Building Collaborative Responses to Global Issues in Occupational Safety and Health

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Acknowledgements

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• Chris Laszcz-Davis
• David Zalk
Overview

• Spans of the issue
  – Culture, risk assessment/acceptance
  – Economics
  – Education, training, credentialing
  – Reporting, auditing, benchmarking
  – Regulations, standards

• Existing Infrastructure
  – Governments
  – NGOs
  – Professional Organizations

• Collaborative Responses
  – Bringing organizations together to do real work
There are over 3 billion workers in the world...

Nearly 2 billion of them work in unhealthy and unsafe conditions

2.34 million workers die each year from workplace causes (1/15 seconds)

2 million of these die from occupational disease

160 million workers get sick each year due to non-fatal work-related diseases

Source: World Health Organization (WHO) & ILO (ILO, 2016)
More people die each year from occupational injuries and disease than from other major causes that are much more visible.....

- **1. Occupational injuries and disease**: 2.34 millions of deaths per year worldwide
- **2. HIV/AIDS**: 1.1 millions of deaths per year worldwide
- **3. Road traffic**: 1.25 millions of deaths per year worldwide
- **4. Armed Conflict and Violence**: 0.65 millions of deaths per year worldwide

**Sources:**
1. ILO, 2013
2. WHO, 2013 deaths
3. WHO, 2010 deaths
4. Armed conflict, 2016 (IISS) + homicides, 2012 (WHO)+ terrorism, 2015 (Statista)
“Official” statistics don’t reflect

- Variations in (or lack of) official reporting mechanisms
- Environmental impacts of workplace agents
- Synergy between workplace hazards and other disease risk factors (e.g. silica-TB; asbestos-smoking)
- Informal work
- Government workers
- Blurred lines of workplace, home and community: exposed family members
- The costs to a family with no provider
## Life Expectancy

(Hamalainen, 2009)

<table>
<thead>
<tr>
<th>Continent</th>
<th>Fatality per 100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>18.6</td>
</tr>
<tr>
<td>Americas</td>
<td>13.7</td>
</tr>
<tr>
<td>Asia</td>
<td>13.9</td>
</tr>
<tr>
<td>Europe</td>
<td>6.9</td>
</tr>
<tr>
<td>Australia</td>
<td>9.3</td>
</tr>
<tr>
<td>World Average</td>
<td>15.2</td>
</tr>
</tbody>
</table>

SA = 57
Bot = 64
US = 79
SW = 82
Global Issues

• Developed countries move operations to take advantage of low labor rates, and lax environmental/occupational safety laws (Goldstein, 2001) “Race to the Bottom”

• Advanced countries sell/use obsolete equipment, processes, and chemicals to less developed nations (Stellman, 1998)

• Workers in the EDCs are less educated/experienced with toxic chemicals and hazardous operations, lower risk awareness and greater acceptance
<table>
<thead>
<tr>
<th>Attributable Cause %</th>
<th>Hamalainen, 2011</th>
<th>Takala 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cancer</td>
<td>25</td>
<td>32</td>
</tr>
<tr>
<td>Circulatory Diseases</td>
<td>21</td>
<td>23</td>
</tr>
<tr>
<td>Communicable Diseases</td>
<td>28</td>
<td>17</td>
</tr>
<tr>
<td>Accidents</td>
<td>---</td>
<td>18</td>
</tr>
</tbody>
</table>
• U.S. direct cost of disabling workplace injuries = $53 billion in 2008 (LMRI, 2011)
• Global economic burden of workplace accidents and disease = 4% Gross National Product (GNP)  
  (EU eashw, 2015)

<table>
<thead>
<tr>
<th>Country</th>
<th>% of GNP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>1.4</td>
</tr>
<tr>
<td>Denmark</td>
<td>2.7</td>
</tr>
<tr>
<td>Finland</td>
<td>3.8</td>
</tr>
<tr>
<td>France</td>
<td>0.6</td>
</tr>
<tr>
<td>Ireland</td>
<td>0.4</td>
</tr>
<tr>
<td>Italy</td>
<td>3.2</td>
</tr>
<tr>
<td>Spain</td>
<td>3.0</td>
</tr>
<tr>
<td>Sweden</td>
<td>4.0</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>1.1</td>
</tr>
</tbody>
</table>
Lack of Awareness of OSH Benefits

- Governments
- Businesses
- Society
- Workers/Trade Unions
- OSH Professionals
Reporting, auditing, benchmarking

• Variations in injury and illness reporting

• Usefulness of audits and inspections, reporting and corrective actions

• Benchmarking between industries, countries, continents
  – Leading and lagging indicators
Cultural, economic, educational differences

• Cultural and economic status create large differences in levels of risk awareness and acceptance

• Women and children may be less likely to report unsafe conditions or injuries/illnesses

• Workers may be malnourished, dehydrated, and overworked, inherently more “at risk”
The informal economy

In the developing world, employment in the informal sector may reach 70 percent, with the contribution to the gross domestic product (GDP) ranging from 10 to 60 percent.

168 million of the world’s children are child labourers. More than half of them do hazardous work: ILO
Exports of Hazardous Materials

- Asbestos
- Lead paint

In this 2013 photo, a worker covers his face with a handkerchief as he sees people photographing him and his co-worker handling asbestos sheets at the Ramco Industries Ltd. Factory in Bhojpuri district of Bihar state, India (AP/Saurabh Das)
Education, training, credentialing

• Global shortage of educated and experienced professionals at every level

• Lack of awareness by businesses and governments of the value of OSH education

• Shortage of educational programs readily available to variety of populations and levels

• Lack of recognized international certification or credentialing system
International Management Systems

ISO 45001 Occupational Health and Safety Management Systems

OHSAS 18001 Occupational Health and Safety Management Systems


ILO-OSH Guidelines on occupational safety and health management systems

AS/NZS 4801:2001 Occupational health and safety management systems—Specification with guidance for us
Intergovernmental organizations

• World Health Organization

• International Labor Organization (ILO)

• International Standards Organization (ISO)

• International Agency for Research on Cancer (IARC)

• International Commission on Radiation Protection (ICRP)

• International Radiation Protection Association (IRPA)

• Institute of Electrical and Electronics Engineers (IEEE)
Governmental regulations

International Labor Organization LEGOSH

European Union

Miscellaneous National Organizations, Laws, and Enforcement

France
Mexico
India
China
Russia
Canada
Others?
European Union

• Treaty on the Functioning of the European Union


• The EU European Framework Directive on Safety and Health at Work (Directive 89/391 EEC) 1989 (EUₐ, 2016)
International Labor Organization (ILO)

• 1919, 187 member countries

• Tripartite governance

• 200 conventions within a complex system of labor standards that can be ratified by member states form treaties of agreement between the member states to “follow the rules” and promulgate and enforce regulations covering the conventions within their own national regulations and laws. (ILO, 2016)
8 Fundamental ILO Conventions Ratified by 91.7% of members

• Freedom of Association and Protection of the Right to Organize Convention, 1948 (No. 87)
• Right to Organize and Collective Bargaining Convention, 1949 (No. 98)
• Forced Labor Convention, 1930 (No. 29)
• Abolition of Forced Labor Convention, 1957 (No. 105)
• Minimum Age Convention, 1973 (No. 138)
• Worst Forms of Child Labor Convention, 1999 (No. 182)
• Equal Remuneration Convention, 1951 (No. 100)
• Discrimination (Employment and Occupation) Convention, 1958 (No. 111)
12. Occupational safety and health 12.1. General provisions *Up-to-date instrument*

**C155 - Occupational Safety and Health Convention, 1981 (No. 155)**

**P155 - Protocol of 2002 to the Occupational Safety and Health Convention, 1981**

**R164 - Occupational Safety and Health Recommendation, 1981 (No. 164)**

**C161 - Occupational Health Services Convention, 1985 (No. 161)**

**R171 - Occupational Health Services Recommendation, 1985 (No. 171)**

**C187 - Promotional Framework for Occupational Safety and Health Convention, 2006 (No. 187)**

**R197 - Promotional Framework for Occupational Safety and Health Recommendation, 2006 (No. 197)**

**R097 - Protection of Workers' Health Recommendation, 1953 (No. 97)**

**R102 - Welfare Facilities Recommendation, 1956 (No. 102)**

**R194 - List of Occupational Diseases Recommendation, 2002 (No. 194)**
Global Plan of Action on Workers’ Health 2008-2017
The WHO works to build consensus with member states on a variety of occupational safety and health topics. A number of publications are available online regarding workplace safety and disease including psychosocial hazards, infectious diseases, and general working conditions. (WHO, 2016)
International Standards Organization (ISO)

- Formed in 1947
- Over 2,000 standards
- 162 countries represented
- 3,366 technical bodies associated
- Many relate to the environment and occupational health and safety
- Consensus standards/building
ISO

• 45001 Occupational Health and Safety
• 14001 Environmental Management
• 9001 Quality Management
Other ISO Topics

• Welding
• Nano materials
• Thermal environment
• Welding
• Safety management systems
• Personal protective equipment
• Respiratory protective devices
• Noise
• Lasers
• Robot safety
• Powered industrial equipment
• Cranes
Other International Bodies

• International Agency for Research on Cancer (IARC)

• International Commission on Radiation Protection (ICRP)

• Institute of Electrical and Electronics Engineers (IEEE)
NGOs

IOHA

AIHA

ILO

World Health Organization

ICOH

OHTA

WHWB
American Industrial Hygiene Association (AIHA)

- Founded in 1939
- Nonprofit organization of professionals

Mission
- Create knowledge to protect worker health

Vision
- Elimination of workplace illnesses
Activities

• Educational materials and conferences
• Dissemination of information
• Volunteer Groups

Publications

• Synergist
• Journal of Occupational and Environmental Hygiene
AIHA Content Priorities

- IH Business Case Development
- Occupational Exposure Banding
- Global IH/OH Standard of Care
- Sensor Technologies
- Changing Workforce/Workplace
- Big Data/Big Data Management
- Emergency Preparedness and Response
Build industrial hygiene capacity worldwide, especially in countries where it is lacking.

Increase international awareness of industrial hygiene and the importance of preventing occupational diseases.

Enhance cooperation among international occupational hygiene organizations and build understanding on international issues.

Support application of industrial hygiene expertise to identify, evaluate and control occupational health hazards throughout the world.
• Mission

Enhance the international network of occupational hygiene associations that promotes, develops and improves occupational hygiene worldwide, providing a safe and healthy working environment for all.
VISION
A safe and healthy working environment for all

We are IOHA, representatives of the global community of occupational hygienists.

We are IOHA, dedicated to the discipline and application of the inherent principles of occupational hygiene.

MISSION
Enhance the international network of occupational hygiene associations that promotes, develops and improves occupational hygiene worldwide, providing a safe and healthy working environment for all.
Global Status of IH/OH

Worldwide, there are only 7600 certified/registered occupational hygienists and 15 countries with registration programs. The world would need 44,000 more hygienists to match the level of service in these countries.

Based on information from Noel Tresider

Growing the World of IH/OH
Bridge Building; The Future of IH/OH

IOHA 2016-20 Strategy Document; IOHA’s Mission
Control Banding
Occupational Exposure Limits
National Accreditation Recognition
Education
Outreach Strategies
15 IOHA Recognized Accreditations

- American Board of Industrial Hygiene (ABIH)
- Australian Institute of Occupational Hygienists (AIOH)
- British Occupational Hygiene Society (BOHS)
- Canadian Registration Board of Occupational Hygienists (CRBOH)
- Dutch Occupational Hygiene Society – NVVA
- French Occupational Hygienists Society (SOFHYT). Document in French and document in English
- German Society for Occupational Hygiene (DGAH)
- Hong Kong Institute of Occupational and Environmental Hygiene
- Institute of the Certification of the Figures of Prevention (Italy) (ICFP)
- Japan Association For Working Environment Measurement (JAWE)
- Malaysian Industrial Hygiene Association (MIHA)
- Norwegian Occupational Hygiene Association (NYF)
- Swedish Occupational and Environmental Certification Board (SOECB)
- Southern African Institute for Occupational Hygiene (SAIOH)
- Swiss Society of Occupational Hygiene (SSOH)
The oldest scientific association in the field founded in 1906, with more than 2000 members in 93 countries. ICOH is an NGO recognized by the United Nations and has a close working relationship with the International Labour Organization and World Health Organization.
Occupational Hygiene Training Association

• Promote better standards of occupational hygiene practice throughout the world.

• Develop training materials and make them freely available for use by students and training providers.

• Promote an international qualifications framework so that all hygienists are trained to a consistent, high standard, recognized in all participating countries.
The Challenge:

- In most of the world
  - Preventable work related illness and deaths are increasing
  - Not enough people with OH skills
  - Not enough locally accessible training
  - *Companies find difficulty recruiting OH staff
  - *Difficulty finding quality, accessible and affordable training at the right level

* 2007 Deloitte survey of 21 major multi-nationals
Working together...
...the team that made it happen

25 Member Associations
= 24 IOHA National Associations + WHWB (voting rights)

- Employers
- Employees/Unions
- Universities
- IH equipment suppliers
- Government agencies
- Non-governmental organisations
- Approved Training Providers
- OHTA Board & Advisory Committee
  International Training and Qualifications Framework

(Adapted from: Alesbury & Bailey 2014)
Outcomes of Collaborative Effort

• Internationally-developed quality training

• A career ladder providing:
  - stepping stones thru modular training
  - agreed upon competency levels

• 6 Module Completion = ABIH 240-Hour OH Education Requirement for the CIH Examination Eligibility (granted in 2011 by ABIH BOD)

• A complement to established training programs globally

• Collaboration with Universities and National OH Organizations to fill gaps – not competing

• Internationally transferable qualifications framework
A common training and career ladder in occupational hygiene
Existing Courses

- Health Effects of Hazardous Substances
- Measurement of Hazardous Substances
- Control of Hazardous Substances
- Noise Measurement and its Effects
- Asbestos and other fibres
- Ergonomics Essentials
- Thermal Environment
- Basic Principles in Occupational Hygiene
Working together OHTA has achieved...

• 110,000 OHlearning.com users
• 6500+ module exam candidates
• 750+ OHTA courses run in 40 countries
• Support for at least 1 new OH society
• At least 4 new university courses
• At least 10 former students pass CIH
• First intermediate ICertOH awards
• First scholarship awards
• Scholarship fund for best ICertOH candidate
• Approval as a charity in the UK

...to help deliver the potential.
Incorporated in 2011 in Canada
— Canadian organization serves as the international secretariat: “WHWB International”
  _Marianne Levitsky, President_

Branches:
— WHWB-US:
— WHWB-UK:
— WHWB-Australia:
Workplace Health Without Borders

Vision

A world where workers, their families and communities do not get ill because of their work.

Mission

To prevent work-related disease around the world through shared expertise, knowledge and skills.

Global representation: 400 signed-up members; 700 on distribution list
WHWB Activities

Training programs delivered in India, Tanzania, Viet Nam, Botswana
Planned in Mozambique: An Approved OHTA Training Provider

Facilitated occupational hygiene equipment donations to Uruguay, Pakistan, Tanzania
PPE Donation to fight Ebola in Sierra Leone
Helping to prevent silica exposure among agate polishers in Gujarat India

Projects

< Brick kiln project is addressing silica and other hazards in brick plants in Pakistan, Nepal and Tanzania

Designing LEV with local materials

Helping to prevent silica exposure among agate polishers in Gujarat India
Current activities

**WHWB International Collaborations**

- **OHTA**
  - Develop Trainings for OHTA
  - Give OHTA Trainings where most needed

- **IOHA**
  - Assist in Global Training requirements
  - Efforts to Achieve WHO/ILO Objectives

- **ICOH**
  - Collaborate with Scientific Committees
  - Deliver Occupational Health Training

- **WHO**
  - Achieve NGO Status with WHO
  - WHO Collaborating Centres, Occupational Health
Collaboration Opportunities

• WHWB has a volunteer network of OH professionals
• Opportunities to collaborate with IOHA on growing the world of OH
• WHWB needs;
  – Sites to conduct training
  – Research/consultation project sites
  – Partners to share personnel and resources
  – Project-focused funding sources/channels
Summary

• Significant issues and challenges remain in assuring workplace safety and health to the global workforce

• A wide variety of resources are available

• Collaboration and communication is key to moving forward to address the concerns
Expanding the Practice of IH/OH
Questions & Discussion