

# **Risk Perception - Role of Science -**

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# Acknowledgement

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- Publications:  
Douglas Powell, Paul Slovic
- Discussions at WHO:  
Sam Page, Jørgen Schlundt

# Risk Perception

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- Based on experience and knowledge
- Shaped by values and beliefs, confidence and trust
- Influenced by 
  - Media
  - Science

**COMMUNICATION**

# Risk Communication

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“... an interactive exchange of information and opinions concerning risk among risk assessors, risk managers, consumers and other interested parties.”

(FAO/WHO Expert Consultation on Risk Analysis to Food Standards Issues, 1995)

# Risk Analysis Paradigm

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Scientific advice and  
information analysis



Regulation  
and control

Dialog with  
all stakeholders

# Risk Analysis Paradigm

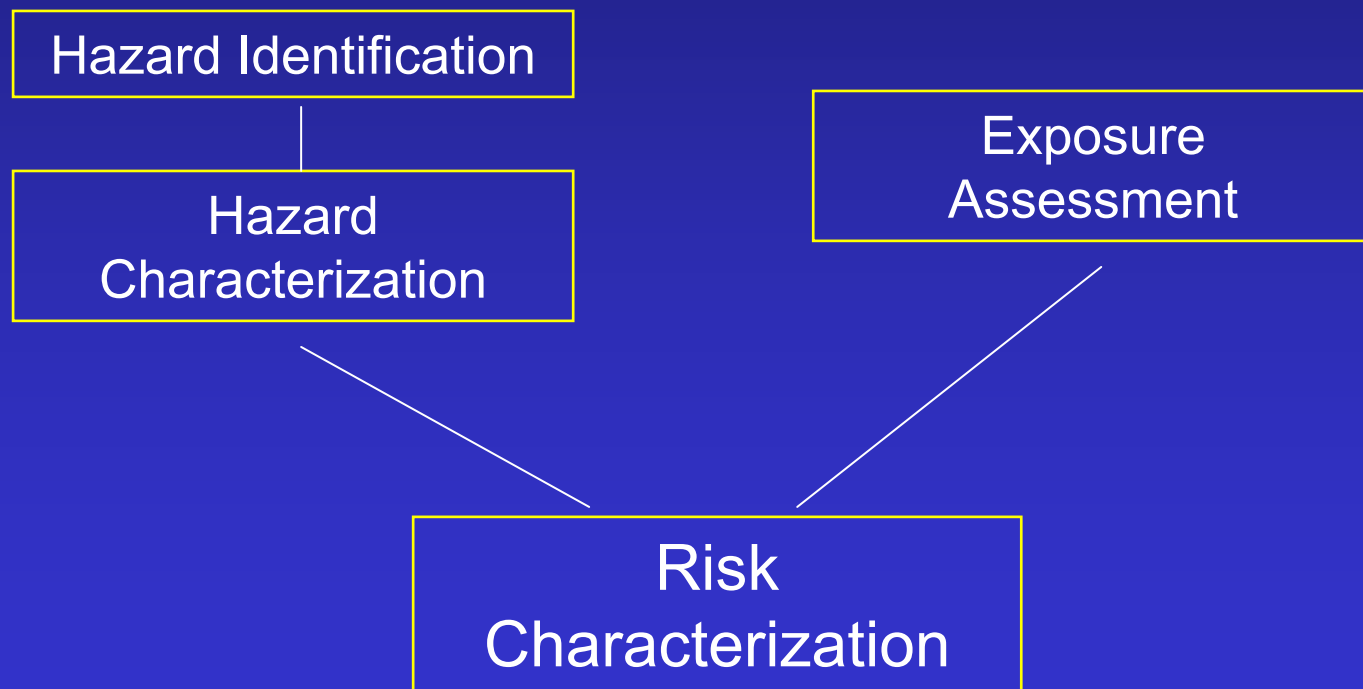
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# Role of Science: Risk Assessment

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Well defined 4-stage process:



# What is risk?

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‘... a function of the probability of an adverse effect and the magnitude of that effect, consequential to a hazard(s) in food.’

(FAO/WHO Expert Consultation on Risk Analysis to Food Standards Issues, 1995)

# Description of Risk

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## Scientist

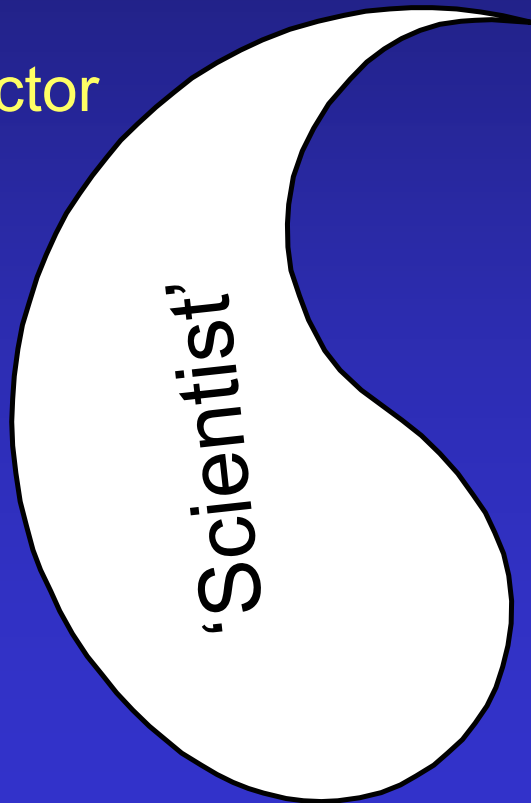
- scientific
- probabilistic
- deterministic assessment
- (comparative risk)
- population average
- `death = death`

## Consumer

- intuitive
- yes/no
- safety
- discrete events
- personal consequences
- `suffering`

# When describing risk:

often ignores  
the public  
outrage factor



pays too little  
attention to the  
relative nature of risk



# How ,Risk‘ Arises:

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- Scientific statement
- Press amplification
- Political involvement
- Regulatory action

May. 6, 2002

## Do French Fries Cause Cancer?

The evidence is thin. But there are plenty of other reasons you should go easy on the fries

By [CHRISTINE GORMAN](#)

# Acrylamide

**Carcinogen found in French fries, bread, biscuits**

Reuters Health eLine 2002-04-24

## Sequence of events:

- Swedish Authorities and University researchers invite to press conference (April 23th, 2002)
- Internal briefing with Food Industry (April 23th, 2002)
- Press Conference (April 24th, 2002)
- News headlines „ Potato Chips Cause Cancer“
- Over next 3-4 weeks substantial media coverage in Sweden, less in other European countries, even less in US

# Acrylamide

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## Consequences:

- WHO very rapid reaction, FAO/WHO Expert Consultation in June
- National and international activities in scientific and regulatory field
- International coordination
- Great public debate about the relevance of the findings and the way the issue was handled
- Swedish sales of chips fell 30-50% over 3-days, back up after that - no change in eating behaviour

# Acrylamide - Perception

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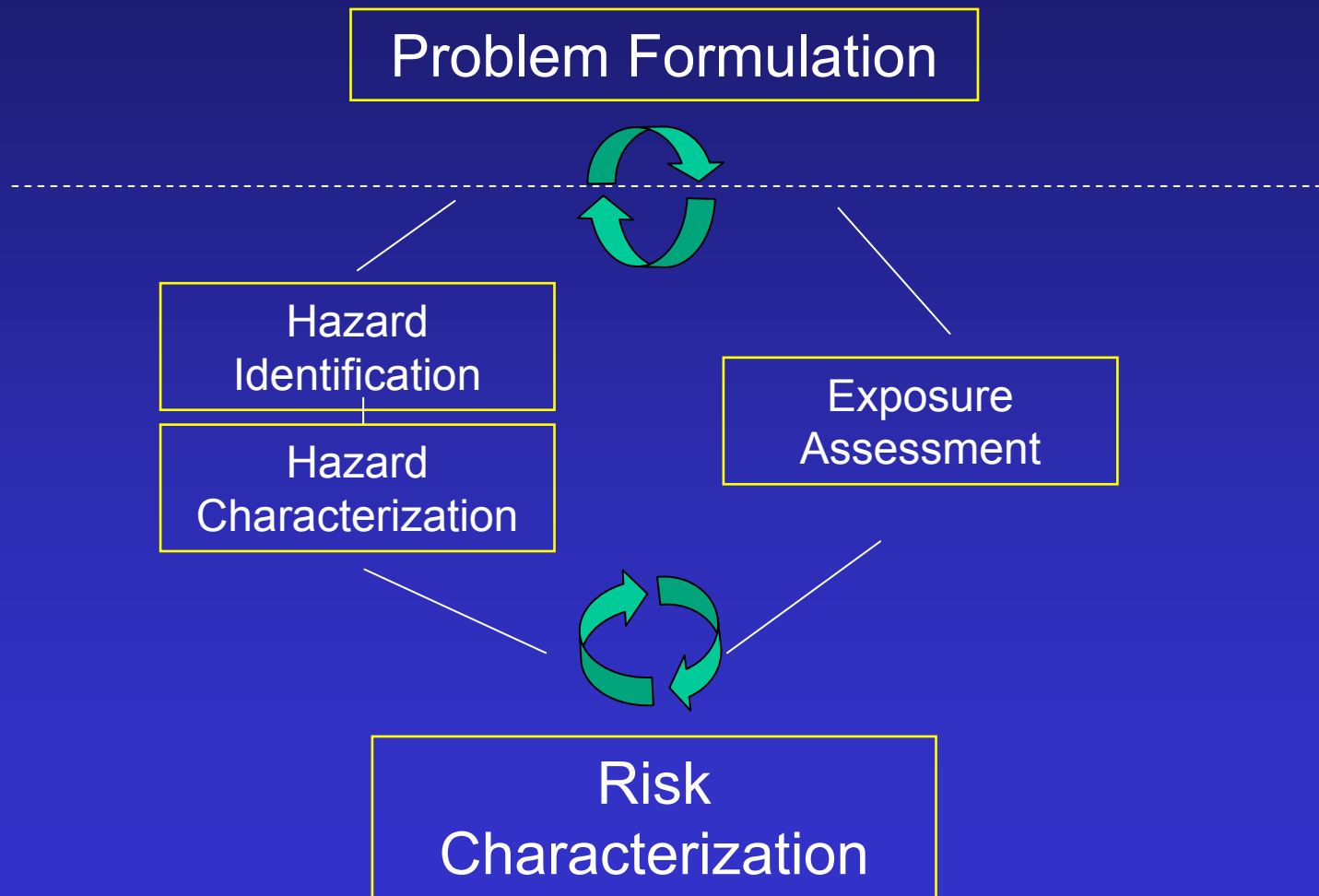
## Consumer

*„just another food warning from authorities“* -  
not very serious, not a threat

## Scientist

new finding that, based on the known toxicity of the compound, merits further investigation in order to estimate health risk

# Risk Perception - Role of Science: Improved Risk Analysis Process



# Perception IS Reality

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- there is always more to a risk issue than science describes
- the scientific assessment of risk is necessary for informed choices



# Good Risk Communication Practice