TWG Integrated Monitoring
Integrated monitoring of Dioxins and PCBs in the Baltic Area

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Preliminary Notes I

Father of Hygiene and Medicine, Hippocrates (460-377 B.C):
First of all, do no harm
This means careful analysis of all measures that we think are good for us: are they?
Today’s aim: Evidence based medicine
Also precautionary activities must be based on reasonable evidence, anything else is unethical quackery
Many environmental measures aiming at improved health are not simple, a thorough cost/benefit analysis is needed.

Breast milk: toxic compounds such as dioxins, but also many health advantages to the infant.

Fish: dioxins and PCBs, but also health benefits from omega-3 fatty acids, vitamin D, selenium: what is the balance? Right to advise restrictions? Beware! First of all, do no harm!
Risk of death as a function of fish consumption

Anderson & Wiener 1997
What does this tell us?

Need **right questions**, good intentions are not enough; discussion on values

Good **planning**, interscientific approach

Reliable **methods**, harmonisation

Good quality **monitoring, surveys and research** supporting each other

**Understanding** basic issues on both sides to evaluate the results and recommend the right solutions and actions

Being **humble**: admit we do not understand enough
Are the interests of E & of H always the same?

Sometimes **yes**: fossil energy production is harmful for both environment and health.

Sometimes **not**: refrigerator is one of the most important inventions for health, prevents millions of food poisonings and cancers each year; yet harmful for the environment: energy, freons, waste.

Due care needed in conclusions.
Recommendations Dioxins&PCB

9 groups of recommendations (not all dealt with here)

**Basics:** presently lack of communication over the boundaries, no common language, poor understanding

- need honest discourse over sectorial borders, symposia

poorly known data, grey literature

- need metadata, info on data (e.g. on web pages) to make it available and accessible

little info on some accession countries and some other countries and diffuse sources

- surveys and research
How to combine E&H?

Long history of monitoring, much data

Not all environmental monitoring is helpful for health risk assessment: EM justified for its own cause (e.g. eutrofication)

Not all health monitoring is related to environment: e.g. melanoma yes (UV); cervical cancer no (sexual habits, infection)

Therefore prioritisation is highly important: recognize the common interests, both E and H expertise is needed
Dioxins & PCBs in the Baltic

Source analysis crucial to make predictions
– sources of 2,3,4,7,8-PCDF in herring not certain
– poorly known local/diffuse sources
– history helps to predict future (e.g. sediments)

Harmonisation of methods: esp. fish analysis

Human intake assessment: food, breast milk

Effects in high-exposure populations

Sensible risk analysis/information/education
Dioxins in the sediments

Verta 2004  Total I-TEq  2,3,4,7,8-PeCDF
Research is still important

Good communication/feedback between monitoring, surveys and research

Source analysis, routes to fish

Time series studies (help to predict)

Health studies (monitoring is not a solution, need research)

Risk analysis research: especially risk vs. risk comparison, risk vs. benefit analysis