Overview of U.S. FDA Center for Biologics Evaluation and Research

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US Food and Drug Administration

Application of Pharmacovigilance to U.S. FDA Regulatory Decisions for Vaccines

June 2, 2012

Outline

- FDA: a regulatory agency granted the authority to ensure that U.S. licensed vaccines are safe and effective
- Structure of FDA and the Center for Biologics Evaluation and Research
- Historical timeline of the expansion of vaccine regulation in the United States (optional topic)

FDA Legal Framework

Statutes
(enacted by Congress,
signed by President)

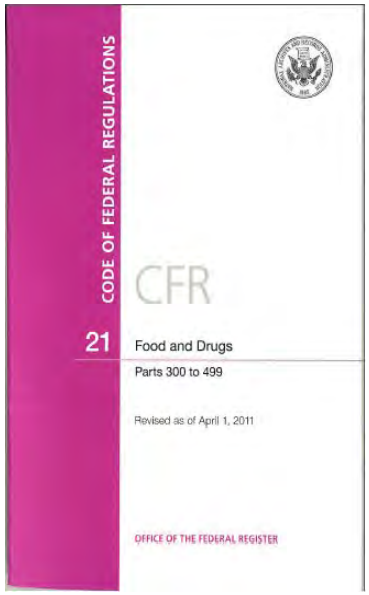
Regulations
(FDA)

Main Statutes Pertinent to Vaccine Safety

- Federal Food, Drug and Cosmetic Act
  - Amended by the Food and Drug Administration Amendments Act of 2007
- Public Health Service Act
- National Childhood Vaccine Injury Act

US Code of Federal Regulations (CFR)

FDA implements statutes through regulations



- 21 CFR 600-680 Biological Product Standards
- 21 CFR 314.126 Adequate and well-controlled trials
- 21 CFR 312 Investigational New Drug Application
- 21 CFR 210-211 Good Manufacturing Practices
- 21 CFR 58 Good Laboratory Practices
- 21 CFR 56 Institutional Review Boards
- 21 CFR 50 Protection of Human Subjects

National Childhood Vaccine Injury Act

- Designed to stabilize supply and cost of vaccines by addressing liability
  - Created a “no fault” compensation system
  - The vaccine injury table lists conditions presumed to be caused by vaccines within specific timeframes
  - Financed through excise tax on recommended vaccine products

- Created additional U.S. vaccine safety infrastructure
  - National Vaccine Program Office to coordinate HRSA, CDC, FDA, NIH
  - Vaccine Information Statements
  - Institute of Medicine review
  - Vaccine adverse event reporting system (VAERS)

http://www.hrsa.gov/vaccinecompensation/index.html
http://www.hrsa.gov/vaccinecompensation/84521booklet.pdf

Regulatory Definition of Safety

21 CFR 600.3

"relative freedom from harmful effect to persons affected, directly or indirectly, by a product when prudently administered, taking into consideration the character of the product in relation to the condition of the recipient at the time"

Unique Safety Considerations for Preventive Vaccines

Safety *"in relation to the condition of the recipient. . ."*

- Millions of healthy people, including young infants and children, receive vaccines each year
- State governments mandate many vaccines for children attending public schools or day care centers
- Individual risk for disease prevented by vaccination may be low (e.g., diphtheria, polio)

…thus, low tolerance for vaccine-associated risks

Safety throughout the product lifecycle

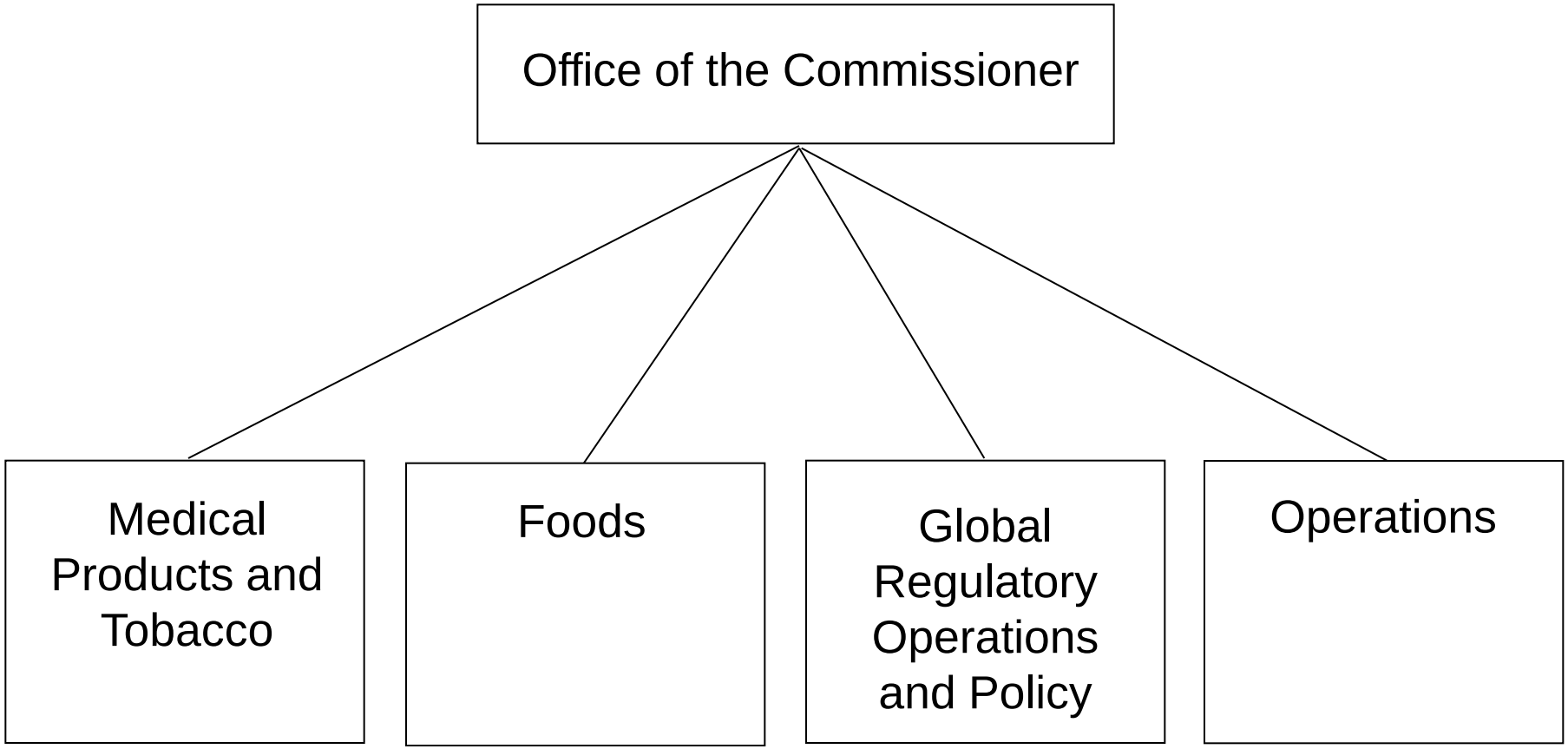
- Characterization of product and manufacturing processes
- Review of safety data from toxicological studies and clinical trials
- Inspection of manufacturing, laboratory, and clinical research facilities
- Post licensure safety surveillance
- Enforcement

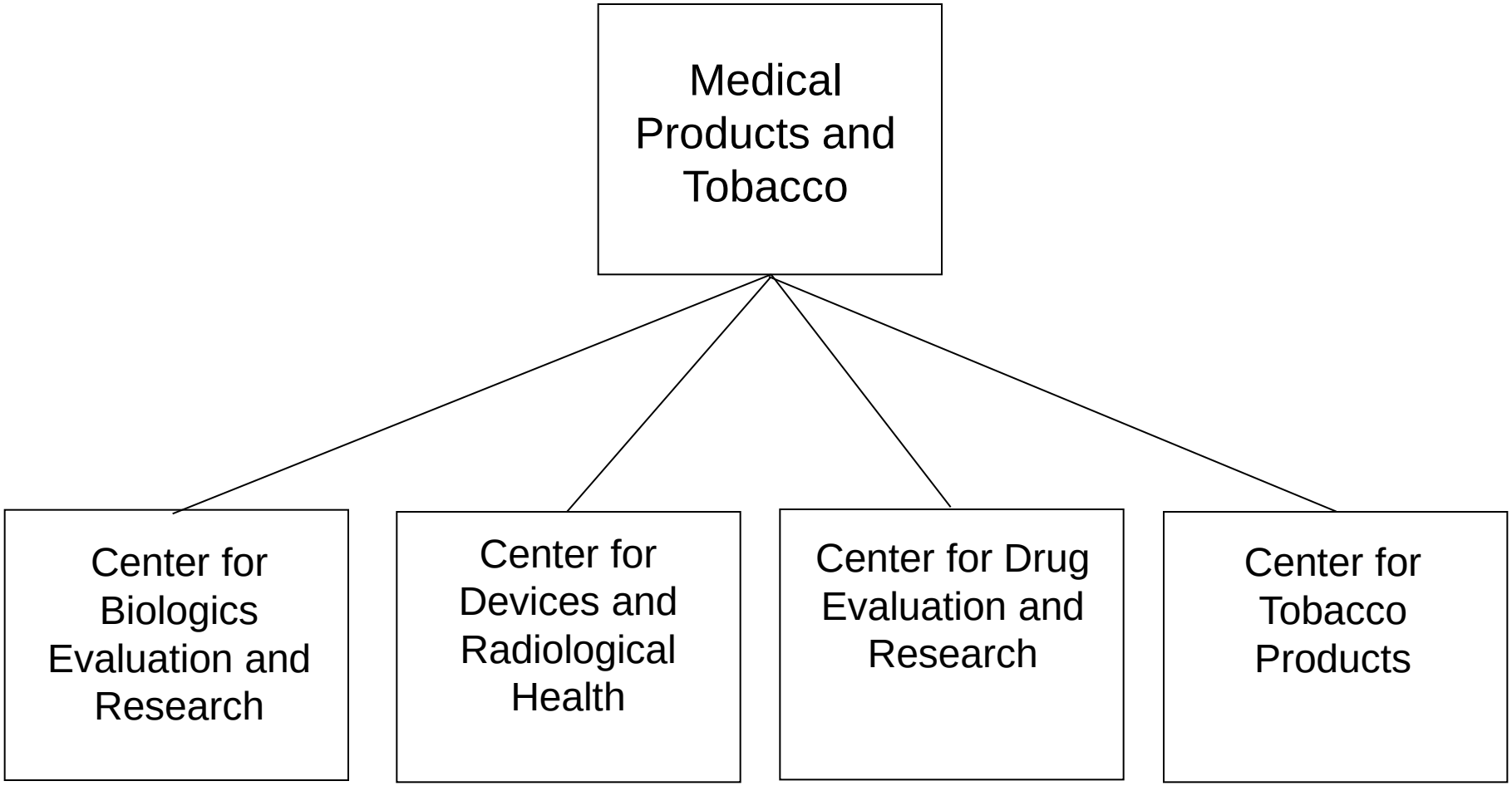
Executive Authority

President of the United States

Secretary of Health and Human Services

Commissioner of Food and Drugs


Office of the Commissioner
Medical Products and Tobacco
Foods
Global Regulatory Operations and Policy
Operations



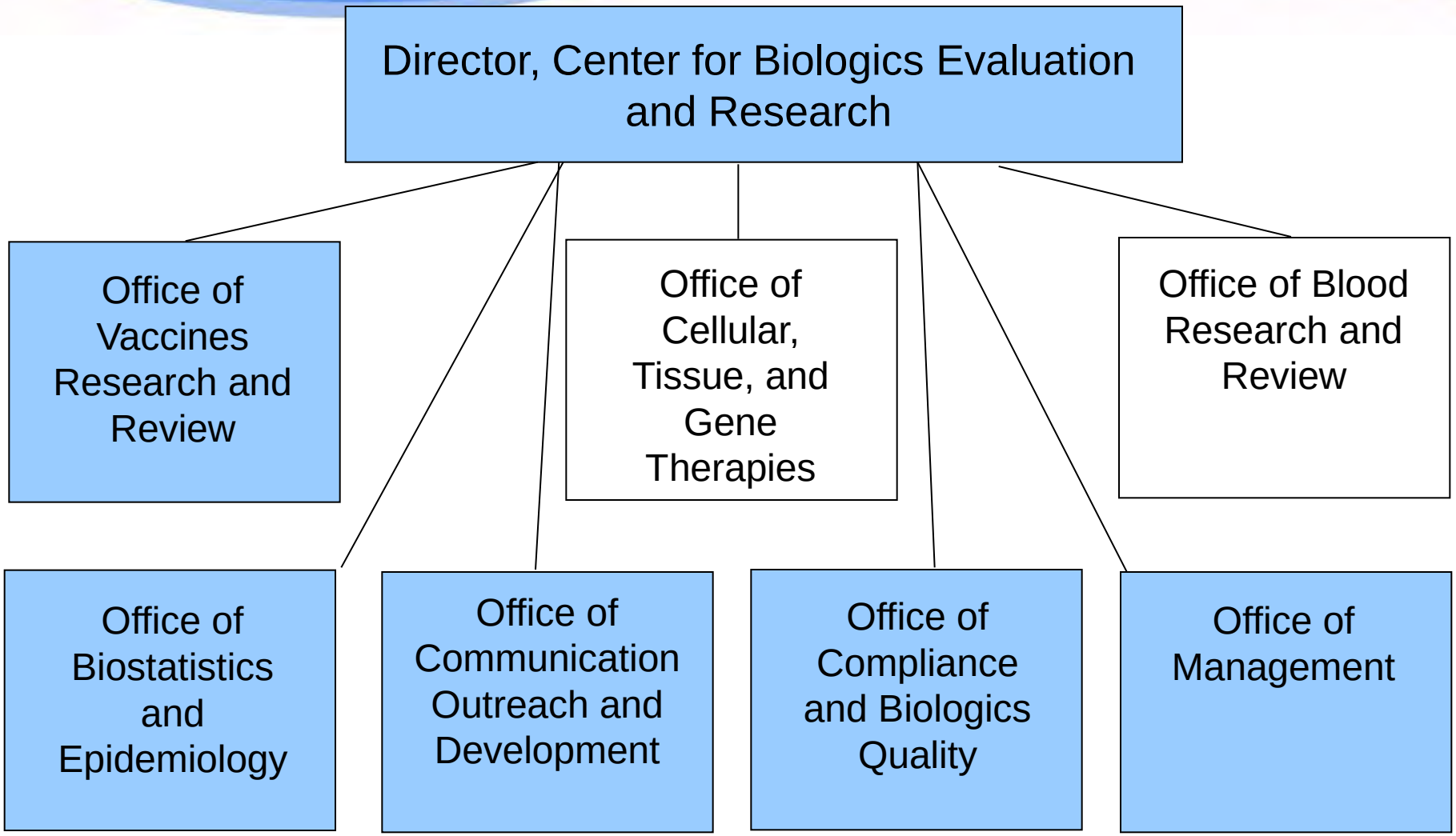
The Office of Medical Products and Tobacco also includes the Office of Special Medical Programs, Office of Combination Products, and the Office of Good Clinical Practice

How many people are employed by FDA and in what areas do they work?

As of Oct. 1, 2009, FDA employs the following numbers* of people in its centers/offices:

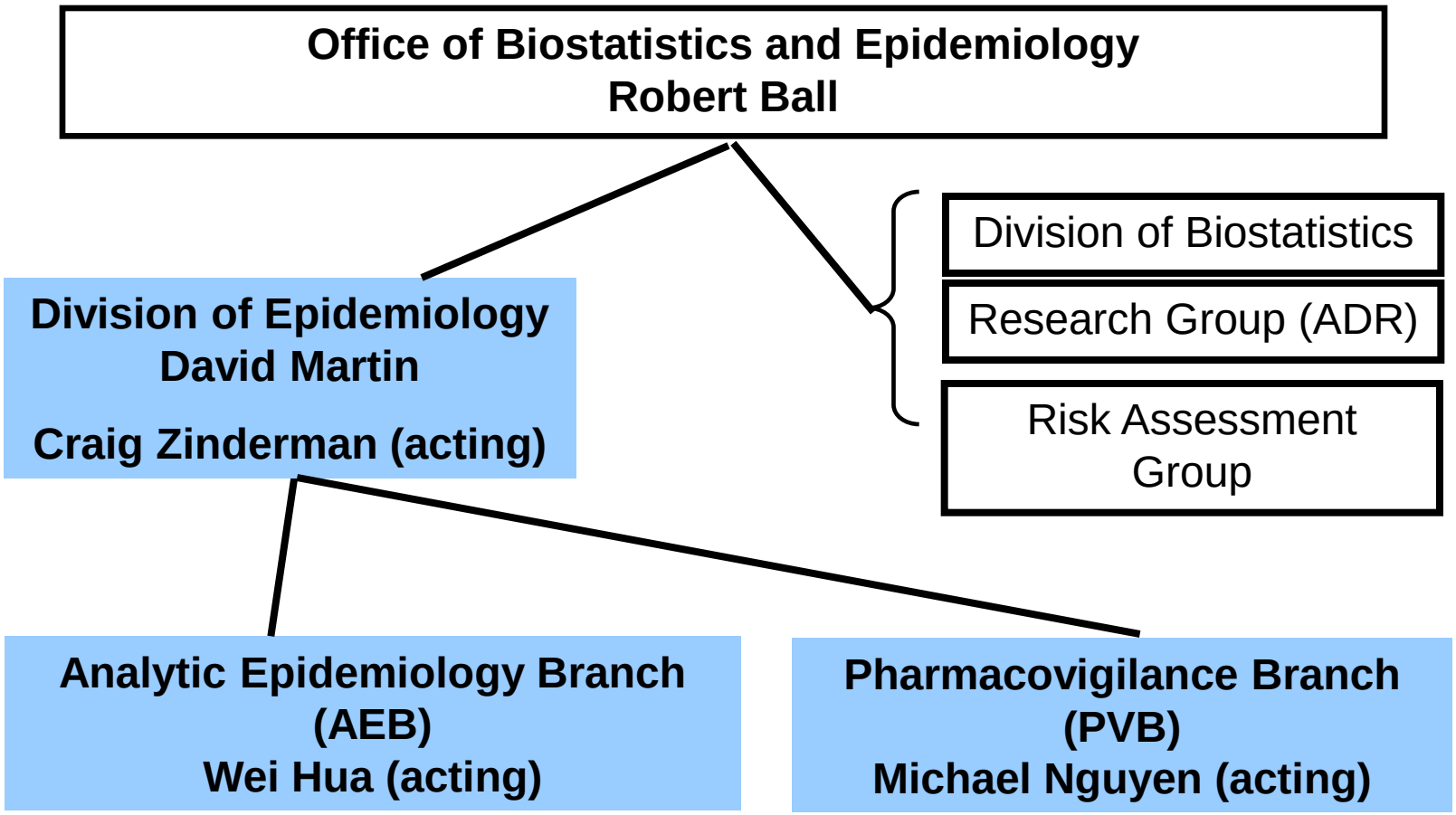
Center for Biologics Evaluation and Research (CBER)	946
Center for Drug Evaluation and Research (CDER)	2,889
Center for Devices and Radiological Health (CDRH)	1,203
Center for Food Safety and Applied Nutrition (CFSAN)	877
Center for Tobacco Products (CTP)**	194
Center for Veterinary Medicine (CVM)	436
National Center for Toxicological Research (NCTR)	217
Office of the Commissioner (OC)	859
Office of Regulatory Affairs (ORA)	3,895
Total	**11,516**

*Full time equivalents **Estimate based on the budget enacted by Congress for the fiscal year ending Sept. 30, 2010



Vaccine Safety activities

Pharmacovigilance/epi at CBER



Slide courtesy Michael Nguyen

Postmarketing surveillance

Summary

- FDA derives its authority to regulate vaccines from statutes enacted by Congress and signed by the President

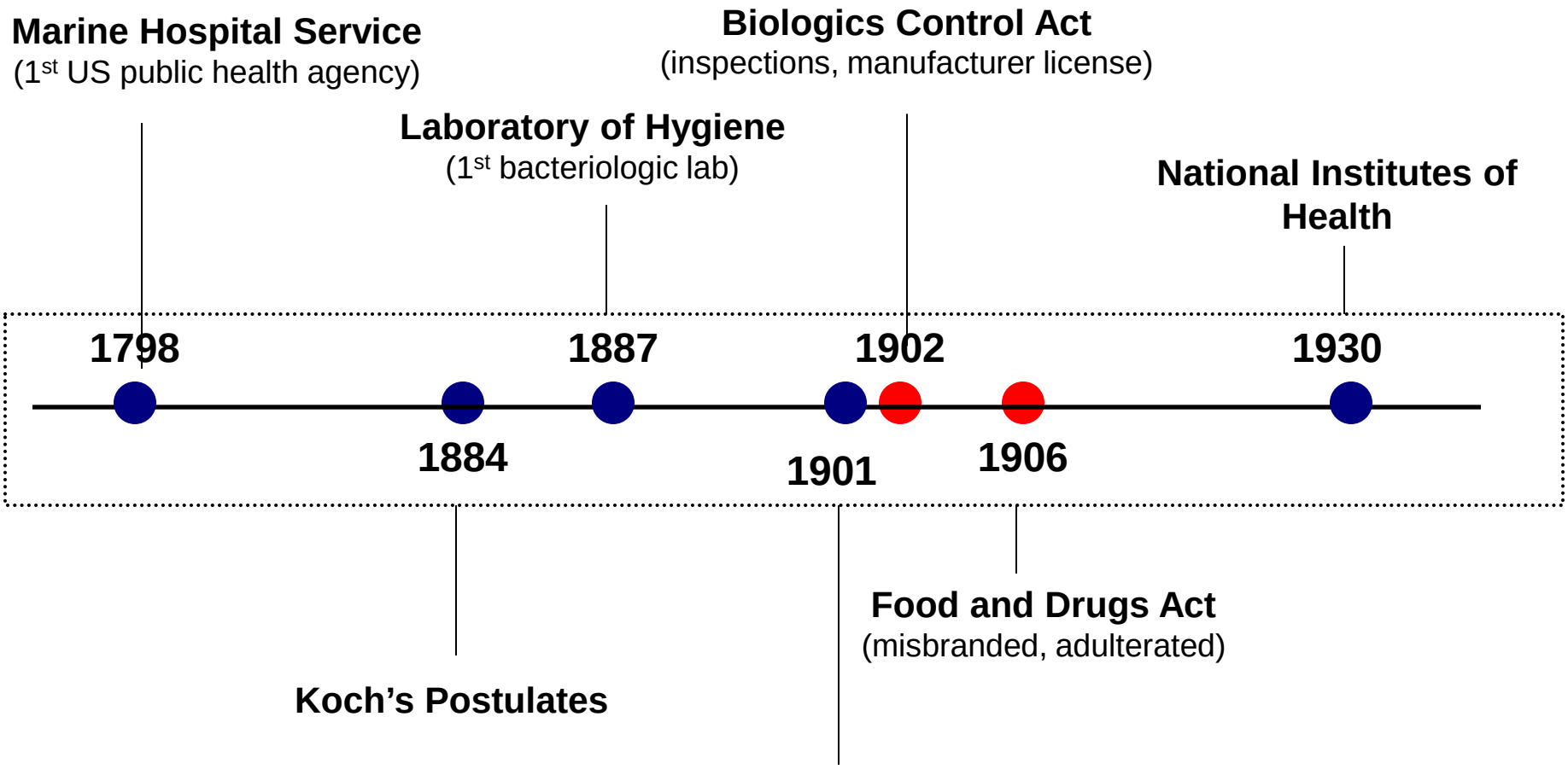
- Vaccines are currently regulated by the Center for Biologics Evaluation and Research

- Expansion of regulatory authority for vaccines and other medical products has often followed disasters which gained the attention of the public

The Cow Pox or the Wonderful Effects of the New Inoculation

Anti-Vaccine Society / J. Gilray, 1802

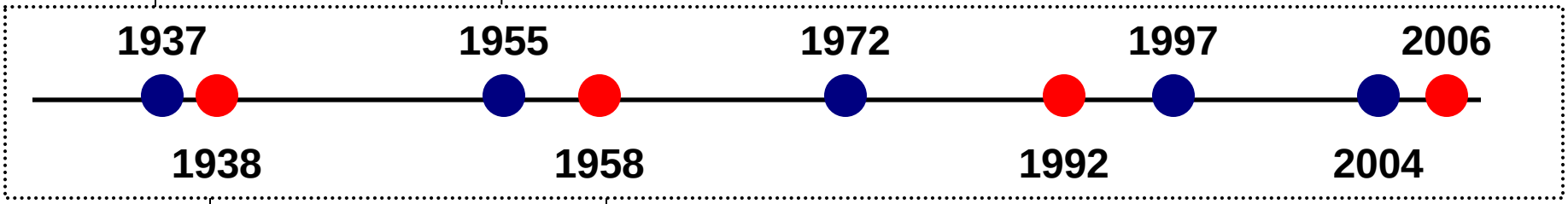
Milestones (1798 – 1930)



Milestones (1930 – Present)

Cutter Incident
(40,000 cases abortive polio, 51 paralyzed)

Elixir of Sulfanilamide
(107 deaths)



Food, Drug and Cosmetic Act
(proof of safety, advertising)

Thalidomide
Kefauver-Harris Drug Amendments
(proof of efficacy)

Milestones (1930 – Present)