

ENVIRONMENT, PLANNING AND TRANSPORT COMMITTEE

INFORMAL SEMINAR

Date: Thursday 28 November 2002
Time: 2.00 to 3.20 pm
Venue: Committee Room 5, National Assembly Building
Attendance:

EPT Members:

Richard Edwards, Chair	Preseli Pembrokeshire
Eleanor Burnham	North Wales
David Davies	Monmouth
Sue Essex, Minister for Environment	Cardiff North
Val Lloyd	Swansea East
Karen Sinclair	Clwyd South
Phil Williams	South Wales East

HSS Members:

Geraint Davies	Rhondda
David Melding	South Wales Central

Presenters:

Dr Alan Bond

Head of Environmental Health Impact
Assessment Unit, University of Wales College
Aberystwyth

Professor David Kay

Professor of Environment and Health,
University of Wales College Aberystwyth

Professor Ian Matthews

Professor of Community Epidemiology,
University of Wales College of Medicine

Topic: The Impact of the Environment on Human Health

1.1 There was a presentation on the drivers and policy background to Health Impact Assessments and the health advice contract the team were undertaking for the Environment Agency (see Annex).

1.2 Discussion focused on the following points:

- Public awareness - ways of raising public awareness of the risks associated with various waste disposal options;
- Health Impact Assessments (HIAs) – the need to involve the public in the HIA process and for results to be published, to ensure public confidence in independent health assessments;
- Comparison of risk – the work planned in phase II of the team’s work for the Agency to compare the risks of different waste disposal options;
- Health data - the lack of health data and constraints of medical confidentiality imposed by data protection legislation, also issues associated with the interpretation of data and techniques for overcoming statistical bias;
- Monitoring – the impact of new EU requirements to monitor the environmental impacts of waste plans;
- Other risks - the impact of nuclear power plants on human health, which was not currently within the remit of the team;
- Regulation – how the Environment Agency compared to other EU regulatory bodies, and was in the lead in some areas.

National Assembly for Wales Seminar

**Health and the Environment
HIA**

2.00pm Thursday

28th November 2002

What is Health?

"a state of complete physical, mental and social well-being and not merely the absence of disease and infirmity"

(WHO, 1946).

Key policy drivers for HIA: Europe and International

- European Law
- Treaty of Rome
- World Health Organisation
- Environmental Health Action Plans
- Development Banks
- World Bank

Key policy drivers for HIA: UK

- British Medical Association
- UK Health Strategies
- Regional Governments / Assemblies

European Context: Treaty of Rome

- Maastricht Treaty inserted Article 129 into Treaty of Rome
- The Amsterdam Treaty

EHAPE

- 50 members of WHO European Region
- All commit to producing a National Environmental Health Action Plan
- 70% of members had written NEHAPs by October 1996

WHO involvement in HIA

Third European Conference on Environment and Health held in London (16-18 June 1999).
One agreed action is:

"Cross cutting action

We will carry out environmental impact assessments fully covering impacts on human health and safety. We invite countries to introduce and/or carry out strategic assessments of the environment and health impacts of proposed policies, plans, programmes and general rules ..."

UK Health Strategies

- National Environmental Health Action Plan (July 1996) (produced to meet obligations of second European Conference on Environment and Health)
- Devolution leads to separate strategies for Scotland and Wales

HIA Policy background in England

- Saving lives : Our Healthier Nation White Paper
- is a Government wide public health strategy for England (White Paper, July 1999) with two aims:
 - to improve health;
 - to reduce the health gap (health inequalities).
- HIA – sections 4.45 to 4.47

HIA Policy background in Wales

- Strategic Framework (Better Health Better Wales) (October 1998)
- Sections 8.7 and 8.8 refer to HIA

- Better Health Better Wales: Developing Health Impact Assessment in Wales (December 1999)

Better Health Better Wales

"Health Impact Assessment

8.7. Health Impact Assessment is the evaluation of the impact of policies, programmes and proposed developments on the health of the population at all levels; individuals, the community and the nation. Such assessment, in the field of public health will require different approaches at community, local and national level."

The Present Team

- Alan Bond Aberystwyth
- John Fawell Faber Maunsell
- Mark Goodwin Aberystwyth
- Roy Harrison Birmingham
- David Kay Aberystwyth
- Ian Matthews Cardiff
- Stephen Palmer Cardiff

The Team's History

- December 2000
- Health Advice Contract for the Environment Agency in England and Wales >70 HIAs
- December 2001
- HIA of the Government Waste Strategy
- Bond *et al.* (2002)
- August 2002
- HIA in the Planning system *NAfW*

Recent Reporting

A Health Impact Assessment of the Landfill Directive and Government Waste Strategy R&D Publication P6-011/1

Stage 1

Aim: 'To carry out an assessment of the human health impacts of the developments in waste management practices brought about by the implementation of the Landfill Directive and the Government's Waste Management Strategy in England and Wales'.

6 Components

- Definition of Health
- Critical Literature Review of Current Waste Management Practices
- Health Effects of (2)
- Critical Review of Health Risk Assessments
- Define Current Status of HIA at a Policy Level
- Produce a Report Comprising the Information Gathered in 1-5 (Phase I) and then proposes a methodology for Phase II

Questionnaire

- 170 responses
- 74% of EH depts and 39% of planning depts understood the term HIA
- 12 authorities had requested a HI
- 2 authorities had received a HIA
- 6 authorities had initiated a HIA of a project
- 5 authorities had initiated HIA of a programme
- CONCLUSION – PATCHY at BEST

Literature Survey and Compounds

- Key Toxic compounds
- PCBs
- Mercaptans
- BTEX Compounds
- benzene, toluene, ethylbenzene and mixed xylenes
- Pesticides
- Nickel

- Dioxins
- Lead
- Sulphur Dioxide
- Particulate Matter
- Nox
- PAHs
- Mercury
- Arsenic

- Cadmium

- Chromium

- Methane

"complex mixtures and interactions between chemicals at low concentrations?"

LANDFILL AND CONGENITAL MALFORMATION

- USA – No excess risk in women living within 1 mile of 1281 landfill sites
- New York State-12% increase in women residing within 1 mile of 590 hazardous waste sites
- UK – Relative risk of 1.01 for women living within 2km of 9565 landfill sites compared to those living further than 2 km
- Europe – For 21 hazardous waste landfills; 33% increase in risk in a zone of 3 km radius from a site with a zone of radius 3 -7 km from the site

MORE ROBUST RISK ESTIMATES (EPIDEMIOLOGICAL REFINEMENTS)

- Allow for differential ascertainment of registration of congenital malformations between zones and over time
- The population at risk needs to be defined more precisely than is currently allowed by the 'concentric circle' approach
- Data required on atmospheric concentrations of pollutants from landfills
- Public concern about congenital malformation has the potential to deflect research efforts from investigating other health effects e.g. renal and liver disease
- To date, a limited amount of data of biological monitoring of landfill workers and population groups residing near landfill does not indicate that biological uptake of toxicants is of general significance

INCINERATORS

- Department of Health's expert advisory committee on the Carcinogenicity of chemicals in Food Consumer Products and the environment -----
- *Any potential risk of cancer due to residency (for periods in excess of 10 years) near to municipal incinerators was exceedingly low and probably not measurable by the most modern epidemiological techniques*
- A small number of studies have investigated congenital malformations and relate mostly to older chemical waste incinerators or improperly controlled incinerators
- Modern incinerators will emit pollutants into the environment but it is unlikely that they would make a significant contribution to the overall background level of air pollution in a particular area if properly run and maintained

- Many of the studies concentrate on older types of incinerators which were prevented from operating in late 1996 by the introduction of the Municipal Waste Incineration Directive

COMPOSTING

- A complex aerobic microbiological process by which the organic fraction of wastes are converted into compost products.
- 60% of municipal waste is biodegradable.
- EU Landfill Directive - biodegradable municipal solid waste landfilled must be reduced to 75% of the amount in 1995 by 2010.

COMPOSTING RESIDUALS

- Composting produces bioaerosols containing actinomycetes, bacteria, fungi, protozoa and organic constituents of microbial and plant origin.

Potential Health Effects

- *Aspergillus fumigatus* - infection
- *Cladosporium*, *penicillium* etc. - allergy
- Actinomycetes - allergy
- Betaglucan, bacterial endotoxin - lung inflammation.

MANAGEMENT

- *Precautionary approach* - reduction of bioaerosol exposures to background levels at receptors.
- *What are background levels?* - varies with geographical location and with season.
- Reduction to background is currently interpreted as twice background levels.

WASTE TRANSFER FACILITIES

- Published research is focused on occupational health
- In poorly managed facilities elevated levels of bioaerosols and organic dust associated with increased prevalence at respiratory effects
- Some evidence that occupational exposure to micro-organisms and VOC's is higher than at landfill sites
- Limited data suggests that air quality is not affected at distances of greater than 100 metres from site

MATERIALS RECOVERY FACILITIES

- Increase prevalence of respiratory effects reported in workers

RECYCLING OPERATIONS

- Very limited data. Evidence of neighbourhood contamination and health effects is equivocal

Outcomes

- Training and dissemination
- Phase II work underway
- distil the lessons into practical guidance
- HACCP principals
- Matrix approach

Why 2

- To facilitate early focus on elements in the waste cycle which impact on health and where human health benefits are potentially achievable and
- To provide a uniform and consistent approach across stages in the waste cycle and between disposal options.

Why 2

To focus on:

- key problems;
- the state of knowledge in this area;
- key questions and/or measurements; and
- relevant policy documents.