Bird Watching and the Art of Occupational Disease Surveillance

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Bird Watching, what is needed?
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- A List of Birds
  - Short list, long list? Level of detail?
  - International accepted classification?

- A Guide/ Criteria/ Book
  - Apps for Finding Birds

- Basic Knowledge: how to observe/ assess?
  - Size, shape, colour, fly pattern, habitat, sound
  - Observation in a systematic way
  - Apps for Recording Observations
Bird Watching, what is needed?
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- **Instruments:**
  - Binocular,
  - Scope
  - Chips (gps)

- **Infrastructure:** e-network, consultation of specialist

- **A Plan:**
  - Why, Who, When (which season, annual counting's to look at trends)
  - Where (in our Polder? in NL? in Europe? Global?)
  - What to do with the data? (analyses, alerts, reports, action)
Bird Watching, what is needed?

- Dedicated Observers
- Reporting, Communication, Mobilisation
Surveillance?

- Birds and OD’s?

- Birds: signal of vitality of nature

- Occupational Diseases: signal of failure of prevention
  - ‘collateral damage’, ‘side effect of work’

- Surveillance is more than just watching
  - Active surveillance in stead of passive surveillance

- Surveillance methods of birds and of OD/WRD’s have similarities....
Surveillance?

- Surveillance is the careful watching of a person or place, especially by police or army because of a crime that has happened or is expected (Cambridge Dictionary)

- Occupational Health Surveillance is the ongoing and systematic collection, analysis and interpretation of data and the appropriate dissemination of such data. [ILO 1998]

- An alert system for public health emergencies, to drive preventive measures, and to develop policies and practices to reduce morbidity and mortality.

- Occupational Disease Intelligence: smart methods to get a clear view, not just above the surface

Figure 1. Disease and illness in the mining industry (after Metz 2002).
Occupational Health Surveillance

Focus is on monitoring the health of working populations and the exposure to hazards in the workplace; two sides of a coin:

Workers' Health Surveillance

Workplace Health Surveillance
Developing an Occupational Disease Surveillance System

1. Considerations, Aims, Design.
   - What to assess?, in Which population?, During which period of time?

2. Instrumentalisation
   - How to assess, Instruments, Protocols? Classification system: National list, EU-, ILO-list, Combination of ICD-10/11+NACE+ISCO

3. Analysis
   - Adjusting for bias, Scaling up, Statistics?

4. Conclusions, Recommendations, Dissemination
   - What to report? To Which Target Groups? Context, Recommendations on preventive measures?
Occupational/Work-related Diseases

Books, Guides
Criteria

Information notices on occupational diseases: a guide to diagnosis

ASBESTOS, ASBESTOSIS, AND CANCER
Helsinki Criteria for Diagnosis and Attribution 2014

HUNTER’S DISEASES OF OCCUPATIONS
TENTH EDITION

Edited by
Peter J Baxter
Tar-Ching Aw
Anne Cockcroft
Paul Durbin
& J Malcolm Harrington
Lists of Occupational Diseases

- National Lists of OD’s
- EU-list of OD’s
- ILO-list of OD’s
- ICD-11 and OD’s
Classification of Occupational Diseases:

- Lists of Occupational Diseases have a hybrid character: a mixture of categories defined by exposure and categories defined by disease.
- This causes problems for statistical comparison and use of the data.
- Not easy to change; example OD’s caused by Lead
  - Lead can cause a variety of health effects on the haematopoietic system, nervous system (CNS and PNS), renal function, gastrointestinal function and reproductive effects (see Information Notices). This means that it is impossible to capture no.11200 of the EU List of OD’s under one Health effect heading. It also means that cases of OD caused by lead should be specified in terms of health effects in order to make comparisons sensible.
Criteria for Diagnosis of OD’s in EU Information Notices

**Clinical features**
Signs, symptoms, diagnostic tests

**Occupational exposure**
Occupational history, measurements, biological monitoring, records of incidents

**Timing**
Natural history and progress of the disease

**Differential diagnostic issues**

**Additional information**
- Minimum intensity of exposure
- Minimum duration of exposure
- Maximum latent period
- Minimum induction period
Occupational Diseases in ICD-11

- WHO-ILO Working group
- cross-references between ILO List of Occupational Diseases and ICD-11 classification taking aboard causal exposures
- Development of supporting document with diagnostic criteria (medical + exposure criteria)
WHO-ILO collaboration in OD’s Classification

Merge of the ILO list of Occupational Diseases with the new edition of the WHO ICD-11

Occupational Diseases ↔ Diagnostic Criteria: medical + exposure ↔ WHO Identification codes
# Listing and Classification of Occupational Diseases

- **Diagnosis of Occupational Diseases** can be complex

- **Medical Diagnosis + Occupational History** are two essential elements in the assessment

- **Classification** of O.D.’s: based on the combination of medical diagnosis + occupational exposure

- **Lists of Occupational Diseases are** helpfull in the Recognition, Compensation and Prevention

- The **ILO List** of Occupational Diseases Occupational with supporting criteria document in combination with ICD-11 will become available soon
Occupational Disease Intelligence

- **Example UK:**
  - Secret service approach
  - Looking at cases AND big data analyses

- **Sources of information**
  - Medical doctors: sample of dedicated GP’s, pulmonologists, dermatologists (THOR, SWORD, EPIDERM)
  - Workers health survey
  - Data from the Workers Compensation system
  - Special investigations

- **Competent leadership**
  - In HSE: director of long latency effects of work and Chief Statistician
Tackling occupational disease

Occupational disease is a big issue - a life-altering experience for some, a life-ending illness for others. But by working together, we can create healthier efficient workplaces.

Organisations are already taking steps to reduce the burden of occupational disease. We want you to get involved and share your approaches.

- More about the occupational disease burden

Get involved

Join our online community and take action on occupational disease.

The community site acts as a forum for you to promote your work and successful interventions, share ideas and insight, learn from each other, and ask for advice.

Cancer priority areas

- Asbestos
- Diesel engine exhaust emissions
- Painters
- Polycyclic aromatic hydrocarbons
- Radon

Respiratory priority areas

- Agricultural workers
- Bakery workers
- Construction workers
- Foundry workers
- Quarry and stone workers
- Vehicle paint spray painters
Occupational Disease Surveillance
Good Practices

- **France:**
  - Data mining in files of the network of **Clinics of Occupational and Environmental Medicine** (in France in every University Hospital a Clinic)

- **USA**
  - Health Hazard Evaluation Programme
Smart Data Mining in relevant data-base:

French National network of OD-clinics RNV3P (Vincent Bonneterre et al)

**Cluster detection softwares** (Satscan®, Crimestat®), independant from administrative borders:

many patients live along small mountain streams. First prelevements in Grenoble’s cluster area showed the presence of strains of cyanobacteria (able to produce neurotoxins)

Start of large scale investigation Grenoble ALS-cluster
Workers Health Surveillance; how to go together in the right direction?

- Lists of Occ/WR-Diseases
- Guidelines, Criteria, Books
- Systematic Assessment of cases
- Instruments, tools
- Infrastructure
- Dedicated Observers (recruitment/training)
- A Plan of action for OD-surveillance
- Analysis, Reporting, Communication, Mobilisation
- PHIT as Occupational Disease Intelligence Centre?
Registries for Occupational Diseases; Quality indicators (Dick Spreeuwers 2008)

- Coverage of registration
- Criteria or guidelines for notification
- Completeness of notification form
- Education and training
- Diagnostic procedures
- Completeness of registration
- Statistical methods used
- Investigation of special cases
- Alert information
- Monitoring information; details and presentation of output:
  - Incidences and distribution
  - Validity of incident rates
  - Additional information
New Horizons in Occupational Disease Surveillance?
Late lessons from early warnings: the precautionary principle 1896–2000
Late lessons from early warnings

- Reduce delays between early warnings and actions: towards better Occupational and Environmental Health-vigilance

- Correct markets using principles of precaution, polluter-pays and prevention: better compensation systems?

- Develop robust measures and precautionary actions: 
  Protection of O&E Health is a public task and requires active and alert authorities
  - ‘Harmfull Inertia’.
  - Competent authorities /Labour and Environmental Inspectors
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