The Role of the Food and Drug Administration in Biodefense

BioShield Stakeholders Workshop
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Overview

- FDA mission
- FDA activities to increase the availability of safe and effective medical countermeasures (MCMs)
  - Critical Path
  - Opportunities for MCMs
  - Animal Rule
  - Emergency Use Authorization

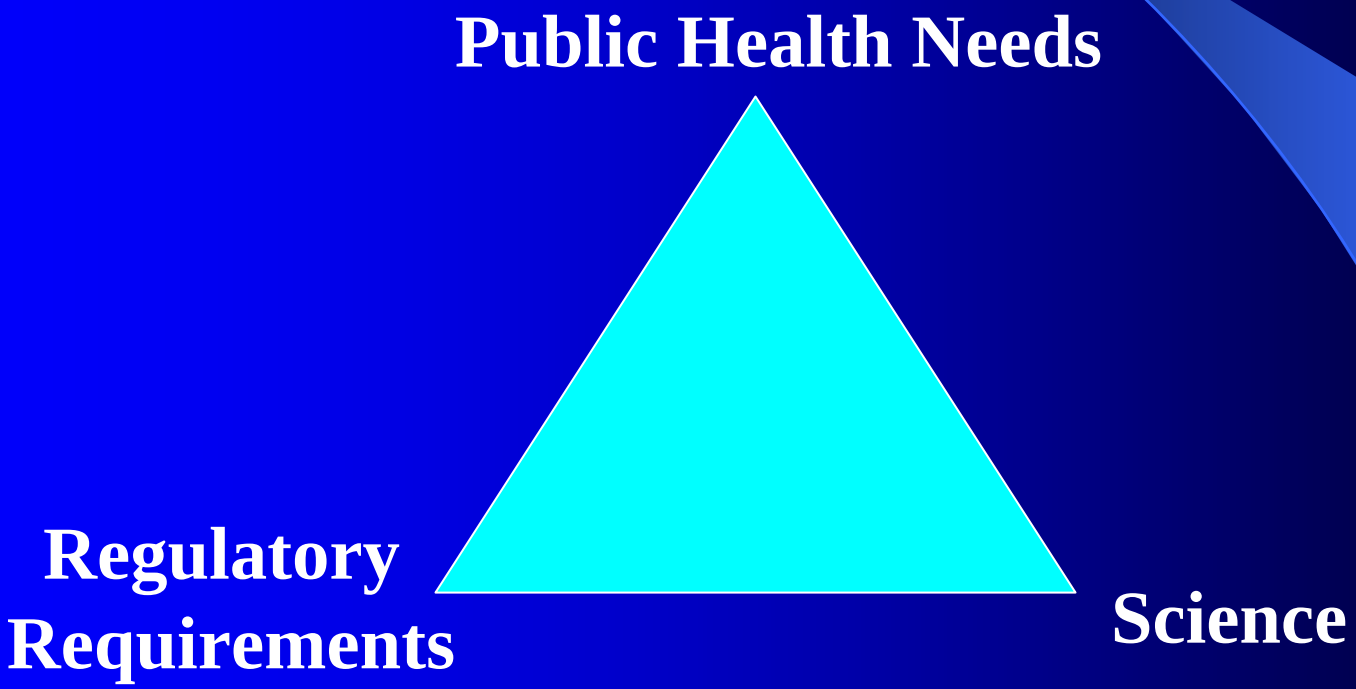
FDA Mission

- Responsible for protecting the public health by assuring the safety, efficacy, and security of human and veterinary drugs, biological products, medical devices, our nation's food supply, cosmetics, and products that emit radiation

FDA's Counterterrorism Mission

1. **Facilitate development and availability of medical countermeasures.**
2. Protect the safety and security of regulated medical products.
3. Enhance emergency preparedness and response capabilities.
4. Implement comprehensive food security strategy.
5. Ensure safety and security of agency assets.

FDA's Medical Countermeasure (MCM) Development Balance



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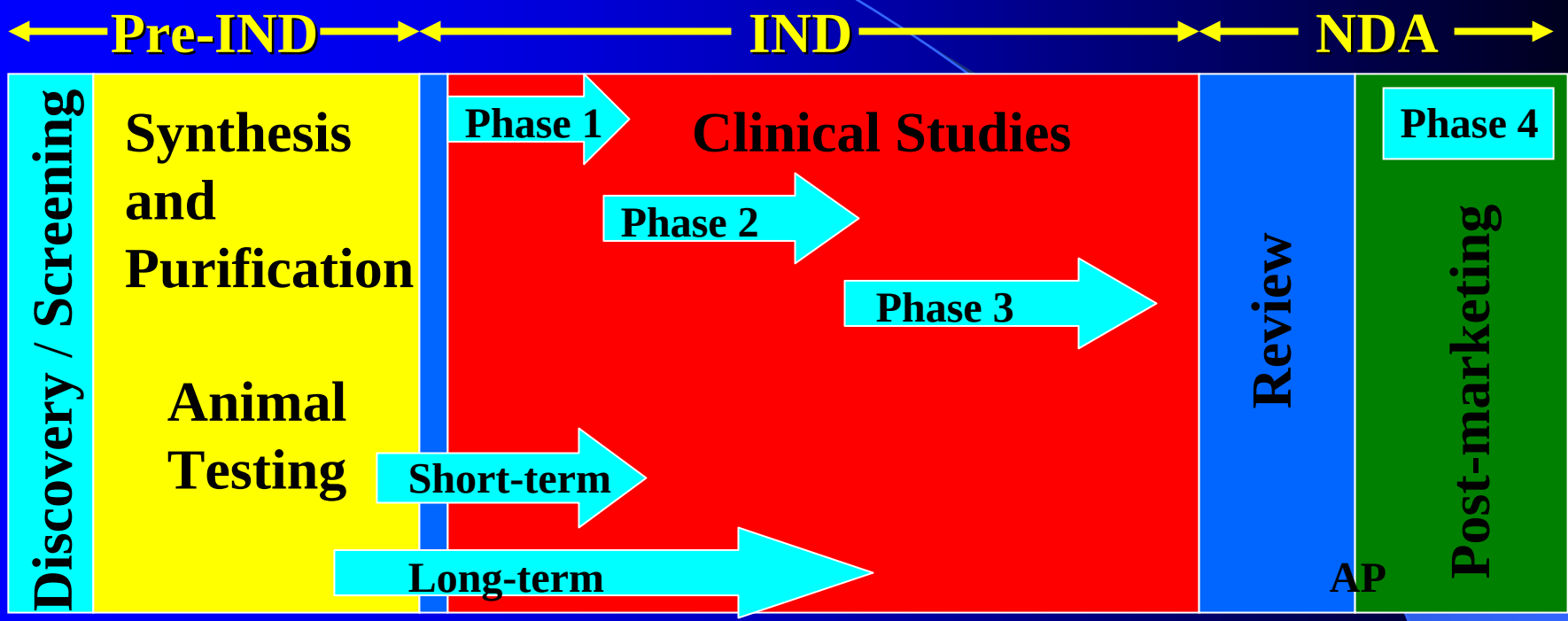
Role of FDA Centers/Offices in MCM Development

- Centers
  - CBER (Center for Biologics Evaluation and Research)
  - CDER (Center for Drug Evaluation and Research)
  - CDRH (Center for Devices and Radiological Health)
- Office of the Commissioner
  - Office of Counterterrorism Policy & Planning

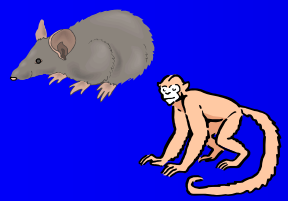
Office of Counterterrorism Policy and Planning (OCTPP)

- Established in 2003.
- Provides focused guidance and leadership in CT policy.
- Strategic planning
  - Sets FDA CT priorities
- Policy leadership
  - Represents FDA in CT policy issues
  - Analyzes FDA CT policy issues within context of greater CT universe
- Coordination and communication on CT policy
  - Serves as the point of entry to FDA
  - Facilitates intra-agency and inter-agency communications

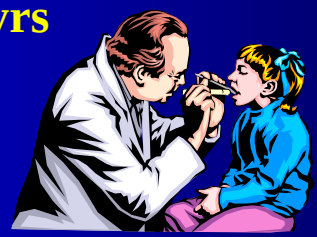
"Traditional" Drug Development



Avg: 5 - 7 yrs



Avg: 6 - 7 yrs



Avg: 10 mo - Standard
Avg: 6 mo - Priority

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Critical Path Initiative

- "Innovation/Stagnation: Challenge and Opportunity on the Critical Path to New Medical Products"
- Agency initiative to address challenges and opportunities of critical path to new products.
- 3 dimensions along critical path:
  - Ensuring product safety
  - Demonstrating medical utility
  - Product manufacturing

Challenges to MCM Development

- Few precedents for CT markets.
- Need to encourage speed and innovation while not compromising safety.
- Need for effective risk communication process.
- Need for public trust.

FDA's Role: MCM Development

- Working proactively with product developers and the scientific community
- Early collaboration reduces likelihood of 'surprises' and multiple review cycles
- Pre-IND / Pre-IDE meeting
- "Pre-Pre-IND/IDE" meeting
  - Prepare sponsor for pre-IND/IDE meeting
  - Ensure data are in correct form and with required analysis

Regulatory Tools/Approaches

- Streamlined INDs/Contingency INDs
  - Approved product/unapproved indication
  - Facilitates use in larger population than traditional and emergency INDs
- Fast-Track Designation
  - Drugs or biologics for serious or life-threatening conditions that demonstrate the potential to address unmet medical needs
  - Rolling submission of NDA
  - Review time approx 6 mos.

Regulatory Tools/Approaches

- Priority NDA Review
  - Generally for products of public health significance; a potential therapeutic advance over existing therapies
  - Review time approx 6 mos.
- Accelerated Approval
  - Use of surrogate endpoints thought reasonably likely to afford benefit in morbidity/mortality
  - Confirmatory clinical study requirement (Phase 4)
  - Potential restricted distribution

Animal Rule

- "Evidence Needed to Demonstrate Effectiveness of New Drugs When Human Efficacy Studies Are Not Ethical or Feasible" [Bio, Chem, Rad, Nuc]
  - Drugs (Subpart I): 21 CFR 314.600-650
  - Biologics (Subpart H): 21 CFR 601.90-95
- Not for devices
- Efficacy extrapolation from scientifically valid animal(s) model
- Safety data from humans
- Consider if Accelerated Approval is not an option
- Includes Phase 4 data collection

Animal Rule

- Mechanism of disease and countermeasure reasonably well understood.
- Efficacy demonstrated >1 animal species expected to predict response in humans, or a single species if "sufficiently well-characterized" model of human response.
- Endpoint studied in animals should be clearly related to desired benefit in humans.
- Data must be sufficient to select dose for human use.
- Good laboratory practices (GLP) required for animal studies.

Emergency Use Authorization (EUA)

- Allows for use of "investigational" MCMs during a declared emergency
  - Unapproved products and unapproved uses of approved products
    - Drugs, devices, and biological products
    - Not yet approved, cleared, or licensed
  - Involves a chemical, biological, or radiological/nuclear (CBRN) agent

EUA Criteria

- Agent (CBRN) is responsible for serious, life-threatening disease or condition
- It is REASONABLE to believe that the product MAY BE EFFECTIVE in Dx, Rx, prevention

EUA Criteria

- *Known and potential benefits* of the product, when used to diagnose, prevent, or treat such disease or condition, outweigh the *known and potential risks* of the product

- No adequate, approved, and available alternative
  - Includes MCM needs for “special populations”

EUA Criteria

- Case-by-case evaluation of whether criteria are met
  - Depends on circumstances of emergency
- In consultation with the Directors of CDC & NIH (where practicable)

EUA Prerequisites

- Domestic emergency (or significant potential for domestic emergency) by DHS
- Military emergency (or significant potential for military emergency) by DoD
- Public health emergency that affects (or has significant potential to affect) national security by DHHS
- Sec'y of DHHS declares emergency justifying EUA based on one of these determinations

EUA Conditions

- Healthcare providers/authorized dispensers and affected individuals are informed about:
  - Risks & benefits
  - Alternative interventions
- No Consent but individuals also option to accept or refuse product
  - (exception -- Presidential waiver for DOD personnel)
- Monitoring and reporting of adverse events
- Recordkeeping and reporting; data collection and analysis

FDA's EUA Milestones

- Jan. 05 EUA issued to DoD for use of anthrax vaccine to prevent inhalation anthrax
- Apr. 05 Issued 2 EUAs during TOPOFF 3 exercise
- Jun. 05 Issued 3 EUAs during Pinnacle exercise
- Jul. 05 Published EUA Draft Guidance; Extended term of DoD EUA
- Jan. 06 DoD EUA terminates
- Jul. 06 Published notice of EUA Guidance: Information Collection

Review

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