

All hands on deck

Wim Passchier

Dept. Health Risk Analysis and Toxicology



Me

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- Physical chemist
 - water and alcohol
 - Curiosity science
 - hydrogen bond essential for life
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- Health physicist
 - radiological protection
 - Ionizing radiation
 - framed as a biophysical issue
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- Health Council
 - environmental health
 - Scientific advice
 - natural science dominant
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Caricature

- Societal issues are framed as science and engineering issues
 - Scientists are approached for a solution
 - Scientists accept ('better we than politicians')
 - Scientists propose 'best' solution
- 'Sound science' solution is implemented
 - Concerns not addressed
 - Solution is not 'best'
- Controversy!

Message



- All hands on deck when societal issues are at stake
 - Mobilize expertise
 - Mobilize social and natural science

Cases

Exposure limits for chemicals



Wireless telephony





Exposure limits for chemicals (1)

- 1970s US TLV's become Dutch standards
 - TLV – threshold limit value for agent
 - Default model: below TLV no health damage
 - Derived by committees of natural scientists
- Challenged by engaged scientists
- Government requests Health Council to re-assess ~200 standards (1997)



Exposure limits for chemicals (2)

- Panel of experts from 7 countries
- Health based re-assessment of 168
 - 66: new health based exposure limit proposed
 - 70% 1-10 times lower
 - 30% more than 10 times lower
 - 33: qualitative assessment present limit
 - 20% OK (1 value might be increased)
 - 80% too high
 - 69: insufficient data for assessment



Exposure limits for chemicals (3)

- Explanation panel
 - Different choice uncertainty parameters
- But
 - Toxico- and epidemiology produce uncertainties, but no rules for dealing with uncertainty
 - Plea for harmonization of parameters does not guarantee health protection
- From a technocratic decision to transparency and taking societal concerns into account



Wireless telephony (1)

- Old technology
- Innovation possible due to miniaturisation
- Exponential penetration in society
- Fast innovation rate
- High degree of acceptance



Wireless telephony (2)

- Health concerns surface when technology is already embedded
- Three types of concerns
 - Anecdotal reports
 - brains are 'fried', brain cancer litigation
 - Base stations
 - new technologies require more base stations
 - 'Electrohypersensitivity'
 - parallel with multichemical sensitivity?



Wireless telephony (3)

- Framed as interaction EMF - biological tissue
 - Scientists concentrate on research on the use of phones (highest exposure)
 - Most controversies arise around base stations (impact on living environment)
 - Research data are on older technologies (innovated technologies are short in use)
- Science can not solve issue but generate only insights in part of the issue and generate more uncertainty



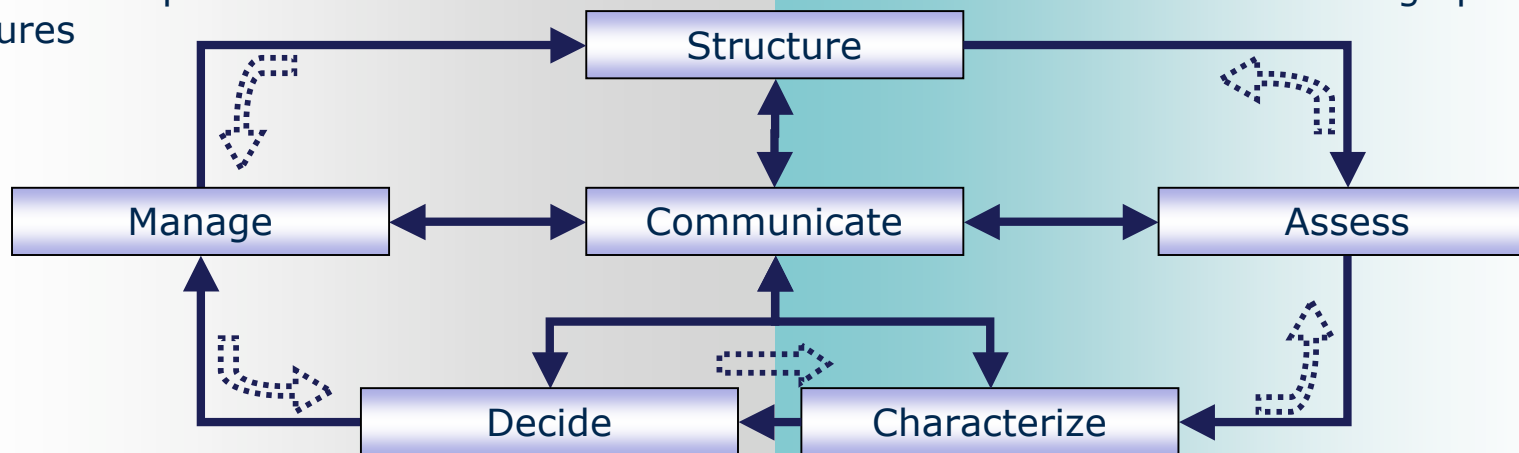
Wireless telephony (4)

- Technology in society is more than science and engineering
- Source matters – phone use vs base station
- Concern matters – attribution
- Communication matters
 - profit vs social benefits

Governance of societal issues

Focus on assessment:
Decide and implement
measures

Focus on assessment:
Knowledge production



- Process
- Players – stakeholders & experts
- Director

All hands on deck



- Process strategy
- Roles:
 - what, which stage?
- Communication:
 - interaction, information
- Knowledge, expertise
 - Scientists
 - Stakeholders
 - Pockets of expertise