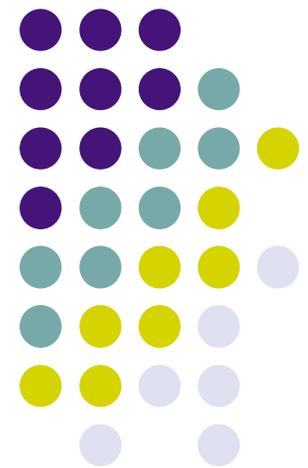


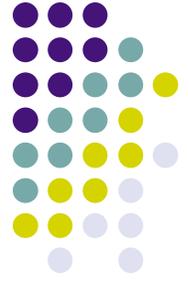
Communicating Radiation Risk to the Public

July 2006

Mark Radonich
Cultural Effect Consulting
206.669.5560



One-slide Agenda - OVERVIEW



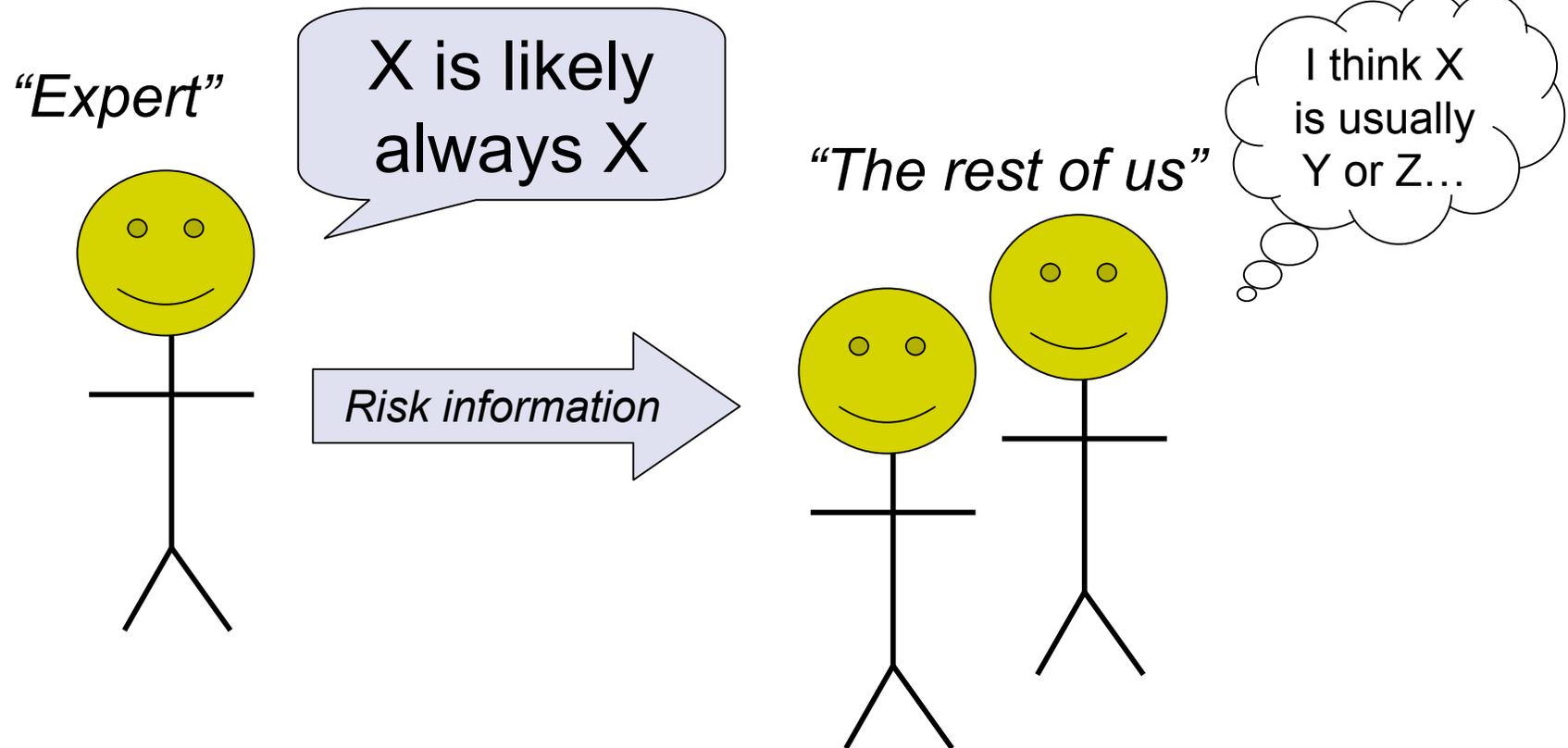
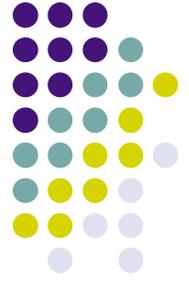
 Know what you know.

 Know about what you don't know.

 Know HOW you know; Embrace and understand your very self as an “expert”

 Use your expertise daily to share how you define “safe”, build trust and how you prevent “losses”

Classic Interpersonal Communication Model



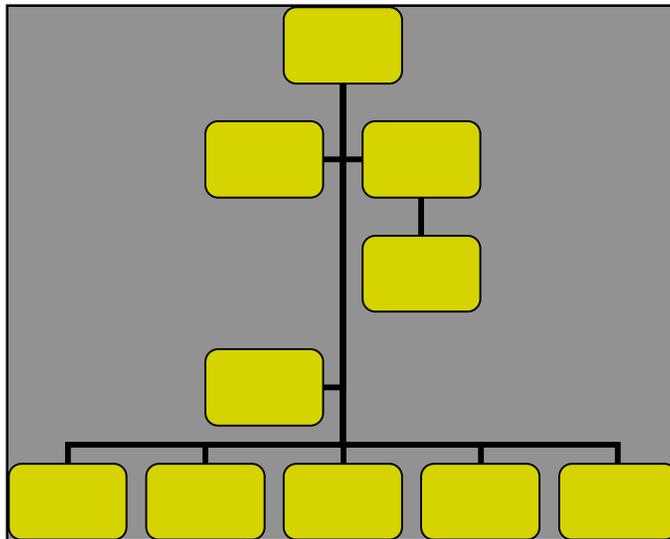
What experts think vs. everyone else: agree about 20% of the time.

– Dr. Peter Sandman, 1988.

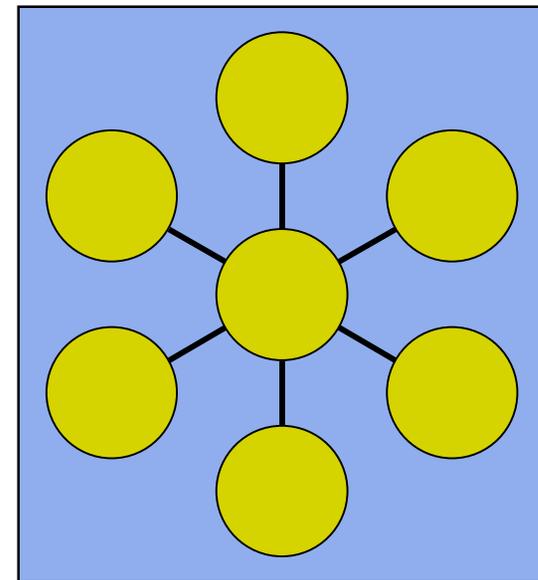
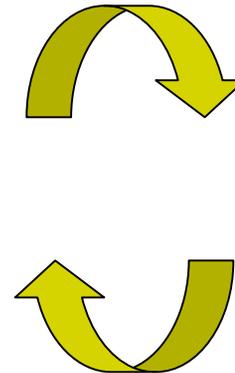
Organizationally speaking...



Technical organization

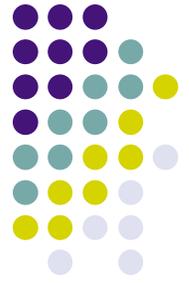


“Other” organization



How do they find agreement? Share understandings? Do “business”? Make decisions? Compete?

Should they?



What is Risk?

From Merriam-Webster:

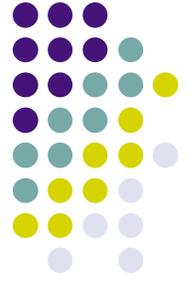
Etymology: French *risque*, from Italian *risco*

1 : possibility of loss or injury : PERIL

2 : someone or something that creates or suggests a hazard

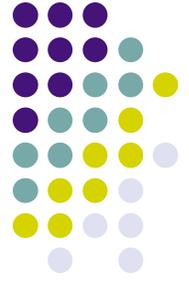
3 a : the chance of loss or the perils to the subject matter of an insurance contract; *also* : the degree of probability of such loss **b** : a person or thing that is a specified hazard to an insurer <a poor *risk* for insurance> **c** : an insurance hazard from a specified cause or source <war *risk*>

A Good Risk Definition



“The Probability of loss of that which we value.”

- Dr. Vincent Covello

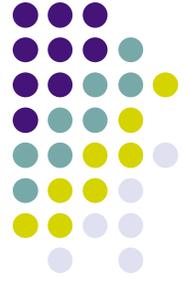


“Technical” Losses?

- Physical Life (or time lessened)/Health

Q: What else “of value” could persons lose?

Range of One's Own "Risk" definition



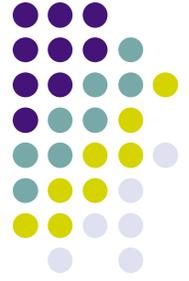
Technical

Personal

Health Statistics, PRA,
Mortality Studies, Hazard and
Scientific Assessments

Anecdotes, Observational
Evidence, Experiences,
Systems of trust and belief

Risk of Radiation Exposure?



At “low levels” of ionizing radiation – diagnostic, environmental, occupational:

Cancer

What else do people fear?

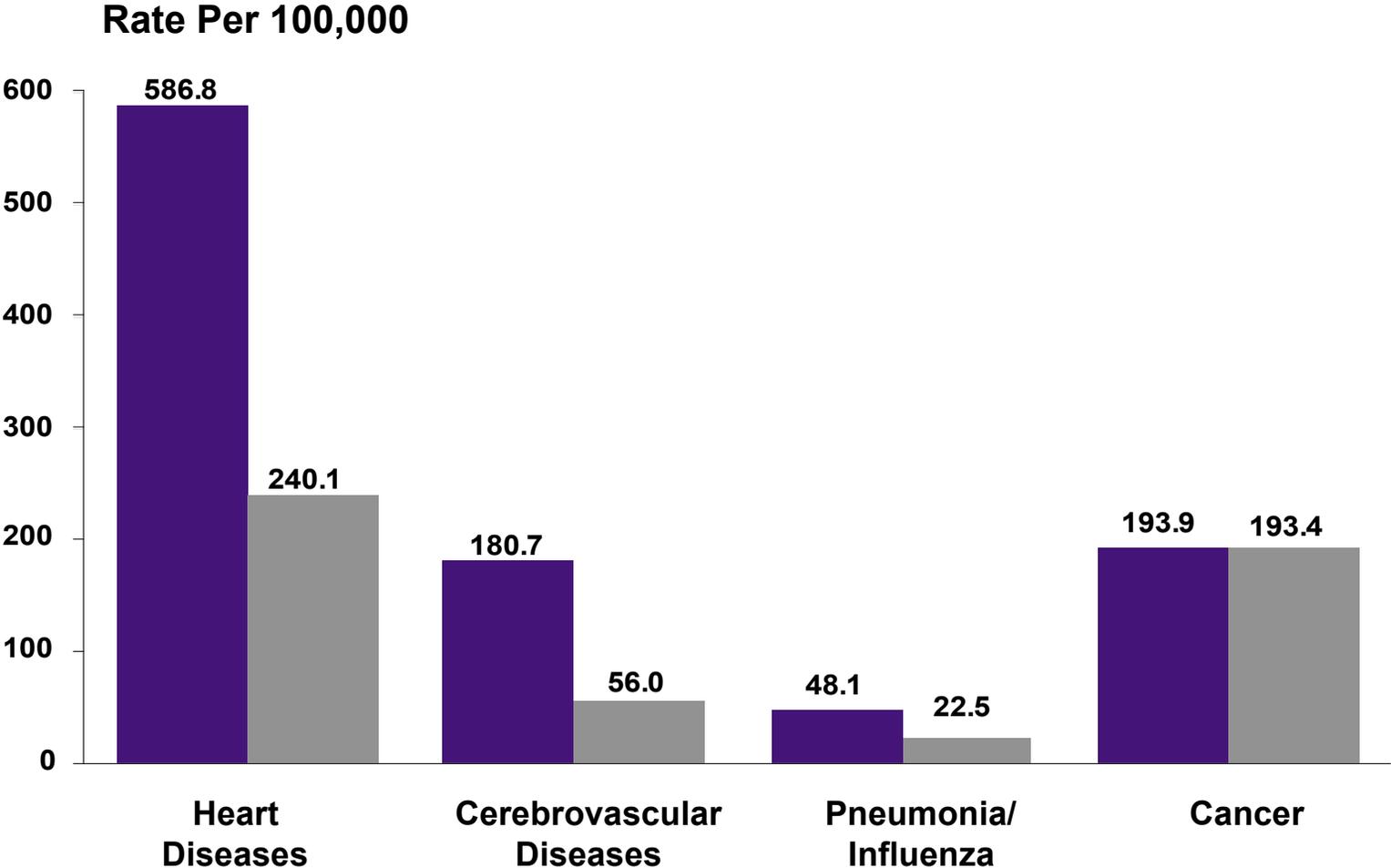
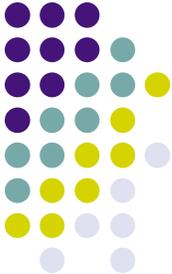
US Mortality, 2002 (technical risk?)



Rank	Cause of Death	No. of deaths	% of all deaths
1.	Heart Diseases	696,947	28.5
2.	Cancer	557,271	22.8
3.	Cerebrovascular diseases	162,672	6.7
4.	Chronic lower respiratory diseases	124,816	5.1
5.	Accidents (Unintentional injuries)	106,742	4.4
6.	Diabetes mellitus	73,249	3.0
7.	Influenza and pneumonia	65,681	2.7
8.	Alzheimer disease	58,866	2.4
9.	Nephritis	40,974	1.7
10.	Septicemia	33,865	1.4

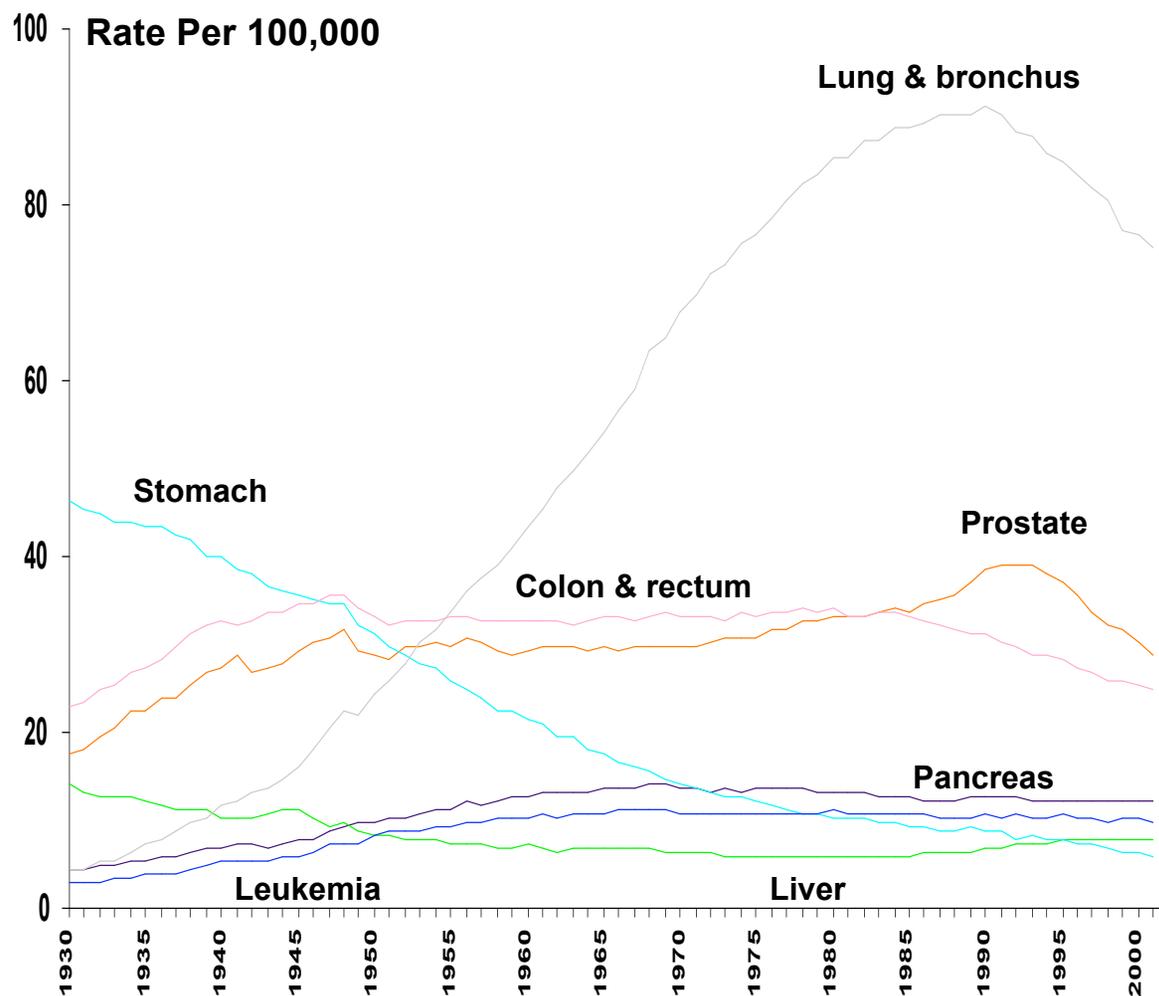
Source: US Mortality Public Use Data Tape 2002, National Center for Health Statistics, Centers for Disease Control and Prevention, 2004.

Change in the US Death Rates* by Cause, 1950 & 2002



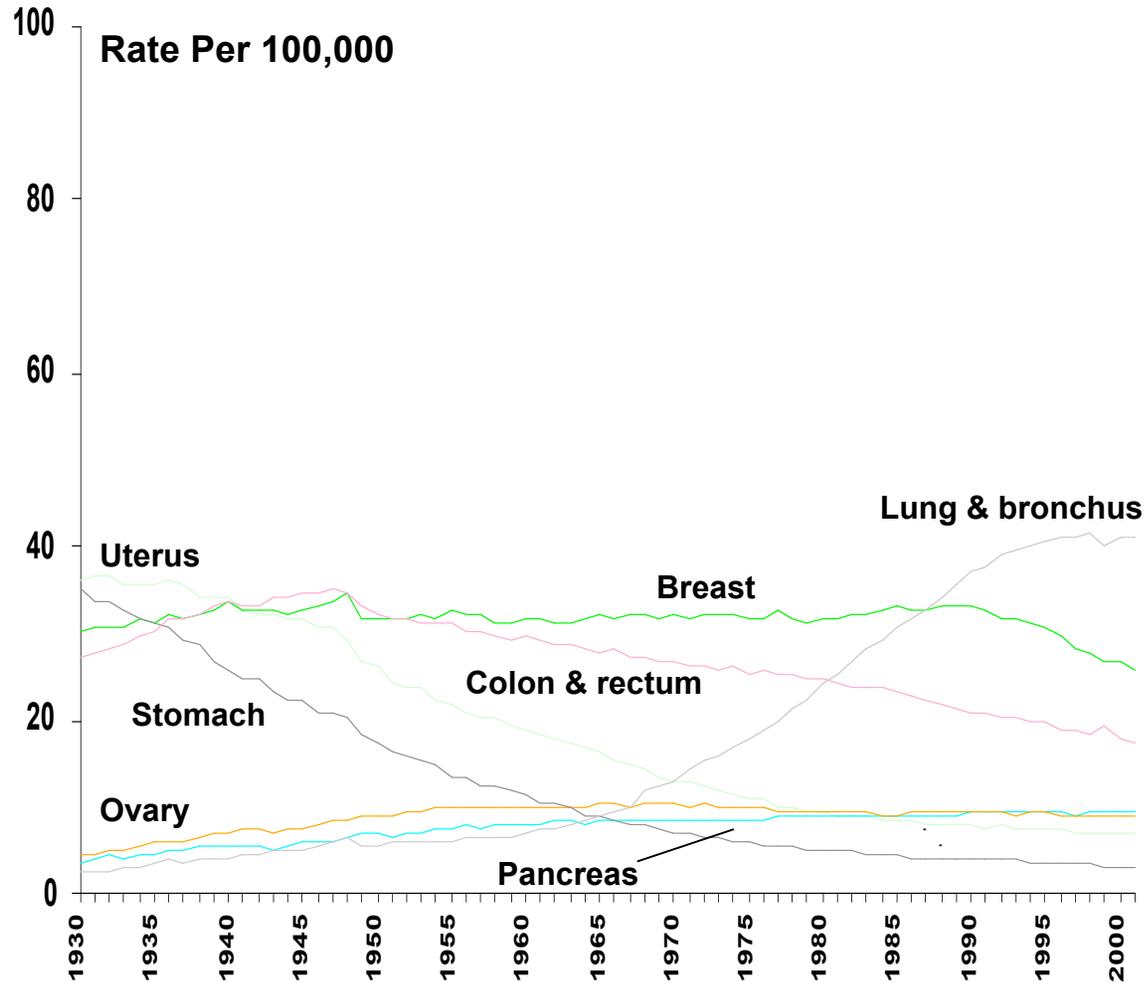
* Age-adjusted to 2000 US standard population. Sources: 1950 Mortality Data - CDC/NCHS, NVSS, Mortality Revised. 2002 Mortality Data: US Mortality Public Use Data Tape, 2002, NCHS, Centers for Disease Control and Prevention, 2004

Cancer Death Rates*, for Men, US, 1930-2001



*Age-adjusted to the 2000 US standard population. Source: US Mortality Public Use Data Tapes 1960-2001, US Mortality Volumes 1930-1959, National Center for Health Statistics, Centers for Disease Control and Prevention, 2004.

Cancer Death Rates*, for Women, US, 1930-2001



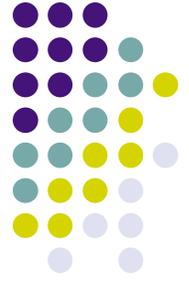
*Age-adjusted to the 2000 US standard population. Source: US Mortality Public Use Data Tapes 1960-2001, US Mortality Volumes 1930-1959, National Center for Health Statistics, Centers for Disease Control and Prevention, 2004.

Risk Communication



The study and practice of collectively and effectively understanding risks.

How Effective are we Now?



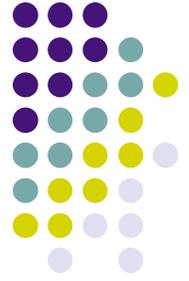
Q: Your experience in helping others understand risks as you understand them?

What experts think vs. everyone else: agree about 20% of the time.

— Dr. Peter Sandman, 1988.

Risk General Perception Factors

(Covello, Sandman)



Less Risk

Higher Risk

 Trustworthy Info Sources

 Untrustworthy Info Sources

 Substantial Benefits

 No/little Benefit

 Voluntary

 Involuntary

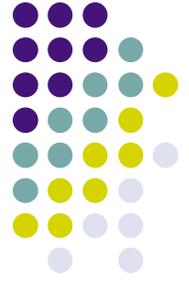
 Controllable

 Uncontrollable

 Fair/Equitable

 Unfair/Inequitable

Risk General Perception Factors, II



Less Risk

More Risk

 “Natural”

 Un-“Natural” (man-made)

 Familiar

 Unfamiliar/exotic

 Not dreaded

 Dreaded

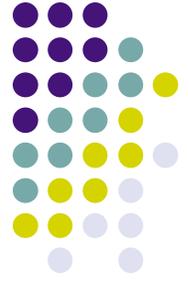
 Certain

 Uncertain

 Special populations not affected

 Special populations affected (children victims, etc)

Risk General Perception Factors, III



Less Risk

More Risk

 Unremarkable

 Memorable

 Moral/ethical

 Immoral/Unethical

 Clear non-verbal message

 Mixed non-verbal message

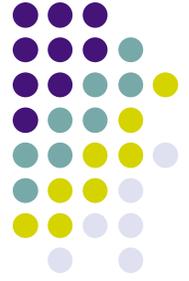
 Responsive

 Unresponsive

 Random/scattered event

 Catastrophic

Risk General Perception Factors, IV



Less Risk

More Risk

 No Media Attention

 Media Attention

 Statistical victims

 Identifiable victims

 Immediate effects

 Delayed effects

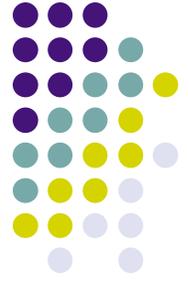
 Effect reversible

 Unreversible

 Well-understood

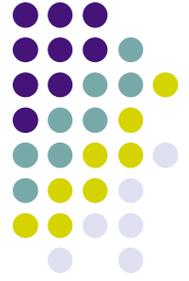
 Not well-understood

Risk Communication Benefits



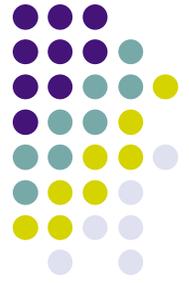
- Engender agreement
- Reduce mistrust/fear/stress
- Resolve conflict
- Improve knowledge/control
- Business becomes easier and cheaper

Risk Communication Challenges



- How is Risk Communication different than “PR” (aka spin)?
- Understanding your own role as an expert.
- An modern expectation of total safety
- It is an ongoing piece of work....
- Others?

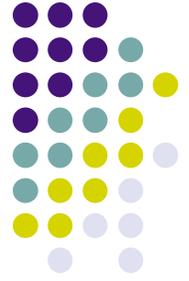
Needs for Risk Communication are not new....



“ EPA should consider involving risk communication experts in the development...of plans...we should also continue to develop staff expertise in risk communication.”

-EPA Memo to Administrator 7/12/87
(one year after Chernobyl)

WHAT I BELIEVE



**Risk Communication is not a solution unto itself.
It is a process to engage, and a skill to develop
personally.**

At best, it can help us make our jobs easier in the short term, and

make the atmosphere for our work and decisions regarding technology and public policy more accommodating in the long-term.