH



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**Acknowledgements to: Dr Rajen Naidoo, Centre for Occupational and Environmental Health, University of KwaZulu Natal**

# Introduction



**"Two hundred thousand subterranean heroes who, by day and by night, for a mere pittance lay down their lives to the familiar 'fall of rock' and who, at deep levels, ranging from 1,000 to 3,000 feet in the bowels of the earth, sacrifice their lungs to the rock dust which develops miners' phthisis and pneumonia."**

Sol Plaatjie, first Secretary of the African National Congress, describing the lives of black miners in 1914



# Origins of OHS in SA

- European traditions in union health and safety brought to SA in early 1900's
- Worker action around working conditions
- Govt. need to protect investment in imported labor
- Commission of Enquiry (1902) into TB ---> Miners Phthisis Act (1912) - first compensation law
- Factories Act of 1918 - focus on safety
- Imported labour proved to be costly with time --> indigenous labour force



# An international crisis

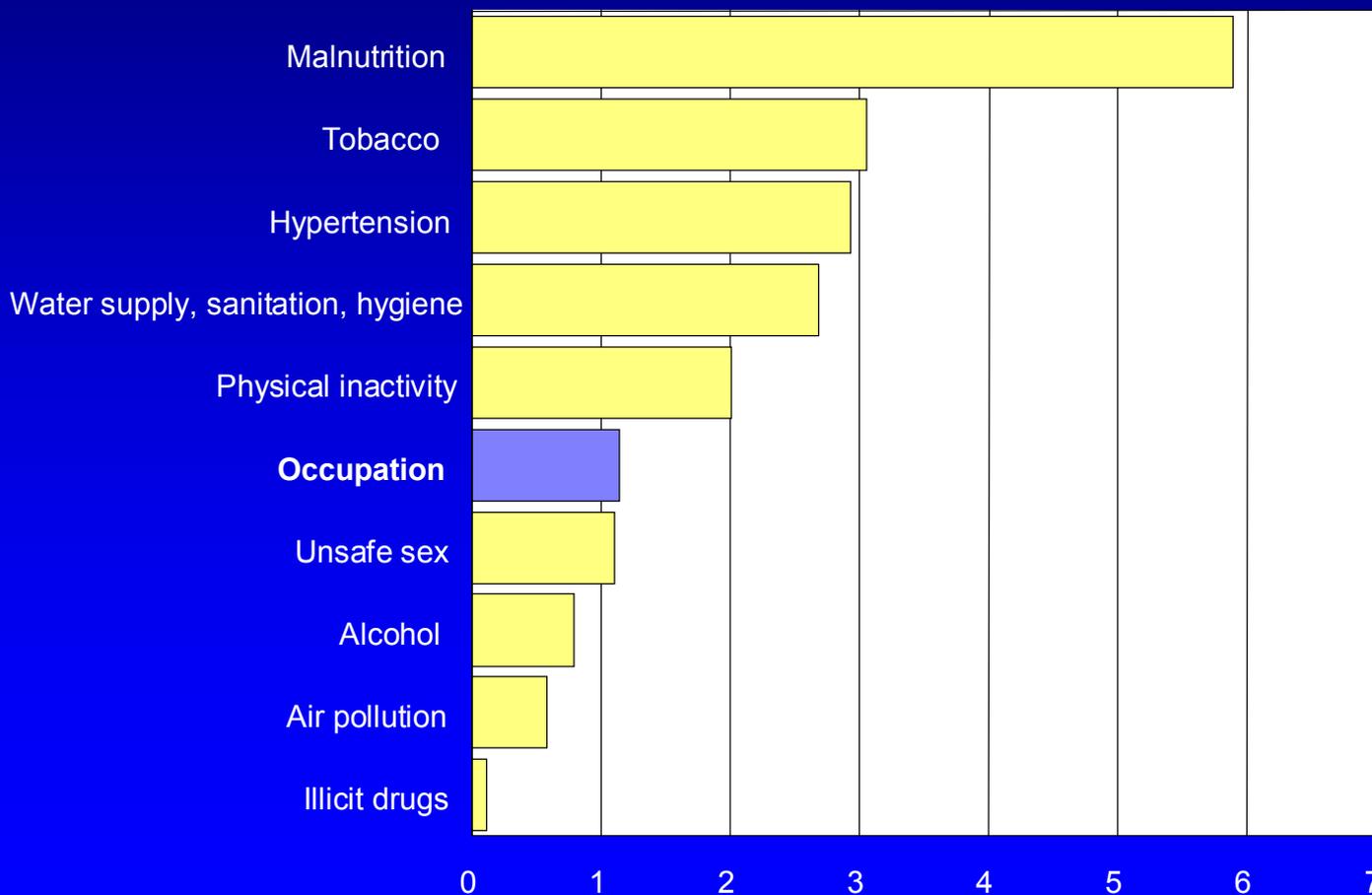
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“About two million people are killed by their work every year (International Labour Organisation, 2002).....and that's just a small part of the carnage at work. If terrorism took such a toll, just imagine what would be said and done”

(Jukka Takala, Director of ILO's SafeWork programme)

# Global Burden of Disease and Injury Attributable to Selected Risk Factors (WHO 1999)

## Deaths (millions)

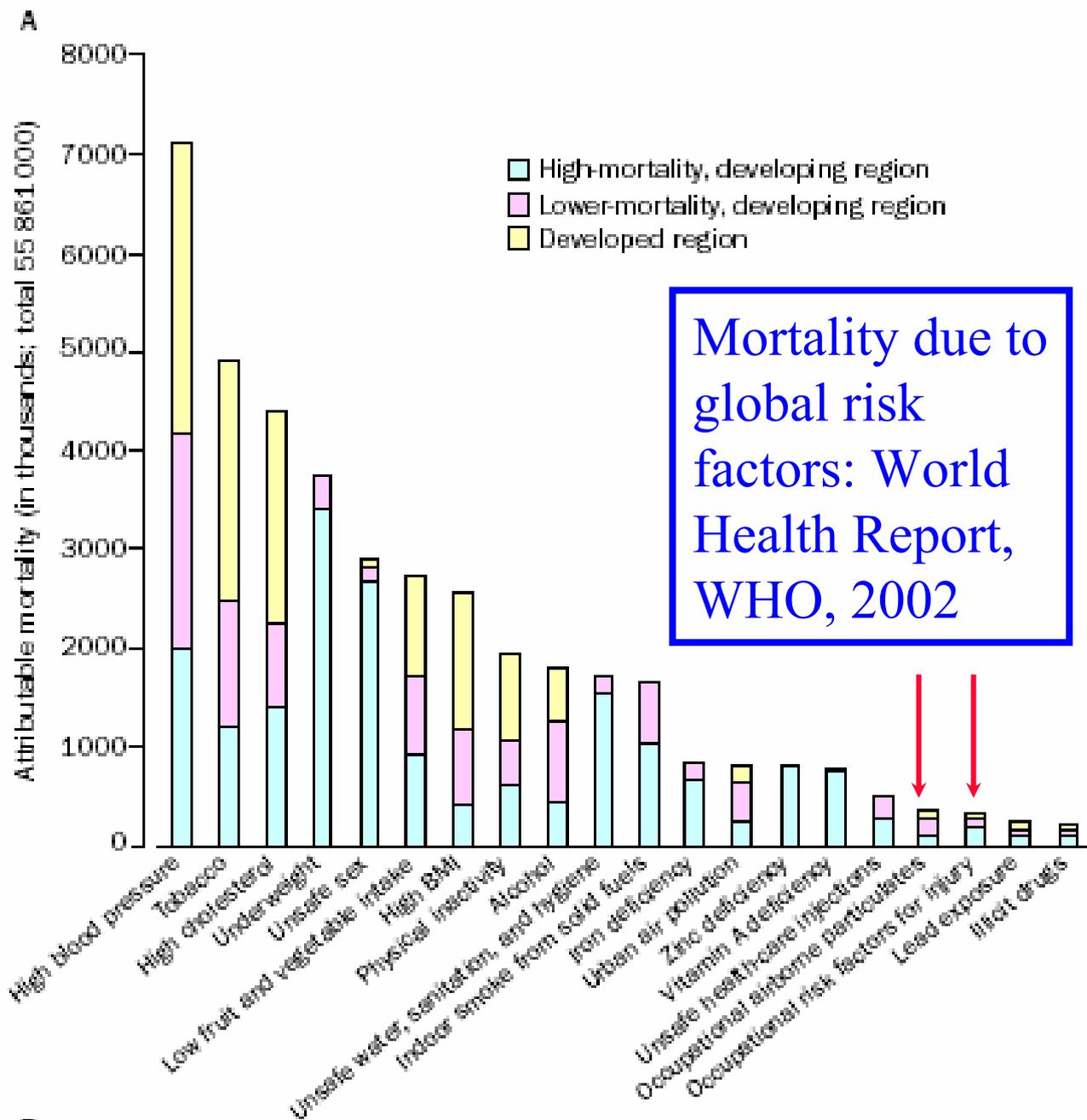


## Occupational risks

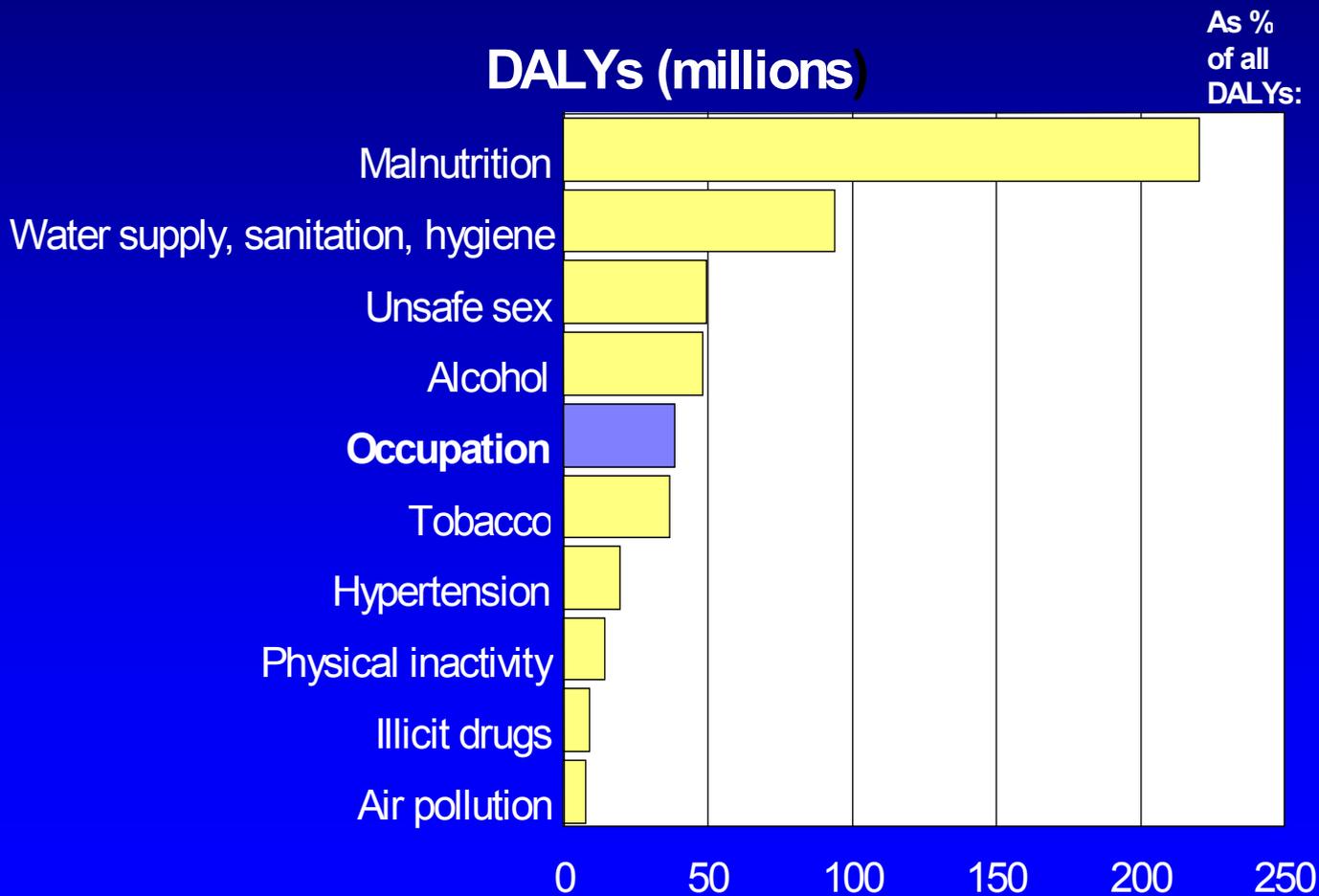
Airborne particulates  
COPD, asthma,  
pneumoconiosis: **45%**)

Risk factors for  
injuries (unintentional  
injuries: **40%**)

Carcinogens  
leukaemia, lung CA,  
mesothelioma, other  
multiple sites: **15%**)



# Global Burden of Disease and Injury Attributable to Selected Risk Factors (WHO, 1999)





## Occupational risks

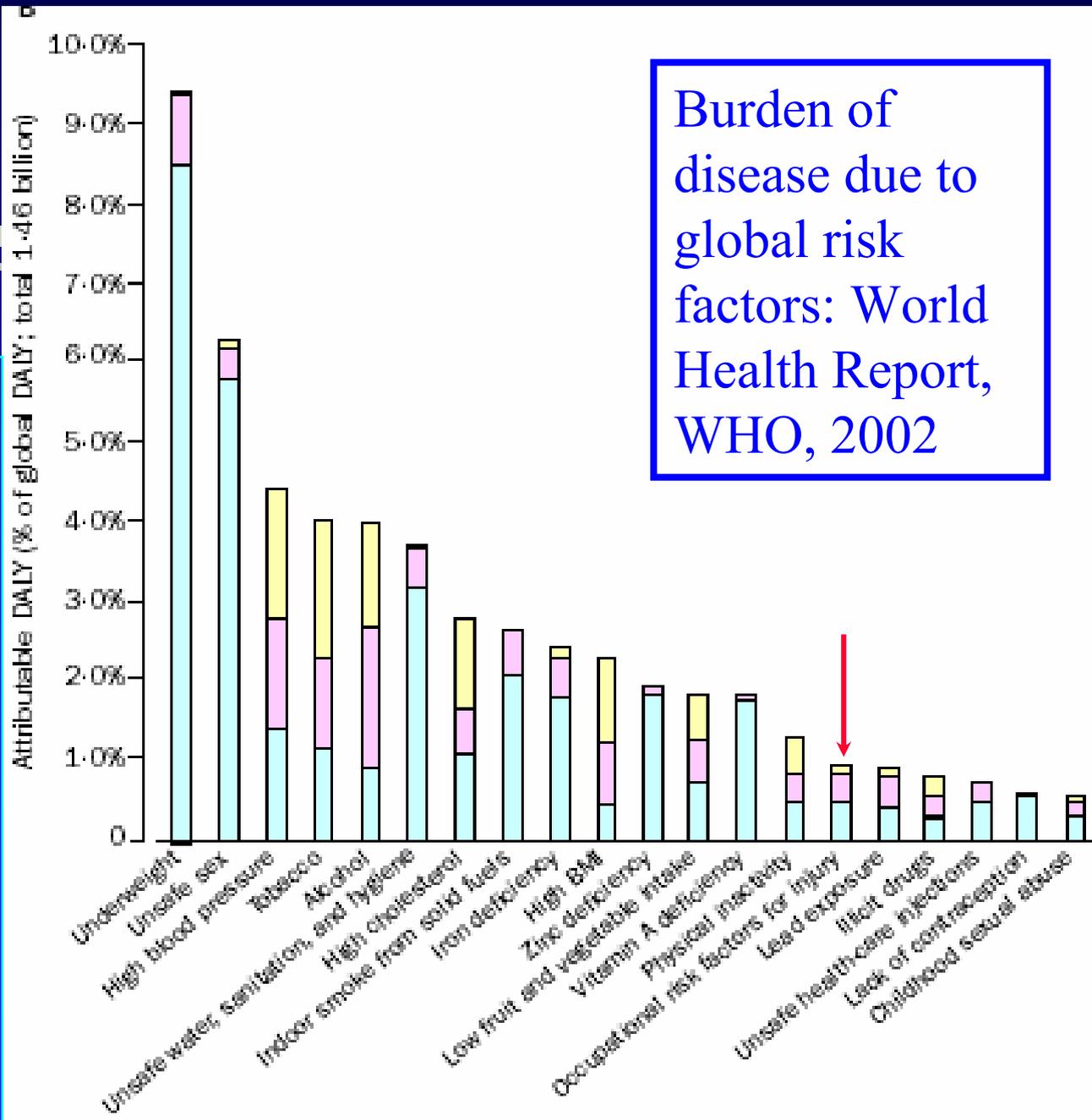
1. Risk factors for injuries (unintentional injuries: **53%**)

2. Airborne particulates (COPD, asthma, pneumoconiosis: **22%**)

3. Noise (hearing loss: **17%**)

4. Carcinogens (leukaemia, lung CA, mesothelioma, other multiple sites: **5%**)

5. Ergonomic (lower back pain: **3%**)





# The South African Workplace

- Total Adult Population: 25.6m
- Economically Active: 14.3m (56%)
- Formal sector employment: 80%
- Key sectors:
  - Social 32%
  - Wholesale 17%
  - Manufacturing 17%
  - Agricultural 13%
  - Finance 6%



# Trends in occupational injuries and diseases in South Africa

• Total injuries (1990)	225 178
• Temporary	97 266
• Permanent	15 728
• Fatal	1 618
• Diseases (Industries)	128
• Diseases (Mines)	7 957
• Injuries reported 2001/2:	280 631
• Diseases reported 2001/2:	3 226



# Occupational diseases claims reported 2002/2003 under the Compensation for Occupational Injuries and Diseases Act (COIDA)

Occupational disease	Number of claims	% of total Occupational Diseases claims
Noise-induced hearing Loss (NIHL)	2549	57
Diseases caused by biological agents excluding tuberculosis	407	9.0
Tuberculosis of the lung (in health care workers)	385	8.5
Pneumoconioses	302	6.7
Occupational asthma	214	4.7
Occupational skin disease	203	4.5
Irritant-induced Asthma	33	0.7
Work-related Musculo-skeletal disorders	24	0.5
Mesothelioma	17	0.4
Diseases caused by chemical agents	8	0.2
Diseases caused by physical agents excluding noise	6	0.1
Others	345	7.7
	4492	

(Adapted from 2003 Annual Report Compensation Fund, DOL)



# Occupational diseases certified under the Occupational Disease in Mines and Works Act

Disease	Number of claims certified (%)	
	1992	1996-7
Tuberculosis	5 220 (66%)	4 159 (50%)
Pneumoconiosis	2 253 (28%)	3 554 (43%)
Obstructive Airways Disease	429 ( 5%)	343 (4%)
Obstructive Airways Disease and Pneumoconiosis	-	150 (2%)
Platinum salt sensitivity	28 (0.5%)	44 (1%)
Progressive Systemic Sclerosis	27 (0.5%)	10 (0.1%)
Progressive systemic Sclerosis and Pneumoconiosis	-	1
<b>Total</b>	<b>7 957 (100%)</b>	<b>8 261(100%)</b>

Sources: Department of Health. Report of the Medical Bureau for Occupational Diseases, 1992 (Graph 8)

Department of Health. Annual Report of the Medical Bureau for Occupational Diseases, 1996-7 (Tables 6, 7 & 9)



# Trends of common occupational lung diseases reported in South Africa

## **SORDSA\*(VOLUNTARY): 1996 - 2001 (n=6316)**

- **Pneumoconiosis: 58%**
- **Inhalation injuries: 9%**
- **Pneumoconiosis+TB: 7%**
- **Occupational asthma: 6%**
- **Tuberculosis: 3%**
- **COPD: 2%**
- **Mesothelioma: 1%**

\* Surveillance for  
Occupational Respiratory  
Diseases in South Africa

## **COMPENSATION\*(LEGAL): 2002/3 (n=971)**

- **Tuberculosis: 40%**
- **Pneumoconiosis: 31%**
- **Occupational asthma: 22%**
- **Inhalation injuries: 3%**
- **Mesothelioma: 2%**

\* Compensation for Occupational  
Injuries and Diseases Act  
(COIDA)



# Why focus on OH?

- Workers spend up to 50% of their day at work
- Most classes of agents pose their greatest threat in work settings where the exposures are the greatest
- Exposures are more frequent, more concentrated and of longer duration
- Workplace permits “easy” means of accessing **groups** of exposed workers for interventions



# OHS issues in South Africa

## Contributory factors:

- Poor employer commitment to OH
- Lack of worker empowerment in the workplace
- Inadequate legislation/poor exposure standards and poor enforcement (focus on safety/compensation)
- Inadequate occupational health service provision (11-18%) and lack of trained health personnel

## Impact:

- Economic cost of disease and injury (4% of GDP)
- Poor human resource development profile



# WHAT IS OCCUPATIONAL HEALTH?

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- PROMOTION and MAINTENENCE of the well being of workers
- PREVENTION of departures from health caused by working conditions
- PROTECTION from risks resulting from factors adverse to their health
- PLACING and MAINTENENCE of the worker in an environment adapted to their physiological and psychological condition

(International Labour Office: 1950)



# Broad Principles of OH

- A public health discipline
- Focuses on the interaction between the person or **groups** of people and the work environment
- Core activities are the recognition, prevention, diagnosis, treatment and social management of a work related health condition

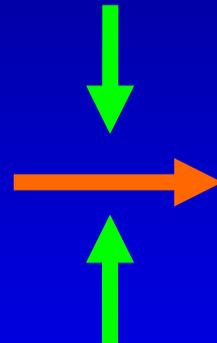
# Key components of OH

Occupational hygiene

INTEGRITY OF  
THE WORK  
ENVIRONMENT

Occupational medicine

HEALTH OF THE  
WORKER



- Legislation/workplace standards
- Workplace interventions
- Occupational health services
- Education and training
- Health information systems
- Research



# Health & Work

## The Effect of Work on Health:

- work as a causative factor
- work as a aggravating factor
- work as a contributory factor

## The Effect of Health on Work

- incapacity and disability impact on job security



# Role Players in OH

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- Employers
- Workers and their representatives/trade unions
- Government
- Occupational Health Professionals



# Levels of Intervention in OH

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Level 0: Prevention at design stage

Level 1: Prevention at source of hazard

Level 2: Diagnosis, Cure and Treatment

Level 3: Social Management and Rehabilitation



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**THANK YOU**