Industrial Hygiene Practice in China – an Overview

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Rapid industrialization brought millions out of poverty but created unprecedented occupational health problems nationwide.

Continuously increasing number of occupational injuries and diseases.

Ailing occupational health infrastructure left millions of workers with no access to basic occupational health services.

Weak law enforcement capability.
A Look at the Numbers
- Occupational Diseases

- Occupational diseases reported from 2001 to 2006
  13,218 cases in 2001;
  12,212 cases in 2005;
  11,519 cases in 2006;

- Profile of 2006 report representative of all
  76% Pneumoconiosis, such as black lung, silicosis
  11% pneumoconiosis with <5yrs exposure history
  41% of all from coal industry
  13% of all from non-ferrous metal industry
  Migrant workers taking a heavy toll

- “Due to incomplete reports, the actual statistics are far worse” – MOH openly acknowledges this.
A Look at the Numbers
- Other Published Data

- Medium to small industrial enterprises comprise of >90% total.
- 2/3 of the nation’s population is active workforce
- 200 millions workers exposed to occupational health hazards. 100 millions are migrant workers from rural areas.
- 10-20% workers have access to basic occupational health services
- Losses due to occupational injuries and diseases estimated at 300 billions RMB (US$40 billions) every year – 1/60 of 2005 GDP; 1/70 of 2006 GDP
- Ailing Occupation Health Services and Inadequate Law Enforcement

- Who are providing the services – Health and Epidemic Prevention Station (HEPS) (now under the name of China CDC)
- Only 10-20% workers in China have access to basic occupational health services. WHO estimated even lower.
- Make-up of occupational health workers
- Make-up of law enforcement agency
Are There Occupational Health Regulations in China?

- Occupational disease prevention law
- Hygiene standards for industrial design
- Permissible exposure Limits (330 substances)
- Biological exposure indices (11 substances)
- Radiation hygiene standards (more than 20)
- Occupational disease diagnosis standards (110)
- Air sampling and analytical standards (85)
- Biological sample analytical standards (63)
What Drives the Fast Change in Legislation and Law Enforcement

- Public attentions due to media coverage of high profile occupational injury cases
- International pressures
- Government recognition of the gravity of occupational health problems
- Lawyers fighting for harmed workers
- Responsible corporations set good examples for others
Are These Regulations Enforced?

- China has always believed in “preventive measures” but law enforcement is always problematic.
- The hygiene design standards are enforced on new construction projects.
- The PELs are largely not enforced at present.
- The disease diagnosis standards are not very helpful.
- These regulations and standards provide legal basis for harmed workers to seek legal redress.
Government Focus
- Occupational Diseases Control

- Strengthen law enforcement capacity
- Restore the occupational health services infrastructure
- A new pilot project aimed at setting models for the nation – “Get Workers Basic Occupational Health Services”
- The success of all these finally rests on people who do the work.
A Few High Profile Cases in the Media

- 2007 – Cadmium poisoning in a Ni-Cd battery plant in Wuxi
- 2006 – Media reported 4 cases of lung cancer mortality in a pharmaceutical company in Chongqing
- 2005 – 28 of 31 female workers poisoned by n-hexane in a cell phone accessory plant in Guangdong.
- 2004 – 177 workers battery making factories in Huizhou were poisoned by cadmium.
- 2003 – 10’s of workers diagnosed with acute silicosis in ZheJiang.
- 2000 – 35 of 220 gem cutting workers were diagnosed with accelerated silicosis in a factory in Guangdong.
All the Parties Involved - the Regulators

- Occupational health administration is only a small department under the Ministry of Health – Occupational Health Law Enforcement Agency
- China Center for Disease Control (CDC) is a government founded nonprofit institution – think tank for the government.
- Occupational Health and Poison Control Institute under China CDC could be China’s “NIOSH”.
- State Administration for Work Safety (SAWS)
All the Parties Involved
- IH Practitioners

- China CDC affiliates – back-bone of occupational health services providers – conflict of interest?
  Government sponsored and designated;
  Professionals graduated from medical schools;

- Certified safety engineers are playing a major role at facility level in lieu of industrial hygienist.

- International consultants

- Will China allow private consultants to get involved?

- The government recognized the need for occupational health and hygiene practitioners with cross-disciplinary training and educational background.
Industrial Hygiene Profession

- Public health schools evolved/split from the traditional medical schools
  “Occupational Health” from “Industrial Medicine”;
  “Environmental Health” from “Environ. Medicine”
  “Industrial Hygiene” – often an inaccurate translation of “Industrial/Occupational Health”.

- “Industrial Hygiene” in the ABIH definition is only emerging in China.
Occupational Health Academic Programs in China

- University programs are accredited by the Ministry of Education.
- Occupational and environmental health are under “Preventive Medicine” – medical Degree
- Missing courses in public health schools:
  - Exposure assessment;
  - Environmental chemistry;
  - Risk assessment;
  - Ventilation and engineering control;
  - Introduction to manufacturing processes
Occupational Health Academic Programs in China

- “Industrial Hygiene Engineering” – a course offered under Safety Engineering.
- The evolution of public health schools and their academic programs just started a few years ago.
- A wealthier China is getting ready for an industrial hygiene profession that embraces all the four fundamental elements.
Best Public Health Schools

- Beijing University School of Public Health
- Huazhong University SPH

Best environmental and occupational health program;
Environmental medicine program established in 1978;
Changed to environ. & occupational health in 2001.

- A text book “Occupational Hygiene and Medicine” will be completed soon.
Will There be CIH and CIHA?

- MOH has recognized the need for certification and licensing the occupational health/hygiene profession.
- Will this end up to be another certification and license for doctors? – Likely not but still confusing.
- Success in the governmental sponsored Certified Safety Engineer (CSE) program.
- Setting the right bar for the future CIH in China not easy.
- China Preventive Medicine Association (CPMA) – The Industrial Hygiene and Occupational Disease Section
- China Occupational Safety and Health Association
Prospect

- China needs IH programs at university levels.
- The nation is in desperate need of occupational health and hygiene practitioners.
- The nation’s systems, both government and educational institution, were largely copied from Russia but are increasing influenced by the US.
- Exchange between AIHA and their Chinese counterparts will certainly help promote the growth of the IH profession in the nation.
Thank You!

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