U.S. Department of Health and Human Services
Office of Public Health Emergency Preparedness

Implementing Project BioShield:
Government Goals, Priorities and Programs

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Biodefense for the US Government
Unprecedented opportunity

- A top priority and dedicated commitment among senior leaders of this Administration
- Generous bipartisan support from Congress
- Solid scientific foundation
  - Due in large part to the research that has been developed over many years at USAMRIID
  - Rapidly increasing database of basic research information about pathogens using 21st century biotechnologies such as genomics
- A strong private sector

Biodefense for the 21st Century

- **On 28 April 2004, HHS Secretary Tommy G. Thompson along with DHS Secretary Tom Ridge and DoD Deputy Secretary Paul Wolfowitz, announced the presidential directive "*Biodefense for the 21st Century*."**

- This Presidential Directive follows a comprehensive evaluation of biological defense capabilities and provides a blueprint for our future biodefense program.

Biodefense for the 21st Century

- Essential Pillars of national biodefense
  - Threat Awareness
    - Anticipation of Future Threats
  - Prevention and Detection
  - Surveillance and Detection
  - Response and Recovery
    - Capabilities required for response will be based on interagency-agreed scenarios that are derived from plausible threat assessments.
    - Mass Casualty Care
    - Risk Communication
    - Decontamination
    - MEDICAL COUNTERMEASURE DEVELOPMENT
- HHS will continue to lead the effort to ensure the development and availability of sufficient quantities of safe and effective medical countermeasures to mitigate illness and death in the event of a biological weapons attack.

Government Goals

- Develop, acquire, and stockpile the medical countermeasures needed to protect the U.S population against bioterrorism
- Coordinate stockpile acquisitions with response plans
- Make balanced investments in countermeasures commensurate with the threat(s) and response plans and within the limits of the budget

Project BioShield

Announced by President Bush in his State of the Union address on 28 January 2003.

Purpose: To accelerate the process of research, development, purchase, and availability of effective countermeasures against agents of bioterror.

Secretaries Thompson (HHS) and Ridge (DHS) jointly transmitted the "Project BioShield Act of 2003 to Congress on 26 February 2003.

- The House version of the bill (H.R. 2122) was passed by a vote of 421-2 on 16 July 2003.
- The Senate version of the bill (S. 15) was passed by a vote of 99-0 on 19 May 2004.
- The bill (P.L. 108-276) was signed by the President on 21 July 2004

Project BioShield

Three-pronged program:

- Establishes a secure funding source for purchase of critical biomedical countermeasures
- Increases NIH/NIAID authorities and flexibility to expedite research and development of critical biomedical countermeasures
- Establishes a FDA Emergency Use Authorization for critical biomedical countermeasures

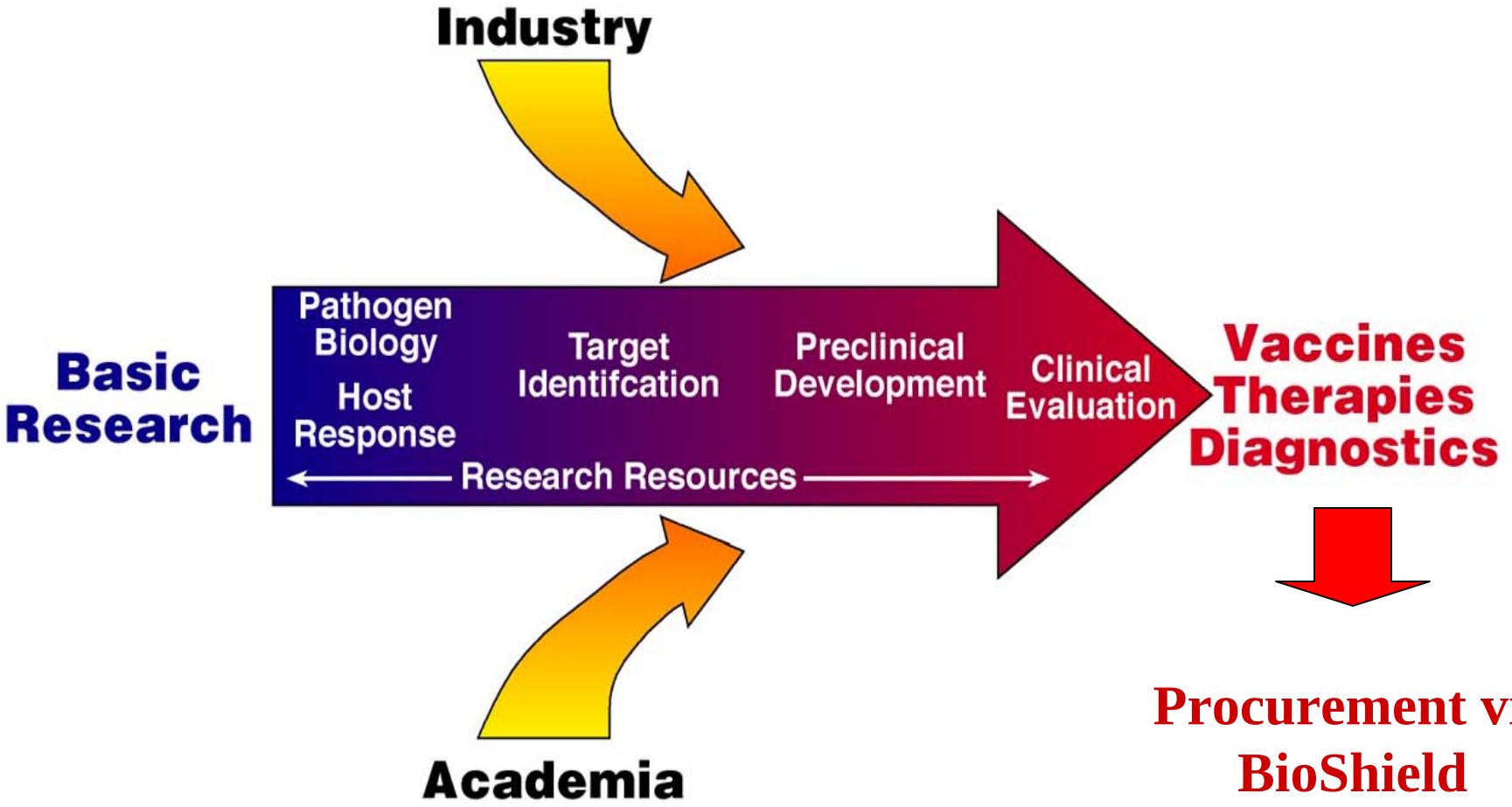
Project BioShield

The DHS appropriations bill (PL 108-90) signed by President Bush on 1 October 2003 **created a discretionary reserve of $5.6 billion to fund the program through FY2013. An amount not to exceed $3.4 billion may be obligated during FY2004-2008.**

Funding is available for countermeasures once production of licensable products is judged scientifically feasible. **HHS will be the procuring authority**.

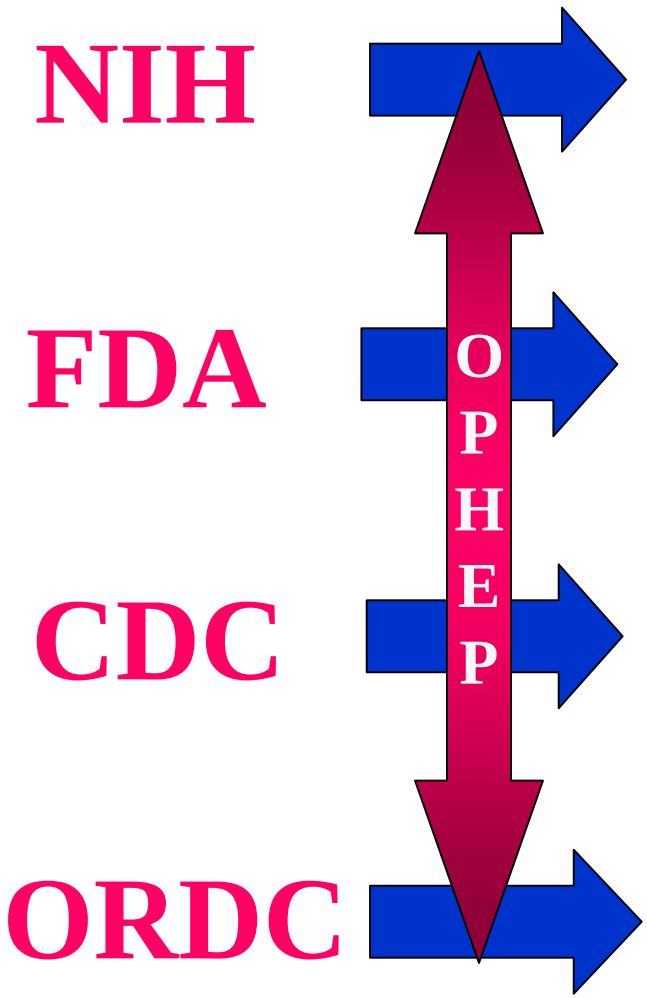
Amounts appropriated become available only upon the approval by the President.

Medical Countermeasures Pipeline



Procurement via BioShield

BioShield Implementation: Coordination within HHS



- Build Research Infrastructure
- Conduct Basic Research
- **Develop Medical Countermeasures**

- **Regulatory Approval**
  - o Vaccines, Therapeutics, Diagnostics

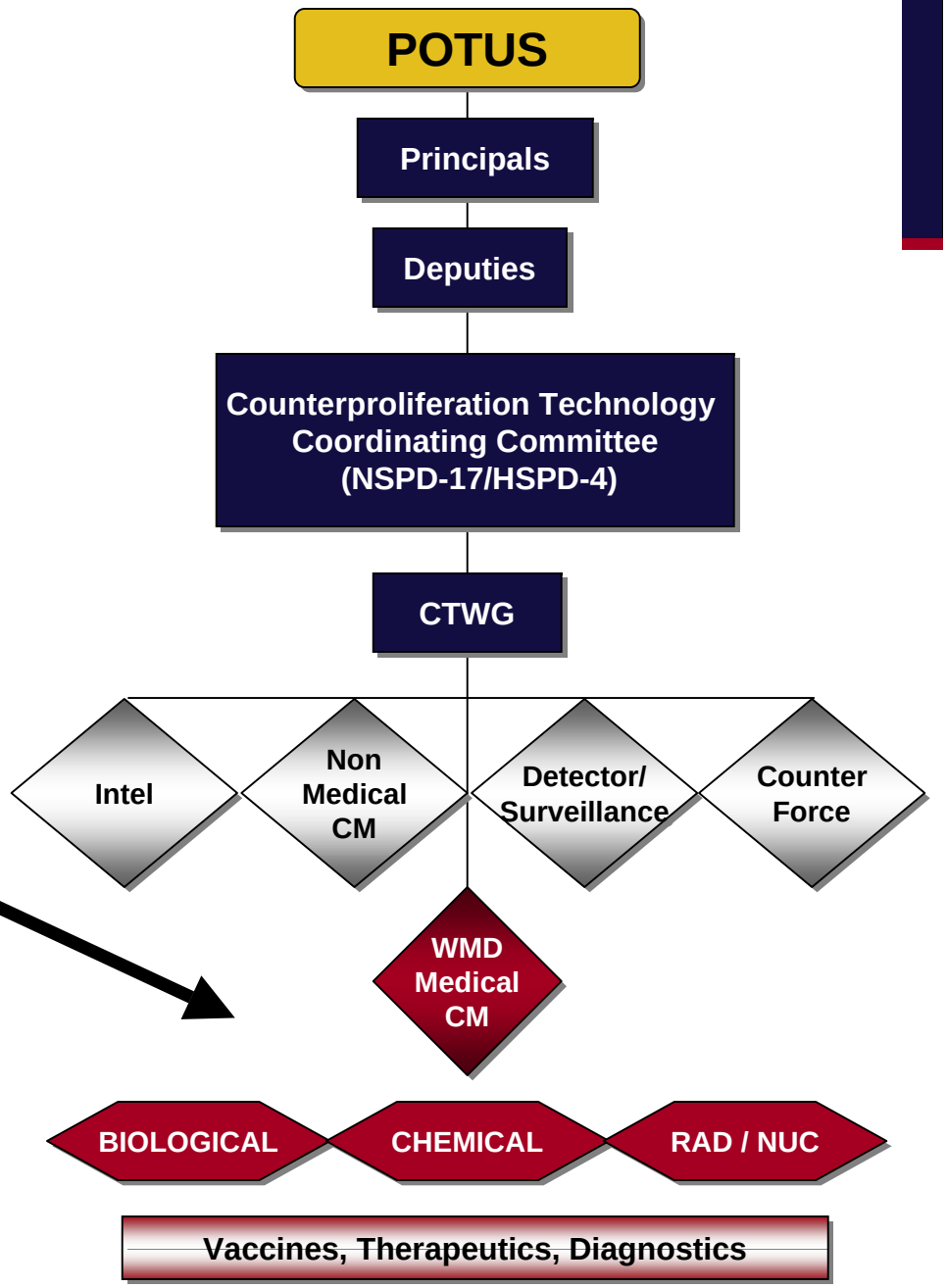
- **Strategic National Stockpile (SNS)**
- Train Local Response Teams
- Surveillance and Detection

- **Acquire Medical Countermeasures**
  - ***Execute Project BioShield***

BioShield: Interagency coordination

HHS has a leadership role in the WMD Medical Countermeasures Subcommittee

This interagency group will coordinate national requirements, acquisition strategies, and requests for Project BioShield funding



Stakeholders

Department of Health and Human Services
Department of Homeland Security
Department of Defense
(Centers for Disease Control and Prevention)
(Food and Drug Administration)
(National Institutes of Health)
Department of Agriculture
Department of Commerce
Department of Energy
Department of Veterans Affairs
Environmental Protection Agency
National Space and Aeronautics Administration
Intelligence Community (FBI, CIA)
Homeland Security Council
National Security Council
Office of the Vice President
Office of Science and Technology Policy
Office of Management and Budget

WMD Medical Countermeasures Subcommittee Goals

- Prioritize federal initiatives
  - Address immediate and long-term needs
  - Recommend national requirements for vaccines, drugs, antitoxins, diagnostics
  - Represent needs of civilian and military
- Coordinate research, development, and acquisition efforts of key federal agencies: HHS, DHS, and DoD
- Accelerate development of critical products via public-private partnerships

Factors Considered in Developing Requirements

- Credibility and immediacy of threat
- Target population
  - Who is targeted (civilian, military, high risk groups, other)?
  - In what settings would the countermeasure be used?
- Availability of alternative countermeasures
  - Current and projected
- Dosing schedule for prevention or treatment
- Feasibility of deployment in a public health emergency
- Product shelf-life and ongoing requirements

Bioterrorism Attack Scenarios

- **Department of Homeland Security** has lead responsibility
  - Directorate of Science and Technology
- A means of understanding and comparing various threats
- Based largely on intelligence
  - National programs – old and new
  - Terrorist intentions and capability
- Heavily dependent on scientific and technical knowledge of agents and delivery mechanisms
  - Significant knowledge gaps become apparent
- Important in judgments on size of stockpile
- Research on the threat agents will improve the quality of the scenarios

Evaluating the Effectiveness of Countermeasures

- Modeling medical consequences and effectiveness of response
  - HHS responsibility
  - Uses mathematical models to estimate casualties from an attack scenario and impact on the medical care system
  - Can be used to evaluate the effectiveness of various medical countermeasures
    - Pre-event vaccination, Post-exposure vaccination, Post-exposure antibiotics, Quarantine and isolation
  - Value of the models is dependent on the validity of the assumptions
    - Highly sensitive to estimations of infectious dose, transmission rate, incubation period
    - Knowledge gaps become evident and inform research agenda
  - HHS has begun a program to develop the best models for evaluation of medical countermeasures

Release of BioShield Funds

- Interagency Approval of Requirement
- Findings by Secretaries of DHS and HHS
  - Determination of material threat
  - Countermeasures are necessary
  - Appropriateness of the countermeasure
    - Numbers of doses required
    - Production & delivery is feasible within 8 years
    - Evaluation of commercial market
- Approval by the President

White House photo by Paul Morse

Contract Terms for Project BioShield

- No payment may be made until delivery has been made of a portion of the total number of units contracted for
- Discounted payment for product that is not licensed, cleared, or approved at the time of delivery.
  - Delivery to the SNS is contingent on the availability of sufficient data to support emergency use
- Vendor must seek approval, clearance, or licensure of product.
  - Additional payment upon licensure, clearance or approval
- Contract duration will be 5-8 years

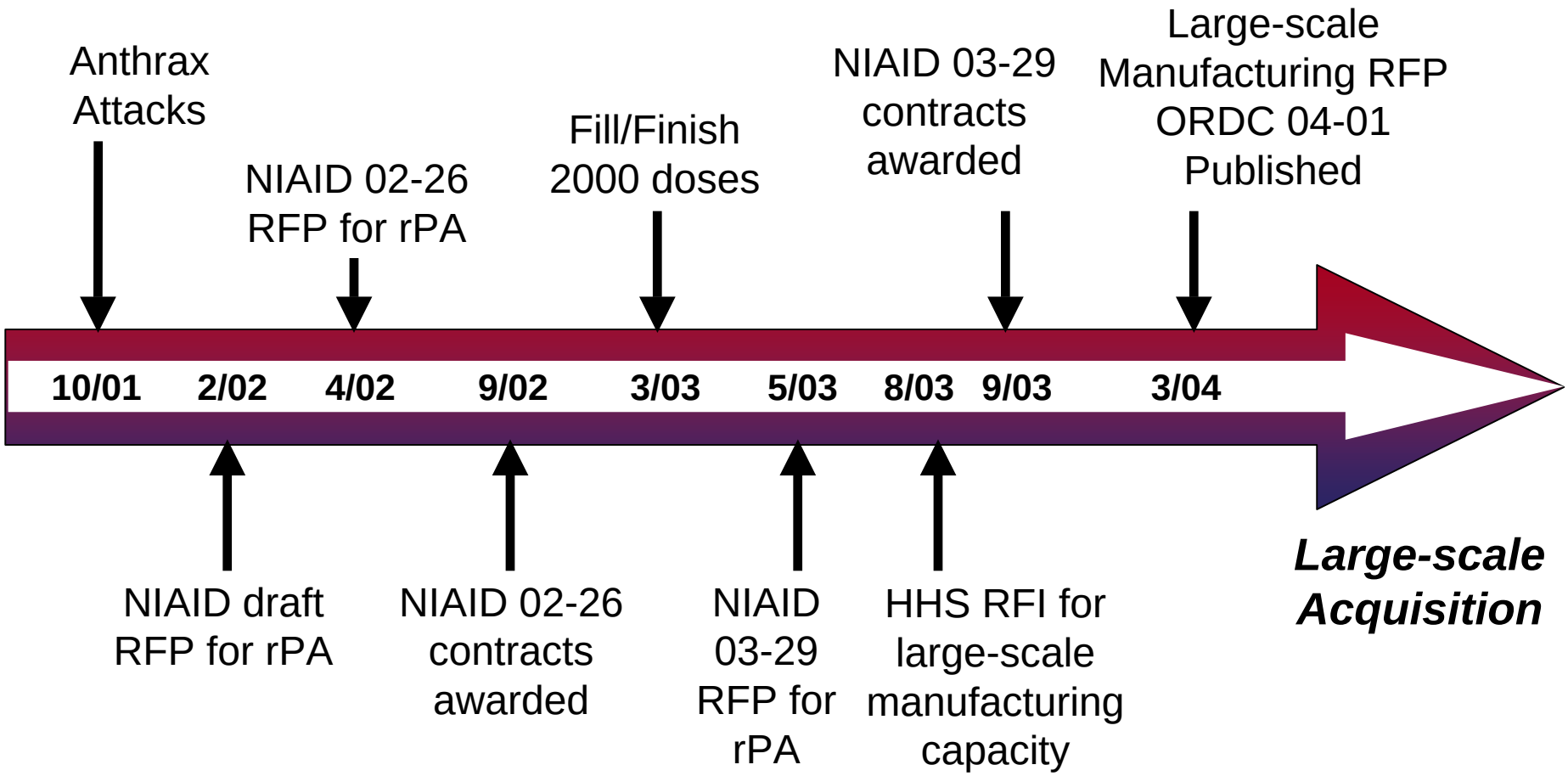
Conditions for BioShield Acquisitions

- Requirement that product will be approved or licensed within 8 years
  - A judgment based on the development status
  - Included in the Secretary's determination
  - Requires sufficient data to assure there are no major obstacles to licensure
    - Toxicology
    - Phase 1 trial
    - Pharmacokinetics or immunogenicity
    - Animal studies of efficacy
    - Demonstration of manufacturing capability
- Products in early development are ineligible
- Early and mid stage development must be funded by other government programs or industry

Stockpile Acquisition for the USG
Special Considerations

- Medical countermeasures in the Strategic National Stockpile must be compatible with a large-scale public health emergency response
  - Storage configuration
  - Packaging
  - Administration (# of doses, dosing schedule, delivery system)
- Shelf Life/Stability considerations

Timeline for HHS Anthrax rPA Vaccine Development Program



Project BioShield Procurements

Acquisition of rPA Anthrax Vaccine for the Strategic National Stockpile

- RFI issued in August 2003 to collect information about large-scale manufacturing capabilities for next generation anthrax vaccines
- RFP Issued 3/11/04; Proposals Received 4/23/04
- Solicitation Number RFP-DHHS-ORDC-04-01 (http://www.fedbizopps.gov/)
- Deliverables include:
  - Up to 75 million doses for rPA Anthrax vaccine, 25 million doses to be delivered within 2 years of contract award
  - FDA approval letter for the BLA for pre-exposure prophylaxis
  - FDA approval letter for the BLA supplement for post-exposure prophylaxis
  - Ongoing Quality Control/Quality Assurance monitoring of SNS stored product and ongoing stability testing of the retained lots of product in SNS
  - Submission of final study reports as evidence of completion for special population trials, including pediatric and geriatric populations
  - One (1) lot of Bulk Drug Substance per year to maintain cGMP capacity (warm base) for the production of rPA anthrax vaccine for the life of the contract

Project Bioshield Procurements

Acquisition of Therapeutic Products for Treatment of Inhalational Anthrax Disease

- RFI issued 12/24/03 (CDC); RFI issued 3/31/04; RFP issued 8/18/04; proposals due 10/26/04
- Solicitation Number 2004-N-01385 (http://www.fedbizopps.gov/)
- Acquisition of therapeutic products for the SNS to treat inhalational anthrax disease:
  - Immune globulin and polyclonal antibodies
  - Monoclonal antibodies
  - Non-antibody toxin inhibitors, e.g. small molecular entities
- Sample purchase for comparative testing by USG
- Subsequent acquisition of 10,000-200,000 therapeutic courses of treatment from one or more producers

RFI: Therapeutics to Treat Neutropenia and Thrombocytopenia Associated with the Acute Radiation Syndrome (ARS)

- RFI issued 10/19/04; responses due 12/20/04
- Solicitation Number **RFI-ORDC-05-01** (http://www.fedbizopps.gov/)
- ARS, or radiation sickness, is an acute illness caused by a high dose of penetrating radiation. Exposure results in severe neutropenia and thrombocytopenia.
- The Government has an interest in identifying sources of therapeutics likely to be effective in preventing or reducing the development of neutropenia and/or thrombocytopenia when administered at times after acute exposure to radiation.
  - The Government is particularly interested in identifying therapeutics that are effective when given several hours to days after exposure.
- Data obtained from this RFI will be used by DHHS in making recommendations and decisions on the development of an appropriate procurement strategy to meet the Nation's bioterrorism defense needs.

" Science can be effective in the national welfare only as a member of a team, whether the conditions be peace or war. But without scientific progress no amount of achievement in other directions can insure our health, prosperity, and security as a nation in the modern world."

Excerpt from "*Science- The Endless Frontier: A Report to the President on a Program for Postwar Scientific Research*" by Vannevar Bush, Director of Scientific Research & Development under President Franklin D. Roosevelt, July 1945.