



Public Perception of Disease Clusters and the Need for Health Education

Presented by:

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PURPOSE

- Discuss the big picture of environmental health and its relation to human health
- Promote the need for health education within local communities



What are Disease Clusters?

- Occurrence of a greater than expected number of cases of a particular disease within a geographic area, a particular group of people or a certain period of time. (NCI)
- One type of cancer, rare type of cancer, OR cancer in age groups not usually affected. (CDC)
- A specific type of cancer occurring substantially more often than expected in a particular community (ACS)



SOME KNOWN CLUSTERS

- Birth defects – Mothers who took thalidomide during pregnancy in the 1960s
- Legionnaire's Disease – contaminated water in air conditioning ducts in the 1970s
- Pneumonia – Homosexual men in early 1980s
- Mesothelioma – Asbestos used in ship building during World War II and in manufacturing many industrial and consumer products
- Lung Cancer- Smoking



CLUSTER INVESTIGATIONS

RISK

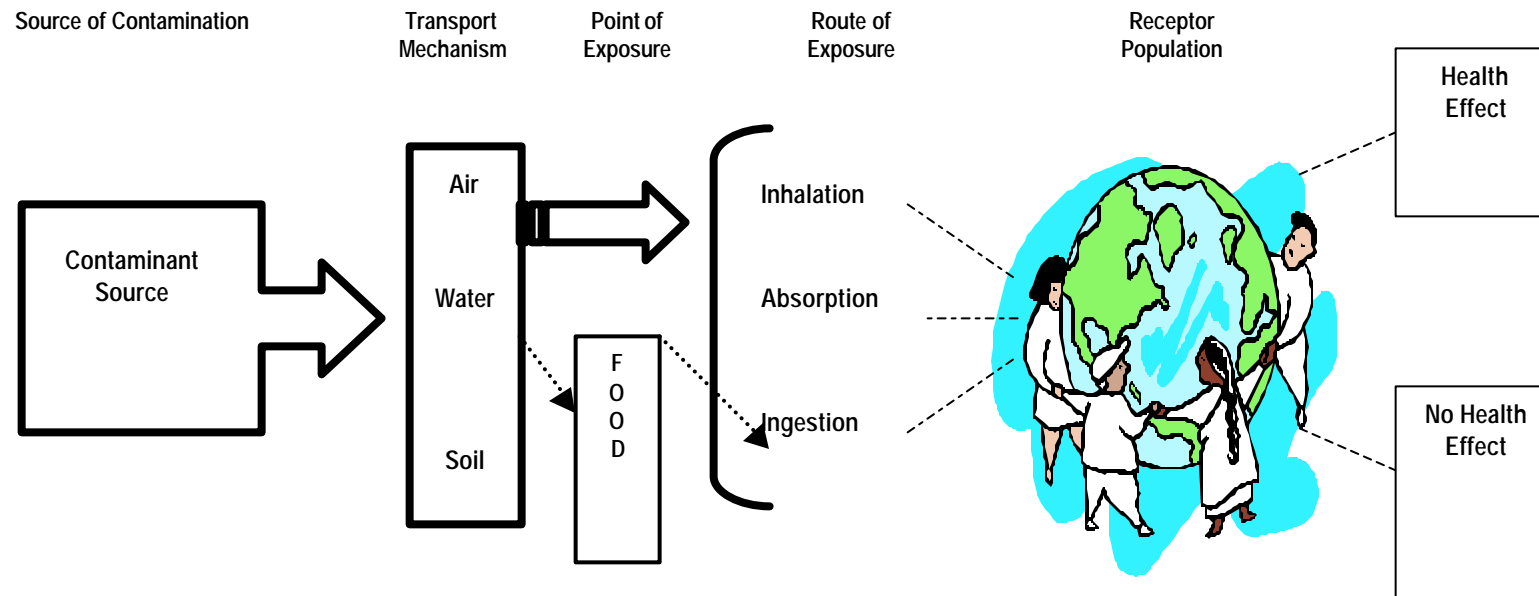
The probability that a substance will produce harm under certain conditions of use.





COMPLETED EXPOSURE PATHWAY

Environmental Health Paradigm





CLUSTER INVESTIGATIONS

Methodology

- Lengthy and expensive process
- Must be able to prove cause-effect relationship
- Quantifiable means of measuring
- Quantifiable means of expressing the measurement
- Quantify % population responding



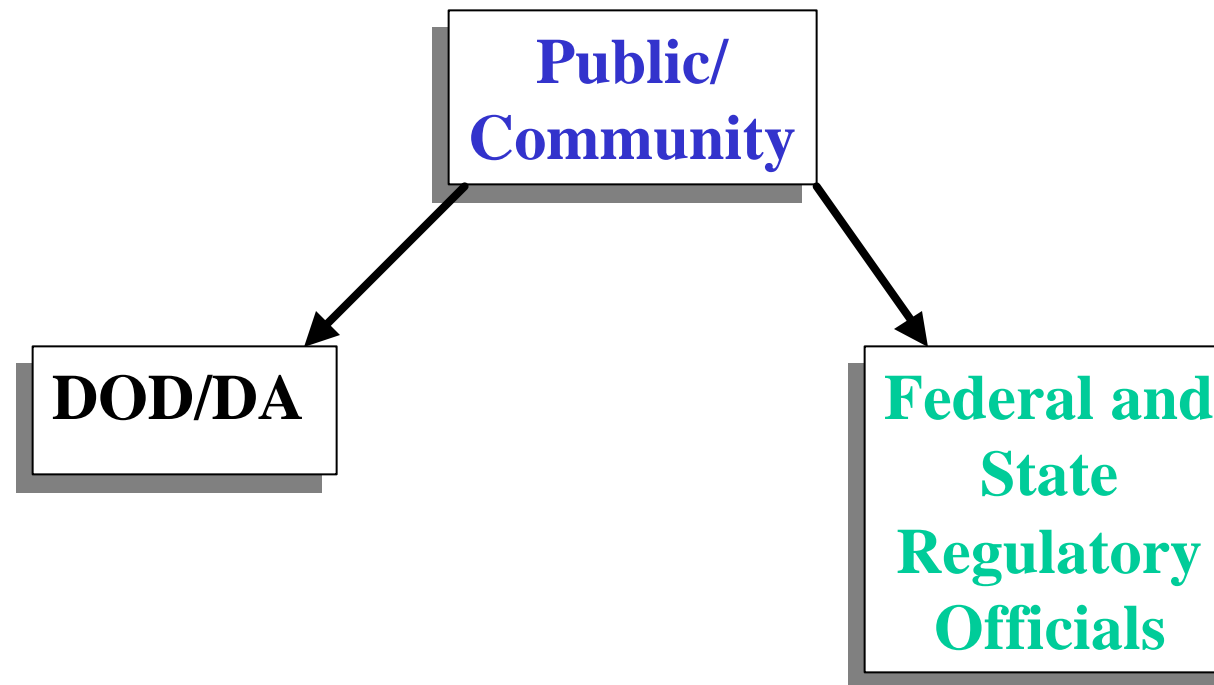
CLUSTER INVESTIGATIONS

Methodology: Challenges

- Methods for finding cause-effect relationships are limited
- Cases are too few for a clear analysis
- Must be able to address significance
- Sometimes politically driven
- Must be able to separate the exposed and effected populations from the general population



COMMUNICATION





What is Perception?

- Perception is reality
- The conscious mental awareness and interpretation of a sensory stimulus.
(Source: Academic Press Dictionary of Science Technology)
- Obtained from surroundings, specifically through senses and beliefs



PERCEPTION of RISK

- Uncertainty
 - Uncertain outcomes
 - Invisible vs. visible
 - Uncertain about exposure
- Loss of Control
 - Unable to determine degree of risk
 - Long life cycle of site
 - Slow clean up



PUBLIC PERCEPTION OF RISK

- Based on research by Paul Slovic, Univ. of Oregon, April 1987
- Examine judgment used to characterize and evaluate hazardous activities and technologies
- Research:
 - Helps policy makers and analysts to anticipate public response
 - Helps health and safety professionals communicate risk to general public



PUBLIC PERCEPTION OF RISK (cont'd)

- Risk assessment
 - Intellectual discipline designed to aid in identifying, characterizing, and quantifying risk.
- General public rely on “risk perception”
 - Intuitive risk judgments that come from experience (media, culture etc.)
 - “Zero Risk Society”



PUBLIC PERCEPTION OF RISK: Judgment Scale

- Status Characteristics
 - Voluntary
 - Dread
 - Knowledge
 - Controllability
- Benefits to Society
- Number of Deaths in an average year
- Number of Deaths in a disastrous year





PUBLIC PERCEPTION OF RISK: CONCLUSIONS

- Perceived risk is quantifiable and predictable
- Risk means different things to different people
- Acceptability is proportional to benefits
- Public will accept risk from voluntary activities



PUBLIC PERCEPTION OF RISK (cont'd)

- Presence of evidence does not change perception
- Strong initial views are resistant to change
- Contrary evidence tends to be dismissed as unreliable



CASE STUDIES

(cont'd)

- Fort Ord, CA
 - Prescribe burn activities hindered
 - UXO cleanup activities hindered
- Fallon Naval Air Station, Fallon, NV
 - ALL cancer cluster
- Vieques, PR
 - Community opposes to Navy training



CASE STUDIES

- MMR, MA
 - Region 1 EPA ordered the removal of UXO from Camp Edwards
 - Restriction on Army training activities
- Sierra Army Depot, NV
 - Senator and public seeks review of OB/OD permit, files suit against DA and installation
- Kelly Air Force Base, San Antonio, Texas
 - Community concern about elevated cancer rates and birth defects



COMMUNICATION/ EDUCATION

- Educate people about risk
- Reveal hidden agendas
- Must be two-way process
- Quantitative risk comparisons
 - Not usually helpful



COST ANALYSIS

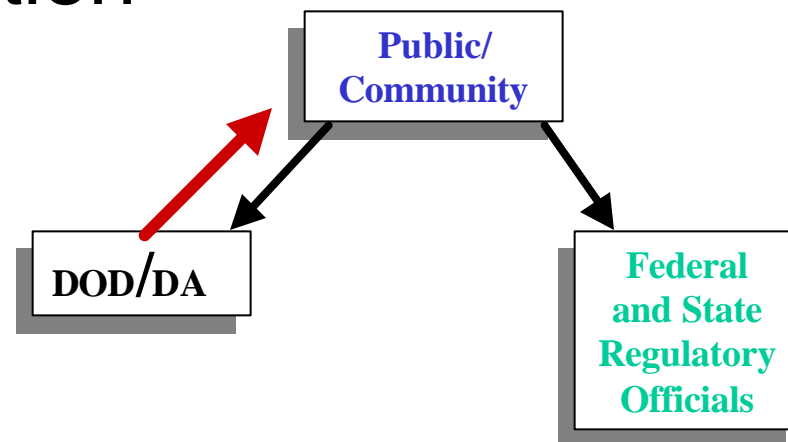
Table 2: Funds spent at and actions completed in 2000 to ATSDR.

ATSDR ACTIVITY	TOTAL	\$%
Health Assessments	\$30,680,401	52%
Health Studies	\$11,083,807	19%
Toxicological Profiles	\$13,556,640	23%
Health Education	\$3,795,150	6%
TOTAL	\$59,115,997	100%



COMMUNICATION

- Help community find and remediate the problem
- Build rapport (communication strategy)
- Risk Communication



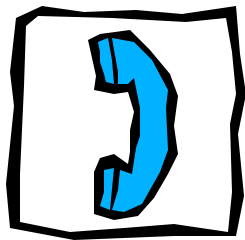


HEALTH EDUCATION

- Agency for Toxic Substances and Disease Registry (ATSDR)
- RABs
- Help community understand
 - Cancer
 - Contaminants
 - Exposure pathways
 - Limitations of available investigative methods



CONTACT INFORMATION



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