

Risk Assessment and Communication

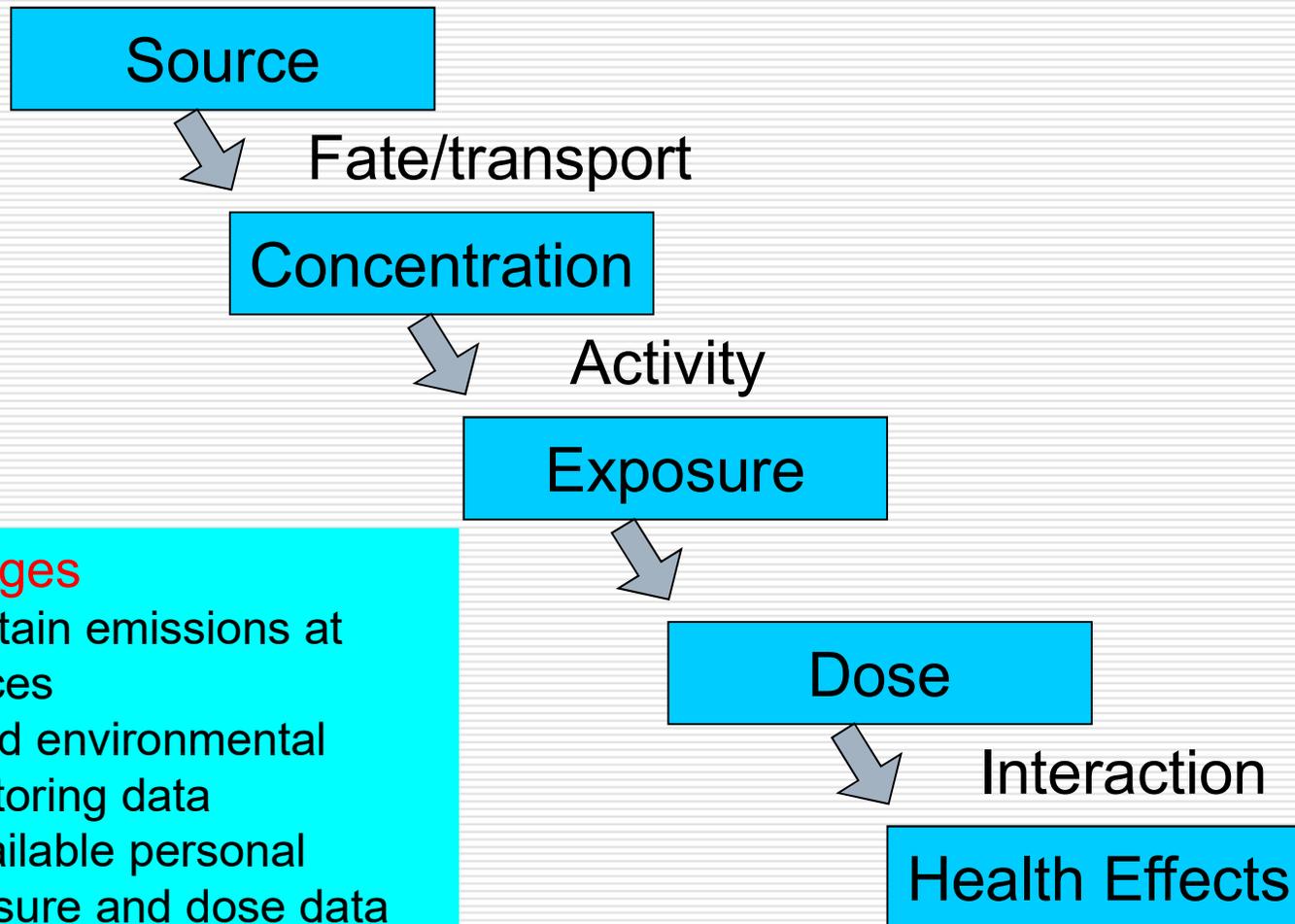
in Public Health and Disasters

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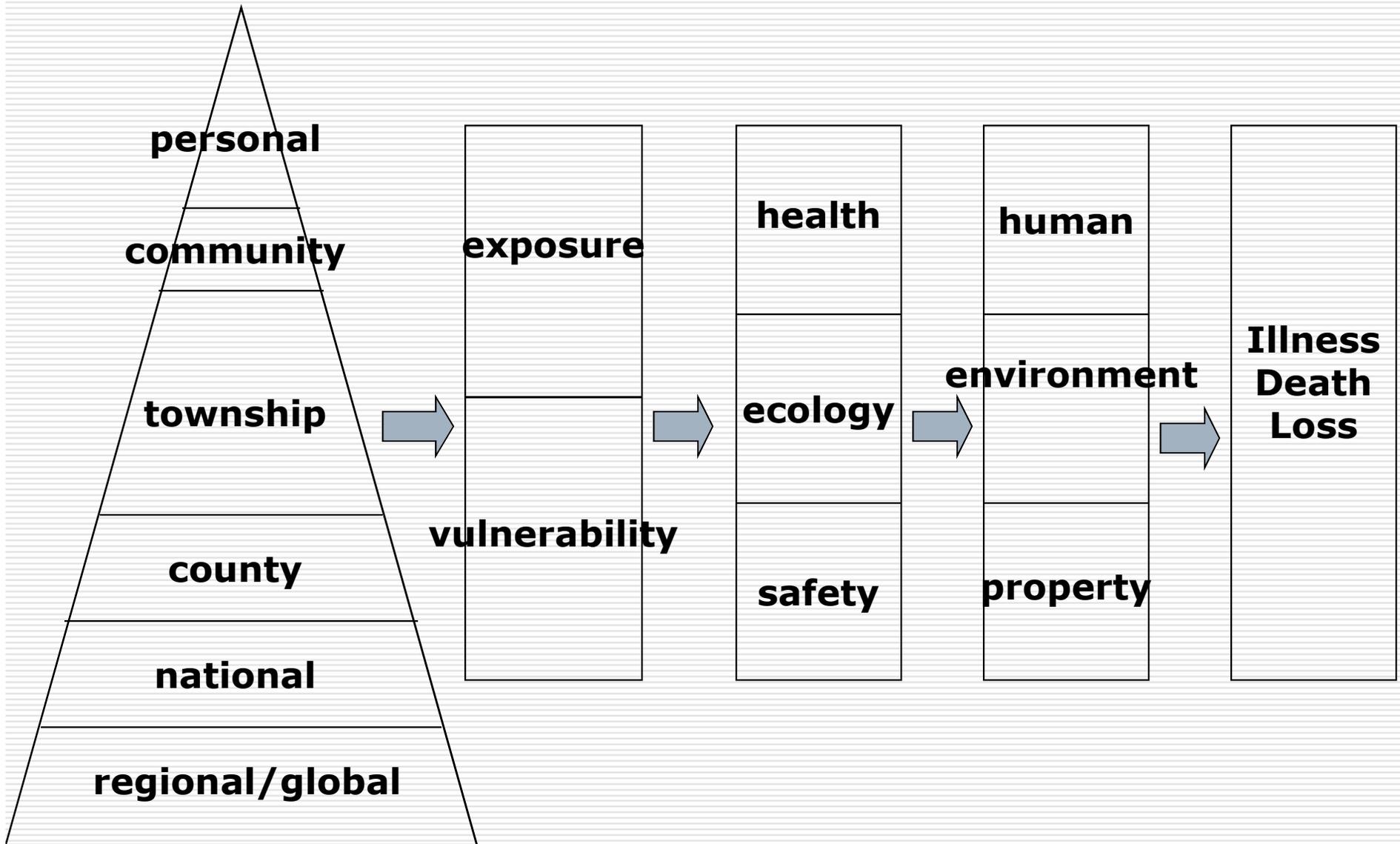
Health Risk Assessment Framework



Challenges

1. Uncertain emissions at sources
2. Limited environmental monitoring data
3. Unavailable personal exposure and dose data
4. Unrelated check-up items

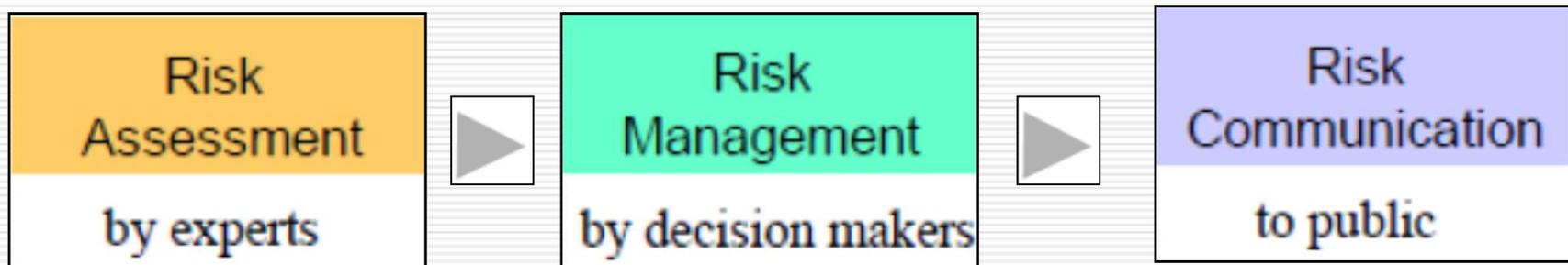
(Ott et al, 1986)



Disaster Risk Assessment Framework

The Change of Risk Communication Paradigm

Traditional Linear Paradigm



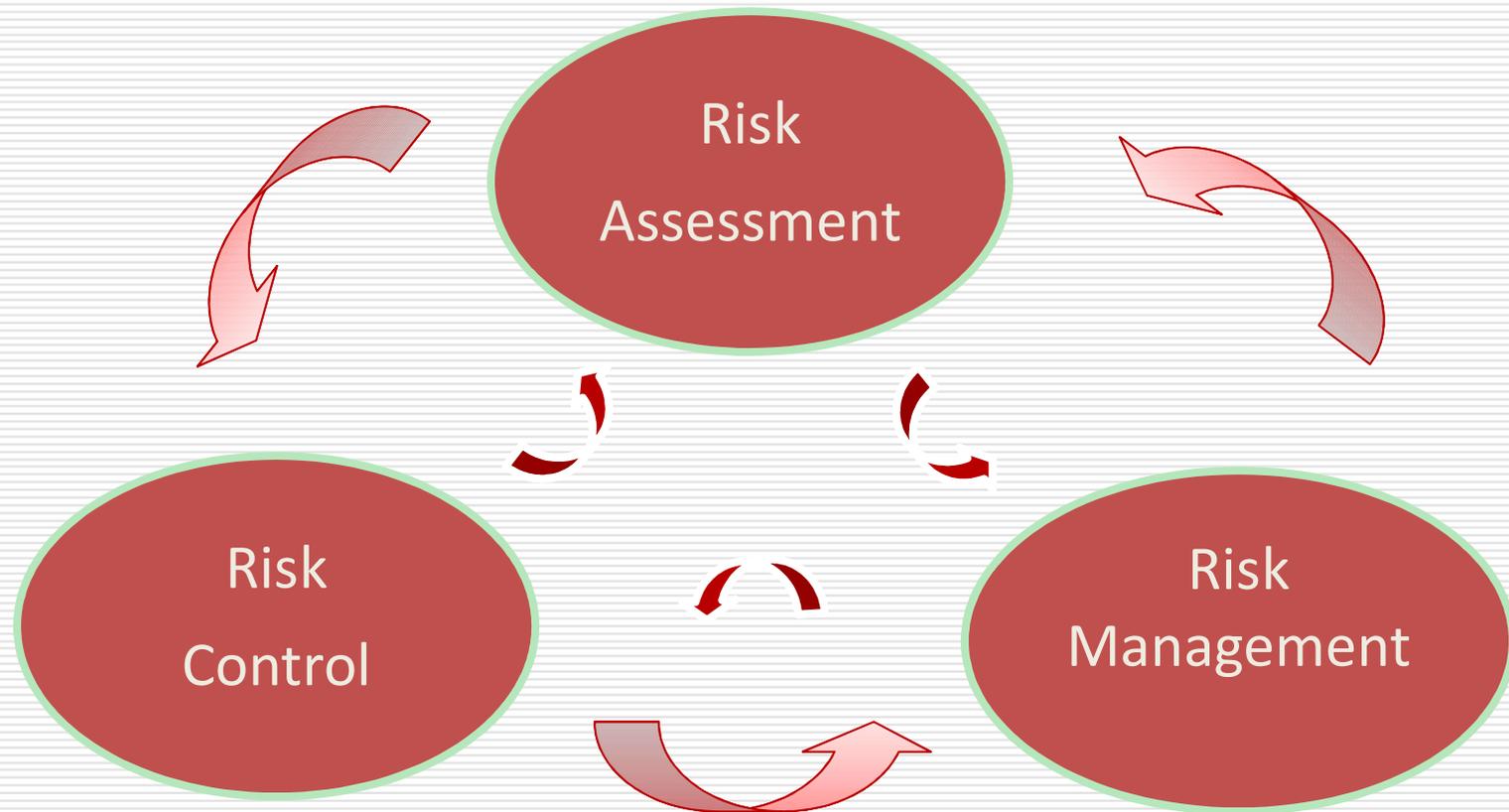
From: Framework to Develop Precautionary Measures in Areas of Scientific Uncertainty, WHO, 2004

Risk Analysis Framework



The Change of Risk Communication Paradigm

The New Circular Paradigm

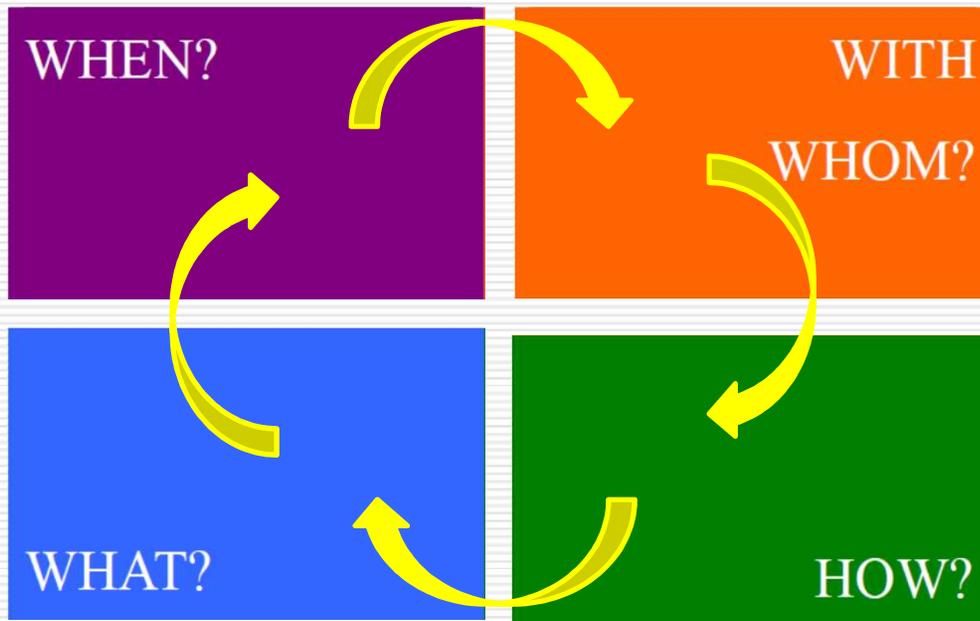


From: Framework to Develop Precautionary Measures in Areas of Scientific Uncertainty, WHO, 2004

Risk Communication

An **interactive** process of **exchange** of information and opinion among individuals, groups and institutions. It involves **multiple messages** about the nature of risk and other messages, not strictly about risk, that express concern, opinions, or reactions to risk messages or to legal and institutions arrangements for risk managers.

Key points & Points



BUILDING EFFECTIVE COMMUNICATION SKILLS

INSPIRE TRUST

- Be competent
- Be calm and respectful
- Be honest and open
- Show your human side, personalise
- Use clear language, and be careful not to sound or be condescending
- Explain the consequences of the assumptions used
- Demonstrate your own values

BE ATTENTIVE

- Choose your words carefully
- Watch emotions, yours and those of your audience
- Be an attentive listener
- Be attentive to body language

MAINTAIN AN OPEN DIALOGUE

- Seek input from all
- Share information
- Provide means for frequent communication, e.g. publication of findings on the Web with opportunity to comment

From: Establishing a Dialogue on Risks from Electromagnetic Fields, WHO, 2002

When & What to Communicate?

WHEN TO COMMUNICATE

KEY QUESTIONS

- When should you enter into a dialogue?
- Is there sufficient planning time?
- Can you quickly research who and what influences community opinions?
- When do you include the stakeholders? When do you plan the process, set the goals and outline the options? When are decisions made?

■ Are the messages of all key stakeholders being heard? i.e. is there an effective means for providing feedback?

■ Is the message intelligible or does it contain a large amount of complex information?

■ Do the stakeholders have access to sufficient and impartial information about the technology?

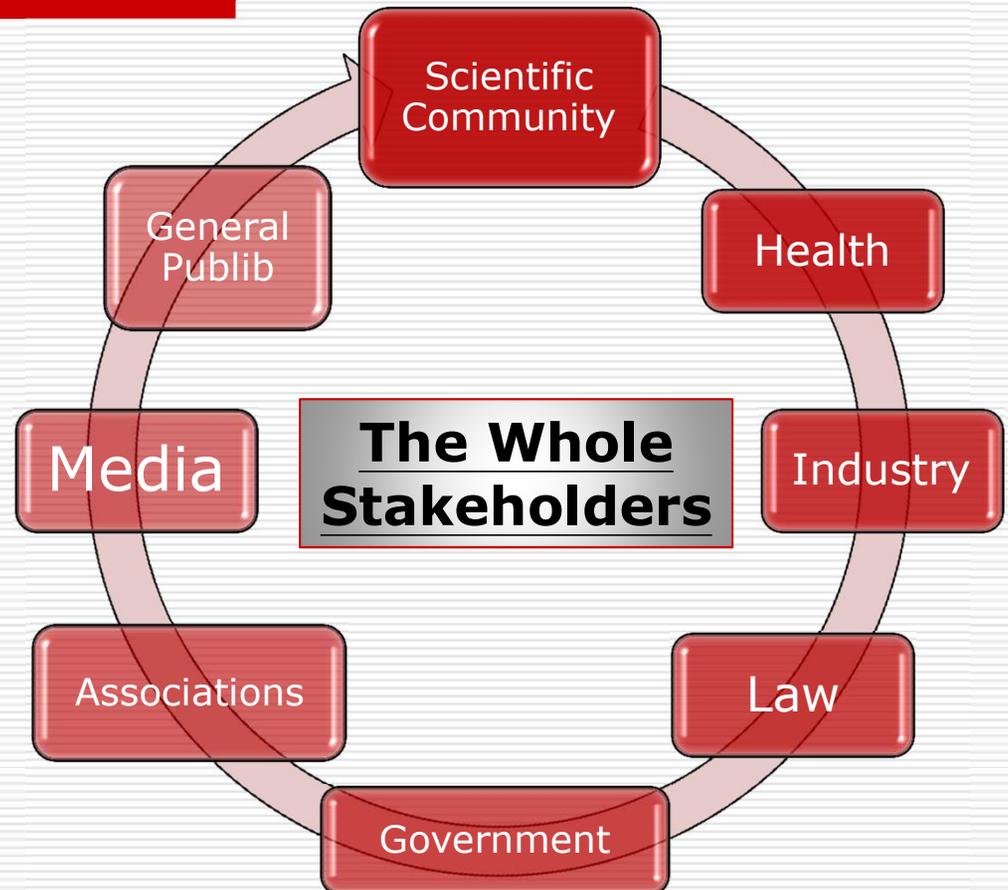
KEY QUESTIONS

WHAT TO COMMUNICATE

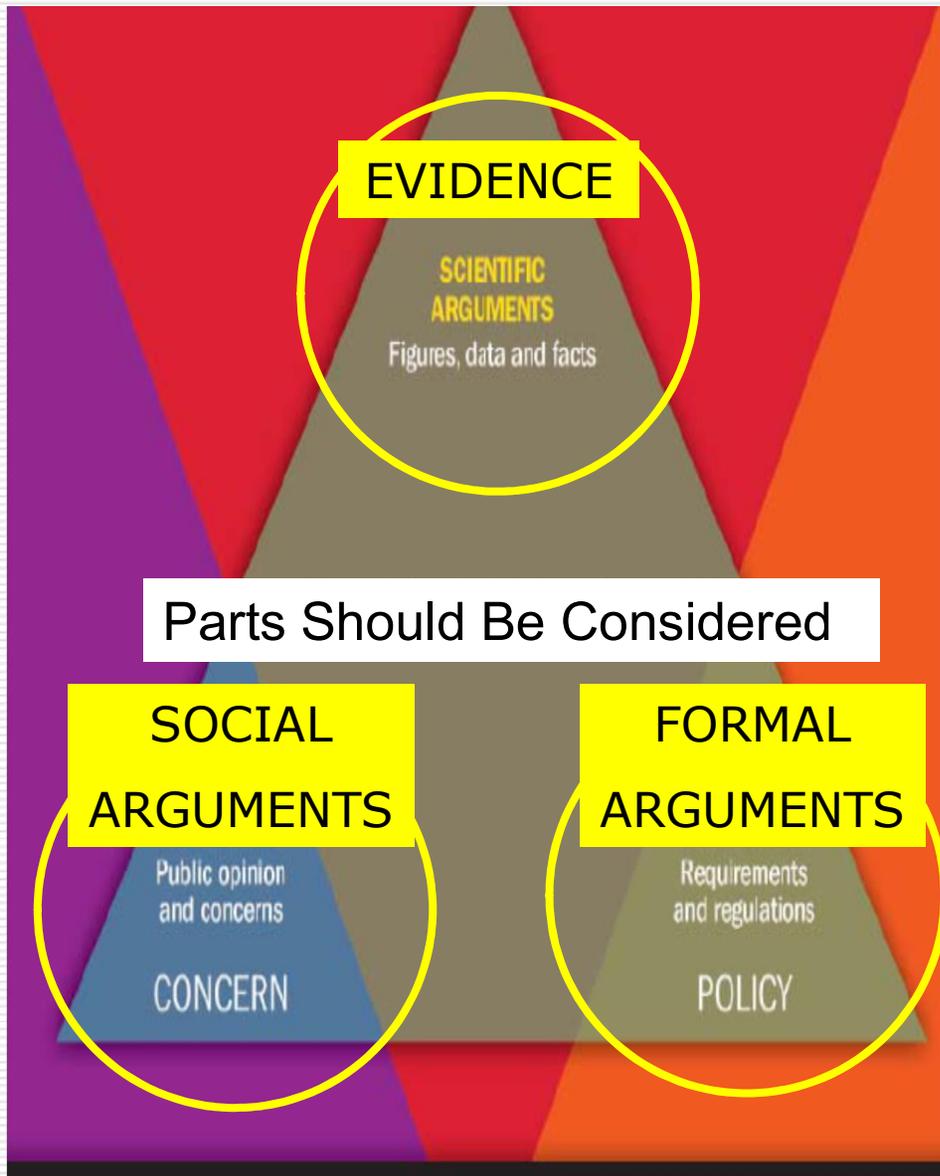
With whom to Communicate?

KEY QUESTIONS

- Who will be most interested in this issue?
- What is known about the interests, fears, concerns, attitudes and motivation of the stakeholders?
- What authorities are responsible for determining and implementing policy?
- Are there organizations with whom to form effective partnerships?
- Who can provide advice or scientific expertise?



How to Communicate?



KEY QUESTIONS

- What type of participation tool do you choose to address your audience?
- Where, when and under what circumstances does the discussion take place?
- What tone prevails?
- How formally is the situation handled?

From: Establishing a Dialogue on Risks from Electromagnetic Fields, WHO, 2002

Taiwan Experiences

- Arsenic in cooking oil
 - BSE and American beef
 - Plasticizer in drinks
 - Tainted cooking oil
 - Ractopamine and American beef
-

No Standards? What Standards?

油炸油換油規範 酸價試紙、油耗味可快速判定



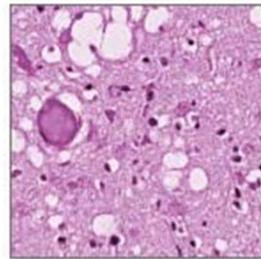
更新日期:2009/06/25 19:56 張嘉芳

速食業者及路邊攤使用劣化的油炸油引發爭議，衛生署 25 日舉行專家會議，會後除了修正酸價值標準，從現行的 2.5 調整為 2.0 之外，針對路邊攤還以「油耗味」是否出現刺鼻的油膩味，作為業者是否必須換油依據，衛生署強調即日起實施，業者未限期改善者，最高可處新台幣 30 萬元罰鍰。

日前消保官稽查國內知名連鎖速食業者與路邊攤商，發現油炸油數日未更換、油品已經劣化，由於衛生署對於餐廳使用油炸油並未訂定明確標準規範，引發監委主動介入調查，認為身為主管機關的衛生署與經濟部有怠忽職守之嫌。衛生署 25 日特地找來 8 位學者專家舉行會議，針對油炸油使用進行討論，會後也得到具體結論。

Bovine Spongiform Encephalopathy (BSE)

Brain shrinkage and deterioration occurs rapidly



Brain section showing spongiform pathology characteristic of Creutzfeldt-Jakob

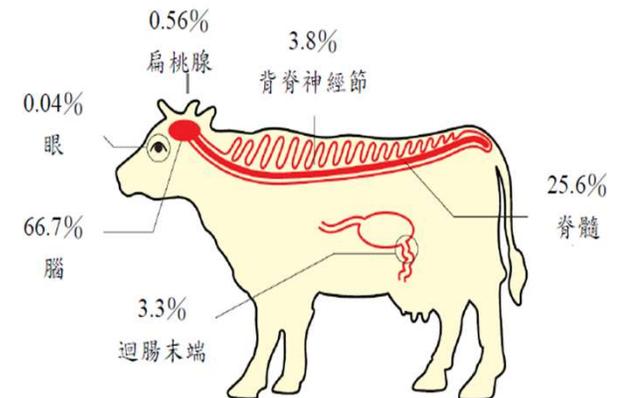
ADAM.

Low Risk?

BSE has very low risk of infecting humans and causing Creutzfeldt-Jakob disease (CJD) (2.72×10^{-11})

Not so low risk?

- Genes in Asian population + Meat processing + Food preference for Asian people + Cooking factors in Asian culture ~ Higher risk?



Bovine Spongiform Encephalopathy (BSE)

BSE Policy Changes

Date	Contents
2003/12	U.S. beef was banned in Taiwan
2005/04	The ban was lifted
2005/06	U.S. beef was banned in Taiwan
2006/01	The ban was conditionally lifted (deboned beef)
2009/05	The ban was lifted (bone-in beef and ground beef allowed)
2010/01	Ground beef and internal organs were banned
2010/04/01	The ban was conditionally lifted (tongues, penises, testes, tails, tendons and skirts)
2010/04/15	The first application for importing beef organs was granted
2010/04/20	The granted application for importing beef organs was retrieved

(2013) Food scare? ~ Tainted Oil?

大統食用油出問題



問題品項	特級橄欖油	葡萄綠茶多酚健康油	葡萄籽油	橄欖健康耐榨油	花生油
異常狀況	添加銅葉綠素	添加銅葉綠素	添加銅葉綠素	添加銅葉綠素	使用廉價食用油混充，沒有花生成分

● 毒物專家表示，銅葉綠素雖是食用色素，不能添加到食用油內，因食用油在高溫烹調過程中會釋出銅及氧化，人體吸收過量，會傷肝腎或造成貧血，長期會危害健康。

資料來源：彰化縣衛生局、彰化地檢署 / 中央社製圖

FDA says unaware of tainted oil (10/22/2013)



Yeh (Changhua County's Public Health Bureau) says 66 Chang Chi food products have been identified as violating the law, 34 of which had copper chlorophyllin illegally added to them and eight were counterfeited items. (10/28/2013)

700 millions of profit vs. 3.4 millions of penalty (7 years)

Always~ “Strict investigations and heavy fines”

The governments

- repeatedly fails to detect problems
- delays its announcements
- fails to investigate government officials or big business

Poor Risk Communication ~

Crisis of Confidence in all governments

Always~ “guarantee safety without sound scientific evidence”

The “experts” repeatedly fail to be

- precautionary
- impartial
- credible

Poor Risk Communication ~

Crisis of Confidence in science and academics

In a flooding situation, the following are the areas that can impact health and need to be assessed:

- Water
 - Sanitation and Hygiene
 - Vector Control
 - Epidemiological surveillance and basic health care
 - Chemical Hazards
 - Food
 - Public Awareness
-

KEY FINDINGS

EXTENT OF THE FLOOD IMPACT

IMPACT ON ACCESS

IMPACT ON SHELTER

IMPACT ON WATER AND SANITATION

IMPACT ON HEALTH AND NUTRITION

IMPACT ON AGRICULTURE, LIVESTOCK AND AQUACULTURE

IMPACT ON LIVELIHOODS

IMPACT ON FOOD SECURITY

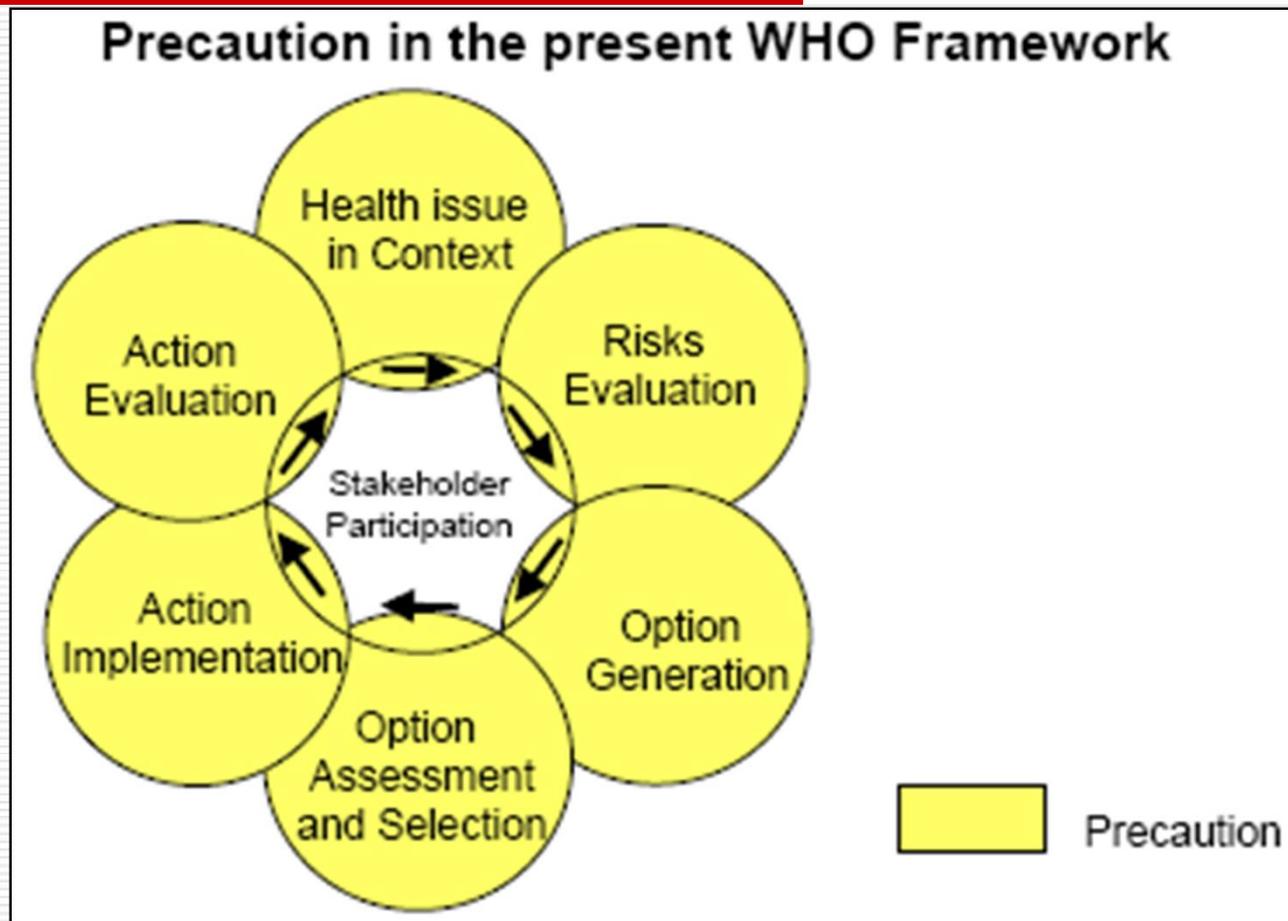
IMPACT ON EDUCATION

IMPACT ON PROTECTION

Short-term: < 3 months

Long-term: > 3 months

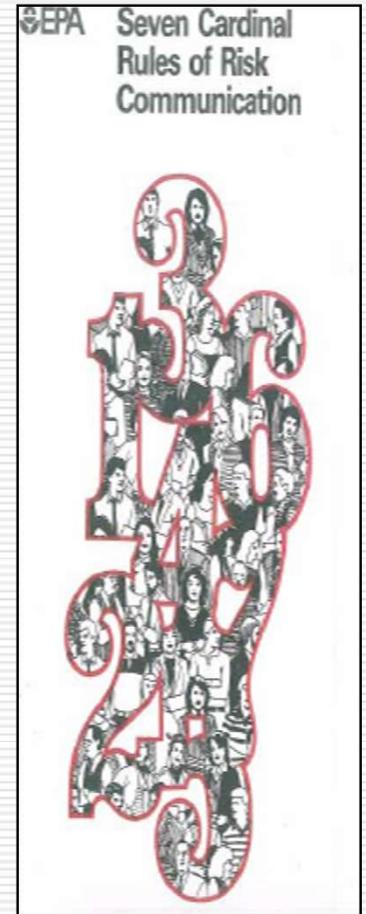
Precaution in WHO Framework



US EPA (1988)

Seven Cardinal Rules of Risk Communication

1. Accept and involve the public as a **legitimate partner**
2. Plan carefully and evaluate your efforts
3. **Listen to the public's** specific concerns
4. Be **honest, frank, and open**
5. Coordinate and collaborate with other credible sources
6. Meet the needs of **the media**
7. **Speak clearly and with compassion**



Thanks for your attention

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