Development & Enhancement of Microbial Risk Assessment Capabilities

- Microbial Risk Assessment (MRA) is becoming mature discipline for understanding & dealing with human health & environmental exposures to microbes.
- Many Federal agencies, international groups & NGOs are currently developing MRA protocols, methodologies, tools, & models.
- Interagency & international efforts are in place to harmonize MRA protocols & methodologies.
- Concurrent international efforts to harmonize terms & definitions used in MRA.
- Federal government is sponsoring a number of R&D activities to develop MRA models for dose response & exposure, also other tools – use of genomics/proteomics, application of animal models, & understanding human disease defense mechanisms.
- Federal government also supporting development of QMRA for focused applications.

Improving Human & Environmental Resilience After Bioterrorist Attack Using QMRA - CAMRA

- Agencies support QMRA as a good tool for determining infectious disease risks in reg. development & emergency response & have in-house & extramural programs.
  - EPA plans QMRAs for drinking water regs. & recreational water & biosolids criteria. WHO's DWQ Guidelines also use the concept to establish Water Safety Plans. DHS & EPA Homeland Security Research wish to apply this tool to understand, monitor, & control bioterrorism risks.
- Typically, it's anchored to full MRA paradigms & has very targeted applications.
  - Often applies defaults, models, assumptions, or surrogates to set certain features for an assessment, thus fewer factors to be considered or data to be established.
  - QMRA still requires availability of key data sets to be successful.
- Today CAMRA will discuss their efforts to develop and evaluate a full QMRA approach for Anthrax under various bioterrorism settings.