Databases critical to making wise decisions in response to a crisis.

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Database to Describe Nature

- There is information in DNA/RNA.
- Identify species of plants and animals
- Identify geographic origin of an individual or pathogen (postal code)
Creation of the Database

- Role of the museums:
  - Archival of tissues
  - Hanta virus example
- How complete is the dataset of diseases and vectors where human, agriculture, or economic crisis are possible?
- Molecular, computational, and genomic methods have great potential but funding is minimal.
Database to Describe Nature

- Identify diseases and vectors:
  - Geographic origin
  - Naturally occurring
  - Recombinant DNA creature

- Hemorrhagic Fever in Korea
Apodemus pallipes
Macrotus californicus
Cynopterus
Desmodus rotundus
Diagnosis of 180 cases of Undifferentiated Febrile Illness & thrombocytopenia over a 6 year period: Diagnosis made 1 day to 3 weeks after referral. (Courtesy of Dr. Gary L. Simpson)

- Hantavirus pulmonary syndrome (17)
- Bacterial sepsis (10)
- Plague (3)
- Tularemia (2)
- Borreliosis (5)
- Parvovirus B19 (5)
- Typhus-like fever (RMSF serol.) (5)
- Acute HIV-1 infection (3)
- Q fever (2)
- Acute rheumatic fever (2)
- Colorado tick fever (1)
- Bartonella species (5)
- Novel arenavirus (5)
- Undiagnosed = cryptic UFI (115)
Tsunami, Nuclear Power Plants and the Media

- The “Fear Factor”

- 150,000 elective abortions at Chernobyl.

- What kind of data justifies this level of response?
How do we prepare for a crisis?

- Potential funding problems
- Administrative problems
- Media problems
  - Example from athletics
- Education and training
Tsunami, Nuclear Power Plants and the Media.

- 14,0000 people killed by the tsunami
- That many people are unaccounted for
- Ø killed by radiation
- Media focused on nuclear power plants
- Choice of words used by the media
- Potassium Iodide tablets in Lubbock
What questions need to be answered in a bioterrorism crisis?

- What is the nature of the crisis?
- Is it natural?
- Is it man made? If it is then:
  - What humans created the crisis?
  - What was their intent?
- What is the real risk?
- What kind of data are needed for society to make informed decisions?