

Hearing of the House Committee on Energy and Commerce,
Subcommittee on Health

The Role of the National Institute of Allergy and Infectious Diseases in Research Addressing Ebola Virus Disease

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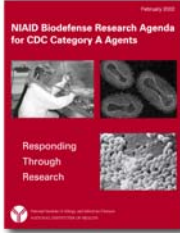

9/11 Attacks



2001 Anthrax Attacks



NIAID Biodefense Research Agenda for CDC Category A Agents



Responding Through Research

February 2002

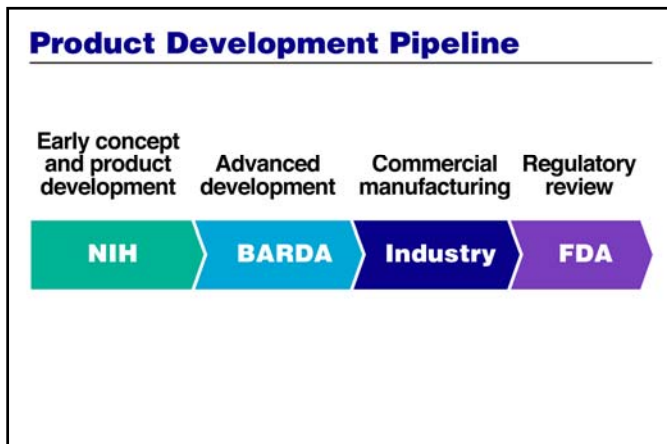
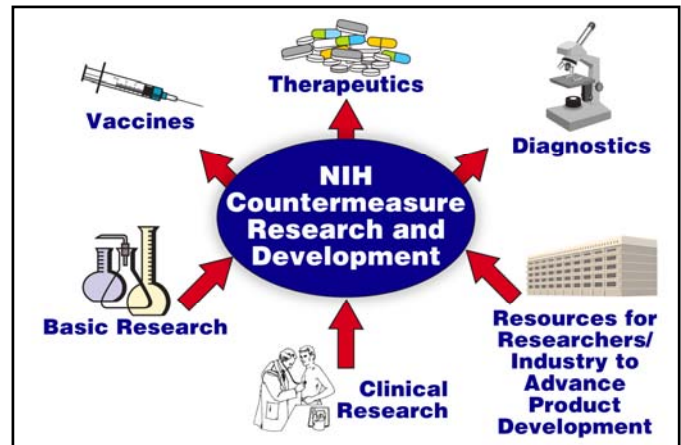
NIAID Biodefense Research Agenda for CDC Category A Agents



Responding Through Research

Category A pathogens

- Anthrax (*Bacillus anthracis*)
- Botulism (*Clostridium botulinum* toxin)
- Plague (*Yersinia pestis*)
- Smallpox
- Tularemia (*Francisella tularensis*)
- Viral hemorrhagic fever viruses (e.g., Ebola, Marburg, Lassa and Machupo)



NIAID Ebola Vaccines Ready to Proceed to Phase 2/3 Efficacy Testing in West Africa

- **NIAID/GSK (chimp adenovirus vector)** *Phase 1 trial at NIH fully enrolled; Phase 2/3 efficacy trials planned for West Africa*
- **NewLink (VSV vector)** *Phase 1 trials enrolling at NIH and WRAIR; Phase 2/3 efficacy trials planned for West Africa*

Other vaccines in development: Crucell/Johnson & Johnson (adenovirus vector) and Bavarian Nordic (MVA vector); Profectus (VSV vector); NIAID Intramural, Thomas Jefferson Univ. (rabies vector)

Ebola Therapeutics in Development

- **ZMapp (Mapp Biopharmaceutical)**
 - Combination of 3 artificially produced antibodies directed against the Ebola virus
- **BCX4430 (BioCryst)**
 - A novel drug (nucleoside analogue) that interferes with the reproductive process of the virus
- **TKM-Ebola (Tekmira Pharmaceuticals)**
 - Small inhibitory RNA molecule that interferes with the replication of the virus (supported by DOD)
- **Brincidofovir (Chimerix)**
 - DNA polymerase inhibitor; *in vitro* activity against Ebola
 - Good safety record; currently in phase 3 trials for CMV and adenovirus
- **Favipiravir (MediVector/Toyama/Fuji)**
 - Polymerase inhibitor; modest activity against Ebola
 - Currently in phase 3 trials for influenza

NIH Special Clinical Studies Unit: Designated Ebola Treatment Facility



The Washington Post

October 25, 2014

Nina Pham, Nurse Who Contracted Ebola, is Now Free of Virus and Leaves NIH



Photo: The Washington Post

Photo: Nina Pham