2007 HHS PHEMC
Enterprise Stakeholders Workshop

National Institutes of Health's CBRN Medical Countermeasure Activities

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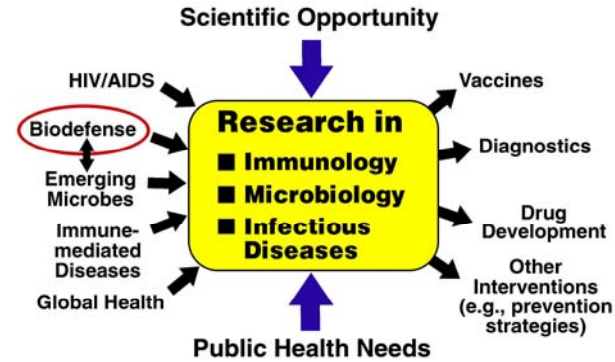
July 31, 2007

National Institute of Allergy and Infectious Diseases (NIAID) National Institutes of Health (NIH)



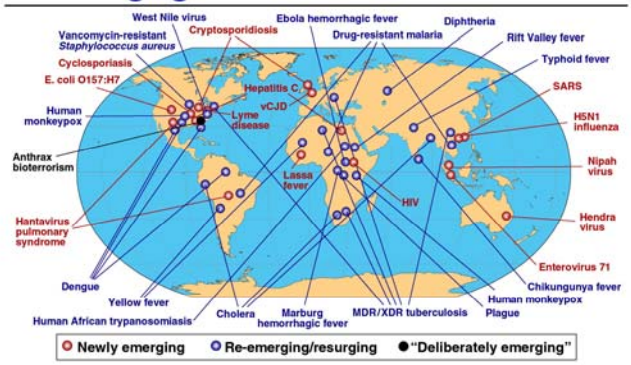
NIAID Infectious Disease Research: A Dual Mandate

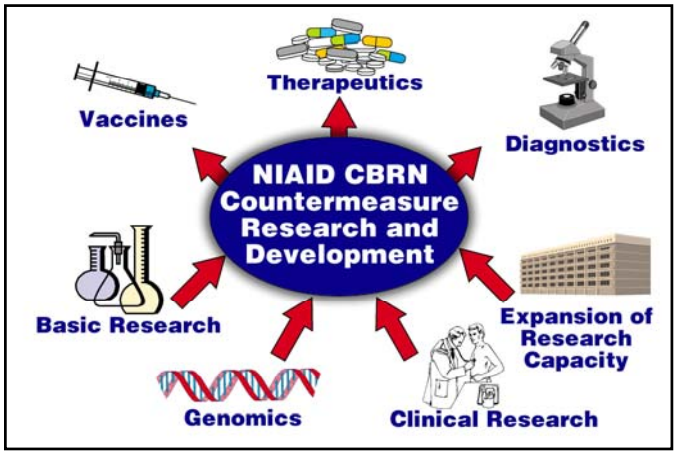
Maintain and "grow" a robust basic and clinical research portfolio in microbiology, infectious diseases and immunology

Respond rapidly to new infectious disease threats

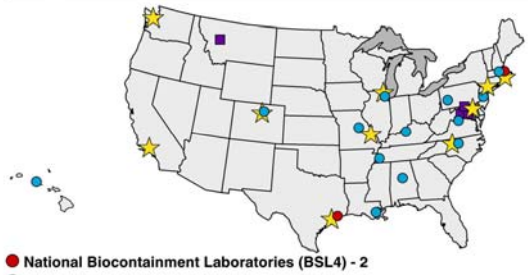
New/Improved Countermeasures

Global Examples of Emerging and Re-Emerging Infectious Diseases



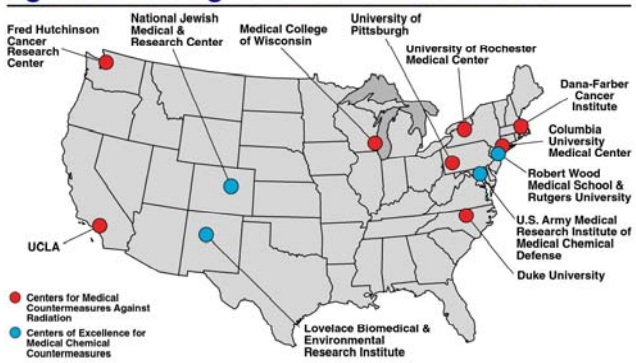


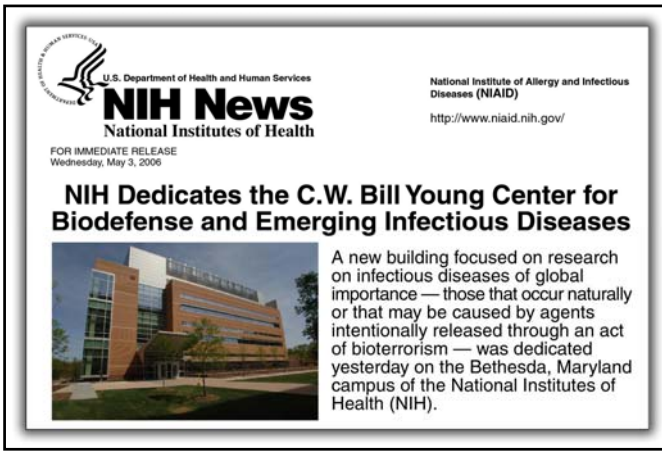
Expansion of Biodefense Research Capacity



- National Biocontainment Laboratories (BSL4) - 2
- Regional Biocontainment Laboratories (BSL3) - 13
- Regional Centers of Excellence for Biodefense and Emerging Infectious Diseases Research - 10
- New NIH Facilities - 4

Centers of Excellence for Medical Countermeasures Against Radiological and Chemical Threats





U.S. Department of Health and Human Services

NIH News

National Institutes of Health

National Institute of Allergy and Infectious Diseases (NIAID)

http://www.niaid.nih.gov/

FOR IMMEDIATE RELEASE
Wednesday, May 3, 2006

NIH Dedicates the C.W. Bill Young Center for Biodefense and Emerging Infectious Diseases

A new building focused on research on infectious diseases of global importance — those that occur naturally or that may be caused by agents intentionally released through an act of bioterrorism — was dedicated yesterday on the Bethesda, Maryland campus of the National Institutes of Health (NIH).

Rocky Mountain Laboratories Integrated Research Facility

- Construction is 99% complete
- Occupancy anticipated late 2007
- 105,000 gross square feet (47,000 net)
- BSL-2, BSL-3 and BSL-4 laboratory space

NIAID Integrated Research Facility at Fort Detrick, Frederick, MD

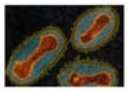
- Construction is 60% complete
- Occupancy anticipated September, 2008
- 146,000 gross square feet (51,000+ net)
- BSL-2 and BSL-4 laboratory space

NIAID Regional Biocontainment Laboratory: Duke Global Health Research Building, Durham, NC

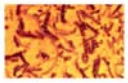
- Construction completed in February 2007
- 32,375 gross square feet (17,040 net)
- BLS-2 and BSL-3 laboratory space

Biodefense Countermeasures: Selected Advances

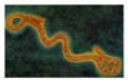
- Smallpox
  - Dryvax; MVA; therapeutics (ST-246)



- Anthrax
  - rPA; post-exposure vaccination; therapeutics (antitoxins)



- Ebola
  - First- and second-generation vaccines; therapeutics (RNA interference)



Development and Procurement of Next-Generation Smallpox Vaccine

NIH Biodefense Research

- Short-Term (0-2 years)
  - Anthrax monoclonal antibody therapy
  - Oral smallpox therapeutic
- Mid-Term (2-5 years)
  - Ebola therapeutic utilizing RNA interference
  - First generation multi-agent filovirus vaccine candidate
  - Multiplexed adaptive diagnostic systems
  - Broad spectrum antimicrobial

NIH Biodefense Research

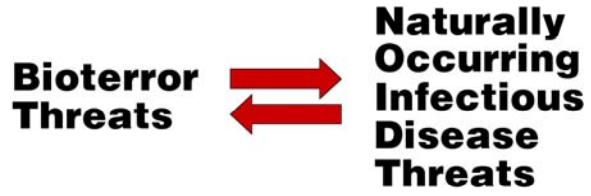
- Long-Term (>5 years)
  - Broad spectrum therapeutic platforms
  - Multivalent vaccine platforms
  - Immune-enhancement strategies
  - Range of monoclonal antibody therapies

NIH Rad-Nuc Countermeasures Progress

- 8 Centers for Medical Countermeasures against Radiation
  - Focus on biodosimetry
  - Agents to prevent, mitigate, and treat radiation injury
- Product Development Infrastructure Support
- Interagency Agreements with AFRRI and NCI

NIH Chemical Defense Countermeasures Progress

- Robust research & development pipeline
  - New drugs and diagnostics
  - Civilian use of military medical products
- NIH "CounterACT" Program (Countermeasures Against Chemical Threats) started in 2006
  - Establishment of 4 Research Centers of Excellence
  - Awards of > 23 research grants & contracts
- Research partnership (IAA) with U.S. Army



Influenza Highlights

Basic Research

- Genomic sequencing: ~2000 isolates released to GenBank
- Interface between avian and human influenza

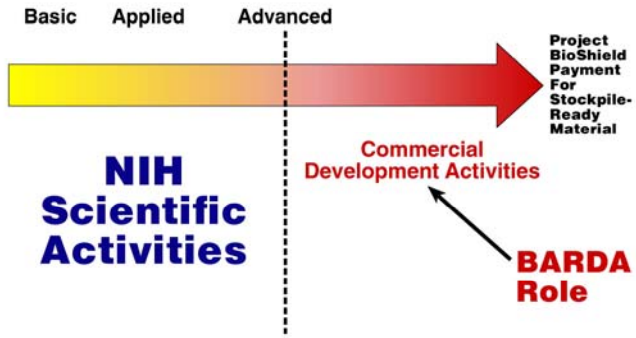
Diagnostics

- Utilizing new technologies for rapid and sensitive identification (e.g., MChip)

Therapeutics

- Maximizing potential use of existing drugs
- Developing new antivirals

Pre-Pandemic and Pandemic Vaccines

- New strategies/technologies to improve existing vaccines
- Development of strain-specific and "universal" pandemic vaccines

Bridging the Gap