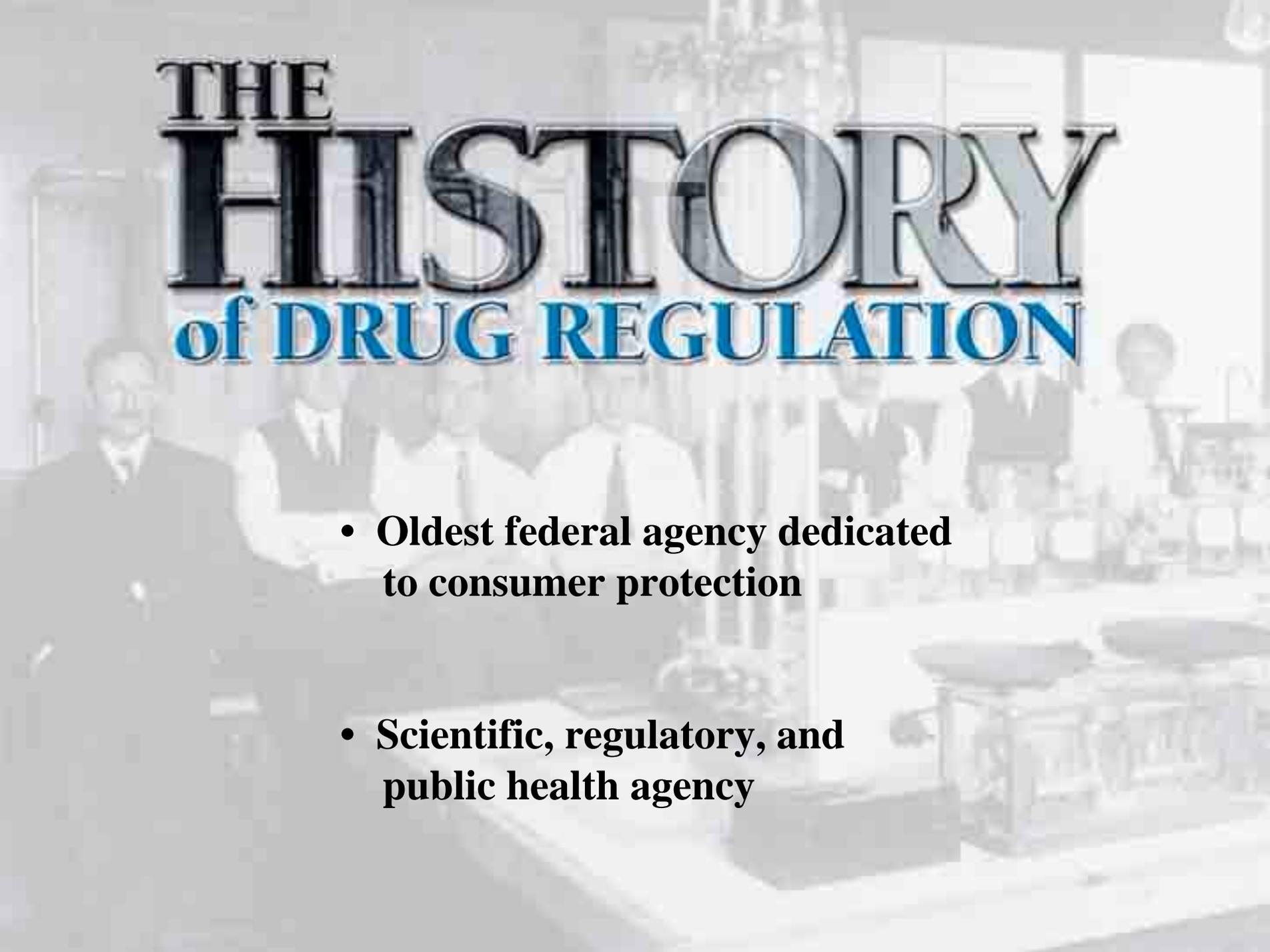


THE HISTORY

of DRUG REGULATION
in the UNITED STATES





THE HISTORY of DRUG REGULATION

- **Oldest federal agency dedicated to consumer protection**
- **Scientific, regulatory, and public health agency**

FOUR APPROVAL in the 1990's



- **Ensure the safety and effectiveness of medicines**
- **Respond to public health disasters**

THE HISTORY of DRUG REGULATION



- Legislation drives regulation and enforcement

1848 IMPORTED DRUGS



- Most U.S. drugs were imported
- Education and standards were established

1848

IMPORTED DRUGS



- **Legislative responses to the problem**



1902 BIOLOGICAL THERAPEUTICS



- **Discovery of antitoxin for diphtheria**
- **Control of infectious diseases**

1922

BIOLOGICAL THERAPEUTICS

the answer after the first treatment.

LOCKJAW IN DIPHTHERIA CURE.

Eight Deaths in St. Louis Supposedly from the Antitoxin.

Special to The New York Times.

ST. LOUIS, Mo., Nov. 1.—Eight deaths have now been reported to the city Health Department as the result of lockjaw, caused, it is said, by the physicians who attended the various cases, by the administration of the city bacteriologist's specially prepared antitoxin for diphtheria. Eleven other children are sick with lockjaw and death is expected to ensue in each case.

Alarm is spreading. The physicians who administered the remedy are earnest in demanding the investigation of the cause of death in each case, to discover positively if the serum used for the manufacture of the antitoxin was infected with tetanus toxin from the city's serum horse, which was found to be suffering with lockjaw on Oct. 1 and was killed.

Dr. August Ravold, city bacteriologist, who prepared the antitoxin and distributed it, said to-day, "The horse from which the city has been drawing its supply of serum for the making of diphtheria antitoxin for the last few years showed no symptoms of tetanus on Aug. 24, when the last serum was withdrawn from him."

He developed symptoms of lockjaw on Oct. 1. If the tetanus toxin was in the horse's blood prior to Aug. 24 it was beyond the range of human knowledge to detect it by an inspection of the animal.

Numerous applications have been received by the Health Department for tetanus antitoxin, which the city announced it would distribute free.

MINISTERS RIVALS IN POLITICS.

- Unregulated production of tetanus antitoxin
- Illness and death from contaminated products

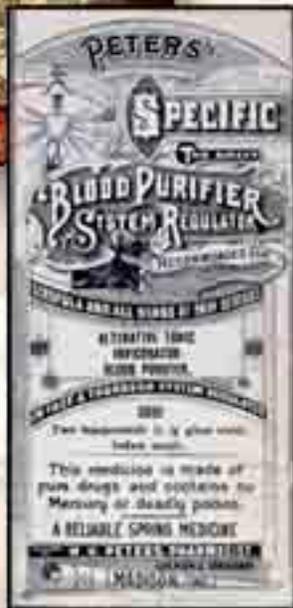
1992 BIOLOGICAL THERAPEUTICS

- Annual licensing
- Regular inspections



IMPURE
VIRUS

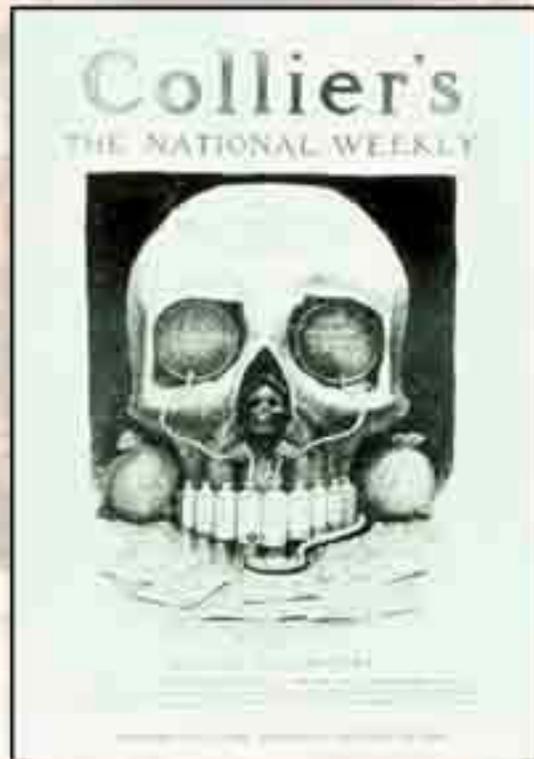
1906 LABELING DRUGS



- **Manufacturers continue to sell unsafe foods and drugs**
- **Drug advertising had no standards**

1906

LABELING DRUGS



- **Journalists expose abuses**
 - *Collier's* magazine
 - Upton Sinclair's novel, *The Jungle*

1906 LABELING DRUGS



- **1906 Pure Food and Drugs Act**
 - Prohibited interstate commerce of unsafe drugs
 - Required proper labeling
 - Identified official standards for drugs

1938

DRUG SAFETY



- **Shortcomings of the 1906 Act**
 - **Lack of inspections**
 - **Inability to control false claims**
- **Sulfanilamide disaster**

1938

DRUG SAFETY



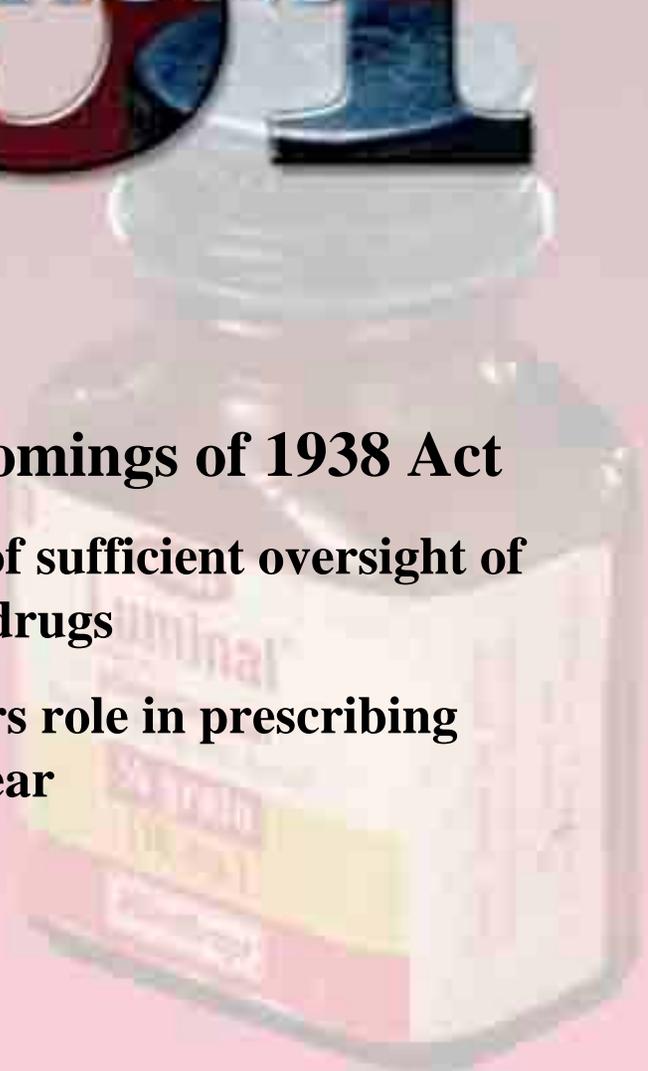
- **The Food, Drug, and Cosmetic Act of 1938**
 - Required proof of safety
 - Authorized inspections
 - Outlawed false claims

1951

PRESCRIPTIONS



- Shortcomings of 1938 Act
 - Lack of sufficient oversight of some drugs
 - Doctors role in prescribing not clear



1951

PRESCRIPTIONS



- **Illegal sale and distribution of drugs**



1951

PRESCRIPTIONS



- **1951 Durham-Humphrey Amendment**
 - Defines a prescription drug
 - Identifies what is a refillable prescription

1962

DRUG EFFICACY



- **Calls for revisions of the drug laws**
- **Thalidomide disaster**

1962

DRUG EFFICACY



- **Thalidomide approval stalled in U.S.**
- **Thousands were harmed worldwide**

1962

DRUG EFFICACY



- **The Kefauver-Harris Amendments of 1962**
 - **Required proof of effectiveness**
 - **Gave FDA control over investigations**
 - **Gave FDA authority to regulate advertising of prescription drugs**
 - **Established good manufacturing practices**

10000 RARE DISEASES

ORPHAN PRODUCTS



- **The Orphan Drug Act**
 - Serious rare diseases
 - Affecting fewer than 200,000

10000 RARE DISEASES



- **The Orphan Drug Act included development incentives**
 - Grants
 - Marketing exclusivity
 - FDA assistance

DRUG

LABEL EVOLUTION I



- **Early labels decorative**
- **Drug labels today**
 - **Indications**
 - **Dosage**
 - **Possible interactions**
 - **Other information**

DRUG

LABEL EVOLUTION I



- **Early drug containers**
 - No label
 - No standard terminology

DRUG

LABEL EVOLUTION I



- **The 1906 Act**
 - Identified official drug standards
 - Required labeling

DRUG

LABEL EVOLUTION I



- Labels contained misleading FDA guarantee - 1906
- Label guarantee revoked - 1918

DRUG

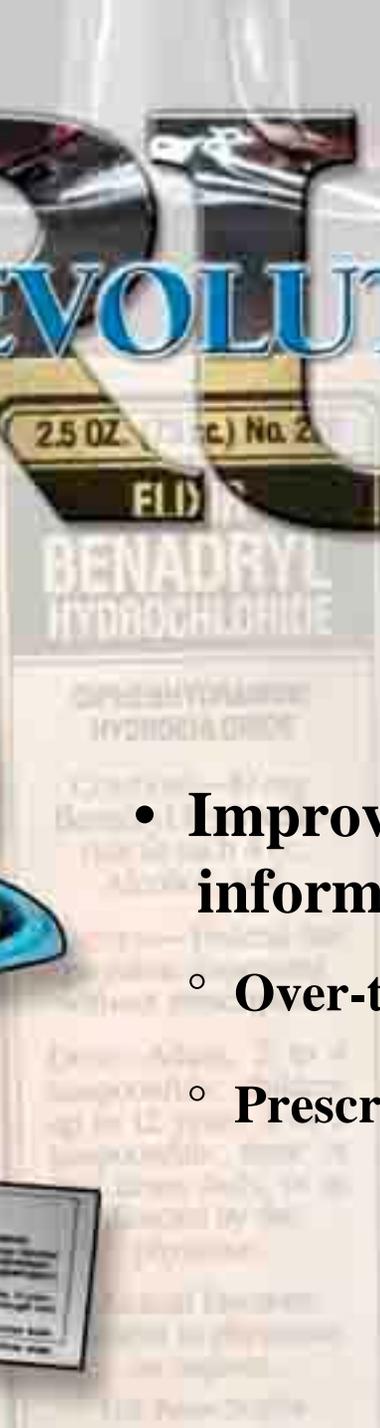
LABEL EVOLUTION II



- **Food, Drug, and Cosmetic Act of 1938**
 - Complete list of ingredients
 - Directions for safe use

DRUG

LABEL EVOLUTION II



- **Improved consumer information**
 - **Over-the-counter (OTC)**
 - **Prescription (Rx)**

DRUG APPROVAL in the 1990's



- **Standard drug testing and approval process**
 - Preclinical testing
 - Clinical studies – Phase I, II, III
 - Postmarketing surveillance

DRUG APPROVAL in the 1990's



- **Early access to experimental therapies**
 - **Serious diseases**
 - **No alternative treatments**

DRUG APPROVAL in the 1990's



- **The Prescription Drug User Fee Act of 1992**
 - FDA allowed to collect fees from industry
 - FDA required to reduce review time

DRUG

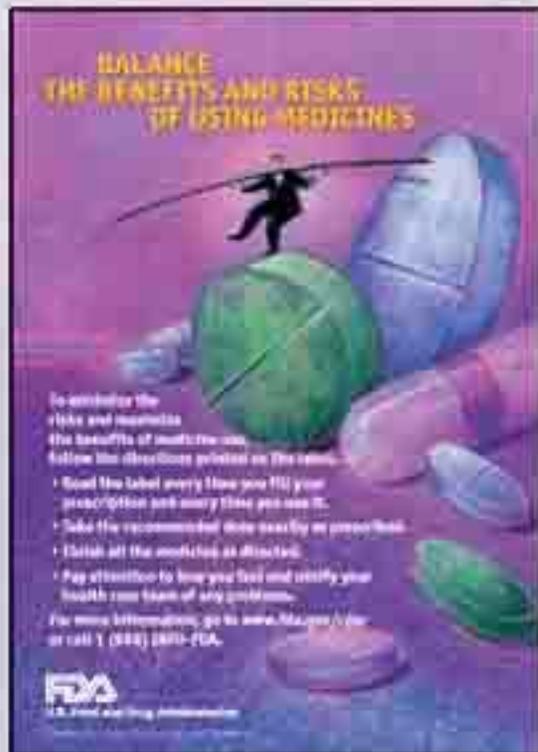
APPROVAL in the 21st CENTURY



- **Computerization**
- **Globalization**

DRUG

APPROVAL in the 21st CENTURY



- **FDA adopts science of risk management**
 - Identification of risks
 - Balance of risks and benefits
- **All drugs have risks**

DRUG

APPROVAL in the 21st CENTURY



- **The Critical Path Initiative**
 - Creates new scientific tools for safety, efficacy, and quality
 - Strives to reduce time, cost, and uncertainty

FOR MORE INFORMATION VISIT
MILESTONES
in
U.S. DRUG LAW HISTORY
www.fda.gov/cder/centennial/default.htm

