jsong@hanyang.ac.kr
Content

- Occupational Health
- Occupational Diseases
- Surveillance
UK of GB & N. Irel.

- Population: 24,827
- Total: 59,313,000
- Urban: 29,194,000
- GDP/C: $24,244 (1999)

<table>
<thead>
<tr>
<th>GDP</th>
<th>70.3</th>
<th>72.4</th>
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<tbody>
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<td>Urban</td>
<td>28.6</td>
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<tr>
<td>Rural</td>
<td>1.2</td>
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</tbody>
</table>
No National Occupational Health Provision

- NHS White Paper 1944
- NHS Act 1946
- Health & Safety at Work Act 1974
  - HSC & HSE
- Independent Occupational Health Services
  - *The Nuffield Foundation* 1950s
    - *Manchester, Newcastle*
  - *London, Dundee, Cardiff, Birmingham*....
Occupational Health Provision

- Private sector - 65% (700,000)
  - Qualified health specialist – 8%
    - Doctor: 3%
    - Nurse: 1%
    - Others: 3%
  - First Aiders only 15%

- Public sector – almost universal
Changes in Occupational Health Services

- Economic recession
- Reduction of Occupational Health Resources
- Privatization of industries
- Group occupational health services
Governmental Responsibilities

- Controlling the work environment
- No medical services
- International liaisons – ILO, WHO, EU...
- HSC & HSE - Standard & Policy
  - Based on HSWA 1974
- EMAS - Advise & assist the practitioner in Occupational Medicine
HSE responsible for contacts

- manufacturing and heavy industry;
- construction;
- quarries and landfill sites;
- fairgrounds;
- the activities of local authorities (such as their offices, or facilities run by them);
- hospitals;
- schools and universities;
- agriculture.
HSE responsible for contacts on Request

- Mining; railways; the nuclear industry;
- Offshore oil and gas industry;
- Manufacture, processing and storage of chemicals and other onshore major hazards including gas transmission and distribution, pipelines and the road transport of dangerous substances,
- Manufacture, transport, handling and security of explosives.
HSE Recommendations

- Health surveillance
  - noise or hand-arm vibration
  - solvents, fumes, dusts, biological agents and other substances hazardous to health

- Fitness for work medical checks
  - asbestos, lead or work in compressed air
  - ionising radiations or diving
King's Cross underground station in November 1987, London
Bodies are loaded onto ambulances outside King’s Cross Station in London after the 1987 blaze that killed 31 people.
Staff from Her Majesty’s Railways Inspectorate (part of the Health and Safety Executive) at the scene of the Paddington rail crash
EMAS
(Employment Medical Advisory Service)

- The effects of particular work activities on health;
- Setting up occupational health services;
- First aid;
- Helping people with health problems when they return to work;
- May perform statutory medical exam.
  - Lead, Asbestos, Radiation
Professional bodies in Occupational Health

- Faculty of Occupational Medicine
- British Institute of Occupational Hygienists
- Royal College of Nursing
- Academic Departments
- SOM, BOHS, Ergonomic Society....
- The Confederation of British Industries (CBI)
- Trade Association
- Trade Union Congress
Training for Occupational Practitioner

- Part-time General Practitioner
  - Diploma Training Course
- Faculty of Occupational Medicine
  - 3-year general professional training & Examination of clinical & occupational health skills for AFOM
  - 4-year full-time supervised training for MFOM after AFOM
  - FFOM

http://www.facoccmmed.ac.uk
A Definition of Surveillance

- Ongoing, systematic collection, analysis, and interpretation of relevant health and hazard data essential to the planning, implementation, and evaluation of industrial safety, industrial hygiene, occupational health, and/or public health practice, closely integrated with the timely dissemination of these data to those who need to know.
Information Loop of Public Health Surveillance

Summaries, Interpretations, Recommendations

Public

Health Care Providers

Health Agencies

Analysis

Reports

CDC
Goals of Surveillance

• Identify occupational diseases and health hazards
• Determine the magnitude and distribution
• Track trends in health hazards
• Target occupations, industries, and workplaces for consultative services or inspections
• Disseminate information to aid the public and government in decision-making
Objectives of Surveillance

- Identify and estimate the magnitude of a problem
- Identify high- and low-risk group
- Monitor time and geographic trends
- Identify cases, case clusters, coworkers, worksite, and industries for follow-up
- Identify new cases and syndrome
- Identify new, hazardous exposure
Uses of Surveillance

- Prioritize health-problems
- Evaluate the progress, success, or failure of interventions and programs
- Provide planning data for cost-effectiveness and benefit analysis
- Generate hypotheses regarding disease-exposure relationship
Dimension of Surveillance

- Sentinel Events
- Exposure and Health
- Active and Passive
- Mortality and Morbidity
- Case-Based and Population-Based
- Mixed Modes
Data Sources

- Existing Data
  - Employment data, Employer’s report
  - Physician’s report, Worker’s compensation
  - Hospital Discharge, OSHA, Lab.,
  - Death Certificate, Surveys

- Potential Data Sources
  - Medical Charts and Company medical Services
  - Group health Insurance, Disability Insurance
  - Dz and Exposure Registries
  - Others – PCC, CPSC…
Occupational Populations under Surveillance

- Individual workers
- All workers at a workplace
- Workers in a particular industry
- Workers in a particular occupation
- Union members
- Company employees
- Workers exposed to a particular hazard
Data Resources

- RIDDOR 1995
- Labor Force Survey
- Industrial Injuries Scheme
- ODIN
- Death Certificates
RIDDOR 1995

*Reporting of Injuries, Diseases and Dangerous Occurrences Regulation 1995*

- Operated by HSE & Local Authorities
- Report from Employers
- To identify where and how risks arise and to investigate serious accidents
- To help and advise you on preventive action to reduce injury, ill health and accidental loss
Before the RIDDOR 95

- RIDDOR 85
- Railways Order 1986
- Offshore Installations Regulations 1973
- Submarine Pipelines Regulations 1977
- Regulation of Railways Act 1871
- Transport and Works Act 1992
Reportable major injuries

- Fracture, amputation, dislocation
- Eye injuries or loss of sight
- Electric shock or burn leading
- Hypothermia or hyperthermia
- Unconsciousness
- Exposure to a biological agent required medical treatment
Reportable dangerous occurrences

- Explosion, fire
- Collapse
- Electrical short circuit
- Accidental release
- Collision
- ............
Reportable diseases

- Certain poisonings
- Occupational dermatitis, skin cancer,
- Chrome ulcer, oil folliculitis / acne
- Occupational asthma, farmer's lung pneumonia, asbestosis, mesothelioma
- Leptospirosis, hepatitis, tuberculosis, anthrax legionellosis and tetanus
- Occupational cancer
- Musculoskeletal disorders
- Decompression illness and hand-arm vibration syndrome
Fatal injuries to employees

Number of fatal injuries

Fatal injury rate per 100,000 employees
Non-fatal major injuries

Number of non-fatal major injuries

Non-fatal major injury rate per 100 000 employees
LFS (Labor Force Survey)

- Surveys of Self-reported Work-related Illness – SWI90 and SWI95
- Commissioned by the European Union Statistical Office (EUROSTAT) 1998/99
- Work-related illness and accidents at work
- Household survey, people who worked in the 12 months prior to interview
- Based on ‘annual employment survey’
Estimated prevalence and rates by work area (98/99)
Estimated prevalence rates (%) by length of employment (98/99)
Estimated prevalence rates by social class (1998/99)

Social class

- I Professional
- II Managerial and technical
- III Skilled (non manual)
- III Skilled (manual)
- IV Partly skilled
- V Unskilled
- All persons

Rate per 100 employed in last 12 months
Estimated prevalence rates by type of complaint (98/99)
Industrial Injuries Scheme (IIS)

- Data on Disablement Benefit
- Operated by Benefit Agency (DSS)
- Prescribed Diseases (PDs)
- The diseases which causes are well established.
<table>
<thead>
<tr>
<th></th>
<th>Annual incidence</th>
<th>Data from Other Sources</th>
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</thead>
<tbody>
<tr>
<td><strong>Asbestos-related lung disease:</strong></td>
<td></td>
<td></td>
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<tr>
<td>Asbestosis</td>
<td>376</td>
<td>427</td>
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<tr>
<td>Mesothelioma</td>
<td>583</td>
<td>685</td>
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<tr>
<td>Lung cancer (asbestos)</td>
<td>77</td>
<td>55</td>
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<tr>
<td>Pleural thickening</td>
<td>196</td>
<td>188</td>
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<tr>
<td><strong>Other lung disease:</strong></td>
<td></td>
<td></td>
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<tr>
<td>Pneumoconiosis (ex asbestos)</td>
<td>630</td>
<td>433</td>
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<tr>
<td>Byssinosis</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Farmer's lung, allergic alveolitis</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>Occupational asthma</td>
<td>506</td>
<td>514</td>
</tr>
<tr>
<td>Bronchitis &amp; emphysema</td>
<td>2594</td>
<td>268</td>
</tr>
<tr>
<td>Lung cancer (other prescribed agents)</td>
<td></td>
<td>4</td>
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<tr>
<td>Beryllium, cadmium &amp; nitrous fume poisonings</td>
<td>-</td>
<td>-</td>
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<tr>
<td><strong>TOTAL LUNG DISEASE</strong></td>
<td>4973</td>
<td>2586</td>
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<td>Other prescribed diseases</td>
<td>Industrial Injuries Scheme</td>
<td>Data from Other Sources</td>
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<tr>
<td>-----------------------------------------------</td>
<td>---------------------------</td>
<td>-------------------------</td>
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<tr>
<td>Occupational deafness</td>
<td>882</td>
<td>763</td>
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<tr>
<td>Vibration white finger</td>
<td>1425</td>
<td>1747</td>
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<tr>
<td>Musculoskeletal</td>
<td></td>
<td></td>
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<tr>
<td>Tenosynovitis</td>
<td>800</td>
<td>787</td>
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<tr>
<td>Cramp of hand or forearm</td>
<td>135</td>
<td>116</td>
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<tr>
<td>Beat conditions</td>
<td>257</td>
<td>205</td>
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<tr>
<td>Carpal tunnel syndrome</td>
<td>267</td>
<td>277</td>
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<tr>
<td>Dermatitis</td>
<td>392</td>
<td>368</td>
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<tr>
<td>Infections:</td>
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<td></td>
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<tr>
<td>Viral hepatitis</td>
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<td>3</td>
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<tr>
<td>Tuberculosis</td>
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<tr>
<td>Leptospirosis</td>
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<tr>
<td>Other infections</td>
<td>2</td>
<td>5</td>
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<tr>
<td>Poisonings</td>
<td>15</td>
<td>9</td>
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<tr>
<td>Occupational cancers</td>
<td>44</td>
<td>26</td>
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<tr>
<td>Allergic rhinitis</td>
<td>528</td>
<td>589</td>
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<tr>
<td>Other prescribed conditions</td>
<td>9</td>
<td>17</td>
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<tr>
<td><strong>TOTAL OTHER DISEASES</strong></td>
<td><strong>4770</strong></td>
<td><strong>4921</strong></td>
</tr>
</tbody>
</table>
SWORD

- Planned by The British Thoracic Society & The Society of Occupational Medicine, 1988 and Started since Jan. 1989
- Supported by HSE
- Age, sex, residential area, occupation, & causal agent (by physician)
- Participants
  - 354 chest physicians & 361 occupational physicians
  - 1989~1992 (4 years) : 63 %
- Dual reporting system since 1992
Estimated cases of occupational respiratory disease (SWORD/99)

<table>
<thead>
<tr>
<th>Respiratory Disease.</th>
<th>Est. Cases</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allergic alveolitis</td>
<td>43</td>
<td>0.9</td>
</tr>
<tr>
<td>Asthma</td>
<td>1,173</td>
<td>25.8</td>
</tr>
<tr>
<td>Bronchitis/emphysema</td>
<td>129</td>
<td>2.8</td>
</tr>
<tr>
<td>Infectious diseases</td>
<td>63</td>
<td>1.4</td>
</tr>
<tr>
<td>Inhalation accidents</td>
<td>154</td>
<td>3.4</td>
</tr>
<tr>
<td>Lung cancer</td>
<td>81</td>
<td>1.8</td>
</tr>
<tr>
<td>Malignant mesothelioma</td>
<td>1,046</td>
<td>23.0</td>
</tr>
<tr>
<td>Benign pleural disease</td>
<td>1,287</td>
<td>28.3</td>
</tr>
<tr>
<td>Pneumoconiosis</td>
<td>336</td>
<td>7.4</td>
</tr>
<tr>
<td>Other</td>
<td>239</td>
<td>5.3</td>
</tr>
<tr>
<td>Total</td>
<td>4,551</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Occupational asthma 1999

Diagram showing the percentage of cases for different irritants:
- SWORD (118 cases)
- DSS Industrial Injuries Scheme (196 cases)

Irritants listed include:
- Isocyanates
- Flour/grain
- Crustaceans and fish (b)
- Lab animals/insects
- Glutaraldehyde
- Latex (c)
- Wood dust
- Hardening agents (d)
- Proteolytic enzymes
- Solder flux
- Stainless steel welding fumes
- Platinum salts

Percentage of cases range from 0 to 15.
EPIDERM

- 1991~1993: Pilot study by British Association of Dermatologists
- 1993~1995: Quarterly report
- 1995: Dual system
  - Core & annual
### Estimated cases of occupational skin disease (EPIDERM, 1999)

<table>
<thead>
<tr>
<th>Diseases</th>
<th>Est. Cases</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact dermatitis</td>
<td>2,385</td>
<td>79.7</td>
</tr>
<tr>
<td>Contact urticaria</td>
<td>127</td>
<td>4.2</td>
</tr>
<tr>
<td>Folliculitis/acne</td>
<td>25</td>
<td>0.8</td>
</tr>
<tr>
<td>Infective skin Dz.</td>
<td>21</td>
<td>0.7</td>
</tr>
<tr>
<td>Mechanical skin Dz.</td>
<td>4</td>
<td>0.1</td>
</tr>
<tr>
<td>Nail condition</td>
<td>49</td>
<td>1.6</td>
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<tr>
<td>Skin neoplasm</td>
<td>329</td>
<td>11.0</td>
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<tr>
<td>Others</td>
<td>59</td>
<td>2.0</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>2,999</strong></td>
<td><strong>100.0</strong></td>
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</tbody>
</table>
## OPRA

- Since 1996
- 665 occupational physicians & 125 occ. practice groups

<table>
<thead>
<tr>
<th>Disease</th>
<th>Est. cases</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respiratory disease</td>
<td>893</td>
<td>7.3</td>
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<tr>
<td>Skin disease</td>
<td>2,007</td>
<td>17.3</td>
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<tr>
<td>Musculoskeletal disease</td>
<td>5,941</td>
<td>48.4</td>
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<tr>
<td>Hearing loss</td>
<td>290</td>
<td>2.4</td>
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<tr>
<td>Psychiatric problem</td>
<td>3,763</td>
<td>22.5</td>
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<tr>
<td>Others</td>
<td>261</td>
<td>2.1</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>11,798</strong></td>
<td><strong>100</strong></td>
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Other Surveillances

- **SIDAW**

- **MOSS**
  - Since Oct. 1997, 320 Rheumatologist, quarterly report

- **OSSA**
  - Since 1997, 21 Audiologist, monthly report

- **SOSMI**
  - Since 1999, 771 Psychiatrist, one month report
<table>
<thead>
<tr>
<th>Name</th>
<th>Value 1</th>
<th>Value 2</th>
<th>Value 3</th>
<th>Value 4</th>
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<tr>
<td>SWORD</td>
<td>450</td>
<td>22</td>
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<tr>
<td>SIDAW</td>
<td>-</td>
<td>113</td>
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<td>EPIDERMD</td>
<td>244</td>
<td>24</td>
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<tr>
<td>MOSS</td>
<td>320</td>
<td>-</td>
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<tr>
<td>OSSA</td>
<td>-</td>
<td>21</td>
<td></td>
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<tr>
<td>SOSMI</td>
<td>771</td>
<td>-</td>
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<tr>
<td>OPRA</td>
<td>646 (125)</td>
<td>19</td>
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</table>
Malignant Mesothelioma (96/97)

<table>
<thead>
<tr>
<th></th>
<th>SWORD</th>
<th>IIS</th>
<th>RIDDOR95</th>
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<tbody>
<tr>
<td>Count</td>
<td>978</td>
<td>553</td>
<td>10</td>
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