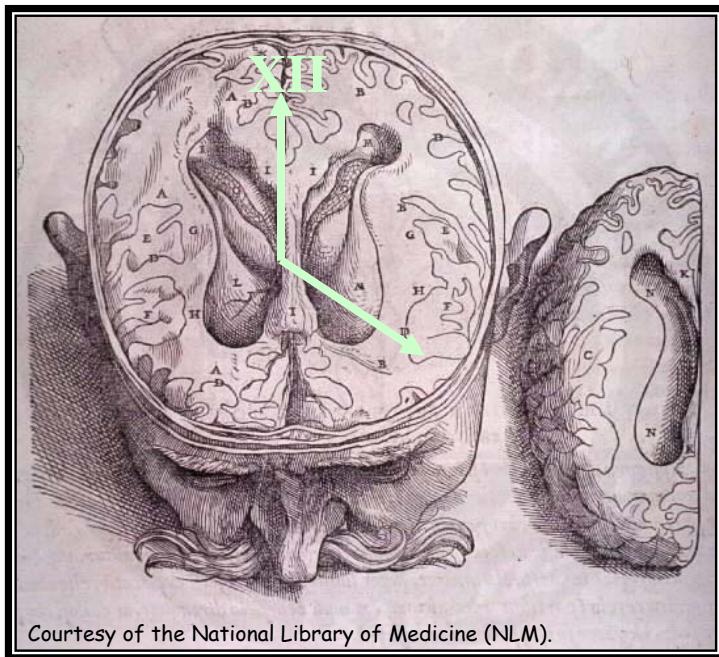


Public Health and the World

From 1 A.D.



1 A.D.

Commercial farm plots

Toothpaste, made from honey, herbs & ground glass or shells

Ancient birth control

The plant *silphium* was a valuable & effective oral contraceptive until the Romans harvested it into extinction.

231 A.D.

Wheelbarrow

400 A.D.

Watermill

400 BC

Hippocrates describes mumps, diphtheria, and epidemic jaundice.

542 A.D.

Justinian's Plague, the first recorded worldwide pandemic, which reappeared for centuries

650 A.D.

Windmill

Roman Waterworks

Romans established the most sophisticated plumbing & sanitary drainage systems for the next 1800 years by replacing leaky clay pipes with ones made of lead.

900 A.D.

Animal collar & harness for farming

1100s

Variolation developed, involving inoculation with dried scab material from smallpox victims

1347 - 1352

BLACK DEATH

Europeans reject the Greek & Roman practice of cleanliness & sanitation, wearing the same wool clothing daily & throwing human waste into the streets. The Bubonic Plague spreads from the fleas of rats & contact between broken



Courtesy of the NLM

skin & materials contaminated with *Yersinia pestis*. The Pneumonic Plague spreads from the exhaled air of its victims. Together, they kill more than 25 million Europeans - more than 1/3 of Europe's population during this time. Fearful individuals seek safety through nosegays against the miasmas & through the avoidance & quarantine of ships & victims.



Men and Rat-Catching Equipment in New Orleans, Louisiana.
Courtesy of the NLM.

1500s

Forks, similar to chopsticks used since 2000 B.C., offer protection from hand-to-mouth contact & therefore the spread of germs.

1530

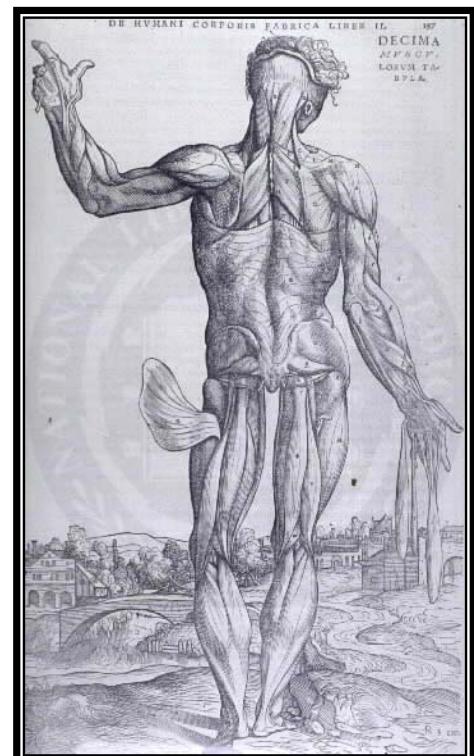
Bottle cork, aids in preservation

1543

De Humani Corporis Fabrica, by Andreas Vesalius

1546

Typhus fever described



By Andreas Vesalius. Courtesy of the NLM.

1553

Measles described

1554

Potatoes exported from the New World

1560

Condoms made of linen

1590

Compound microscope

1596

Crop exporting from the New World,
beginning with a plant believed to improve
health & prevent illness: tobacco

1613

Daily temperature readings & records

1616

Medical thermometer

1628

Blood circulation described

1640s

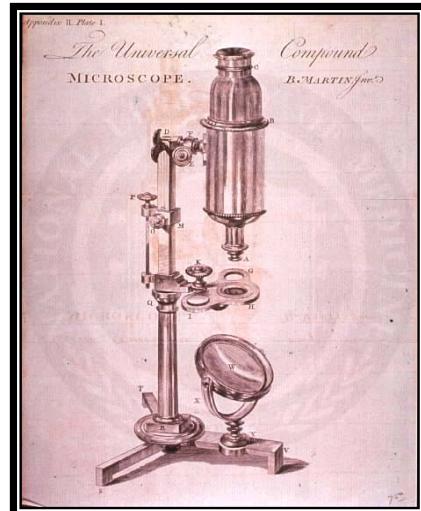
Condoms made of animal intestines

1664-1666

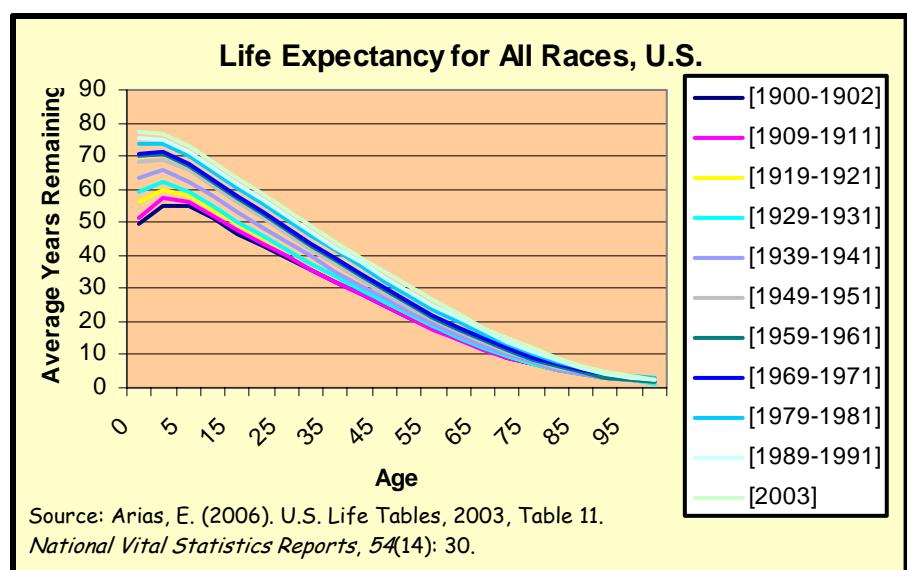
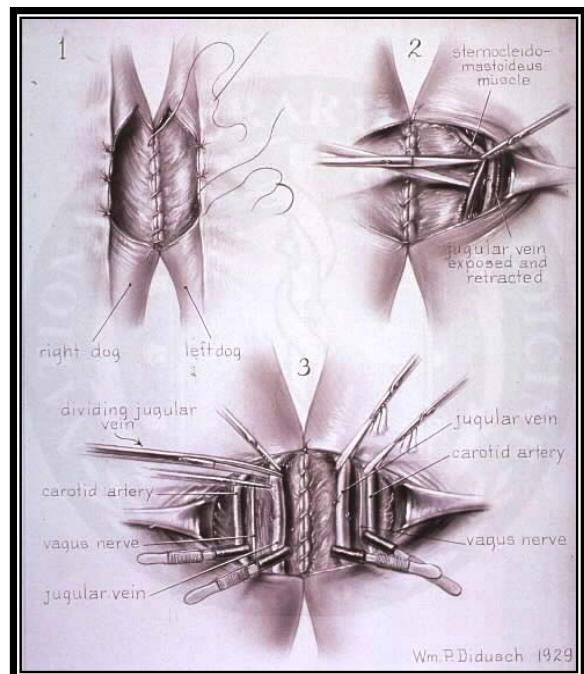
Plague hits London but
is extinguished by the
Great Fire the following
year

1669

Life expectancy
determined



Pictures are courtesy of the NLM.



1672

Weather barometer

1700-1850

INDUSTRIAL REVOLUTION

1701

Horse-drawn farm machinery, improves farming & nutrition

1717

Zoonoses recognized, beginning with the vector for malaria - mosquitoes. Actual parasites not identified until 1897

1730

Crop rotation

1735

Botulism linked to meat

1747

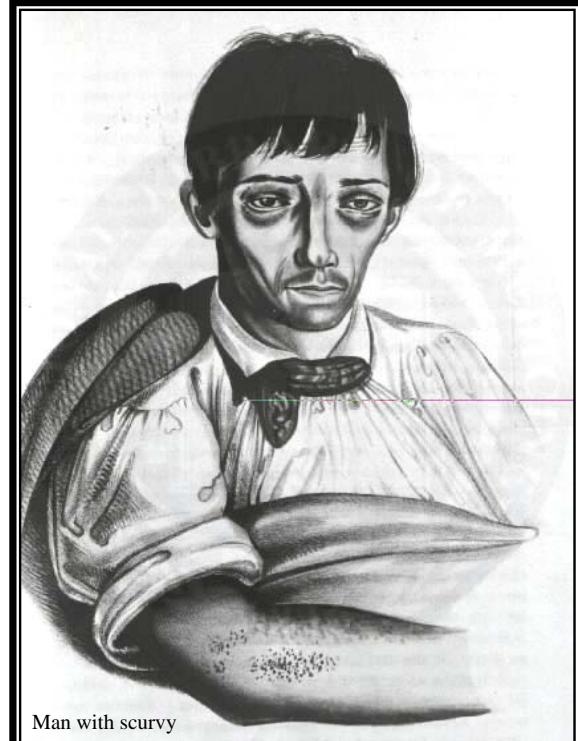
Naval surgeon James Lind links scurvy to vitamin C deficiency. All ships are stocked with citrus fruits & British sailors are nicknamed "limeys".

1755-1793

Marie Antoinette responds to peasant uprisings about hunger by replying, "Let them eat cake." She is later

Life Expectancy Estimates, 2006

1. Andorra	14. Italy
2. Macau	48. United States
3. San Marino	76. Mexico
6. Japan	224. Lesotho
7. Sweden	225. Botswana
12. Canada	226. Swaziland



Man with scurvy

Pictures are courtesy of the NLM.



beheaded, but nations begin to subsidize bread & farming to prevent future uprisings & provide basic nutrition to all.

1770

False teeth, made of porcelain

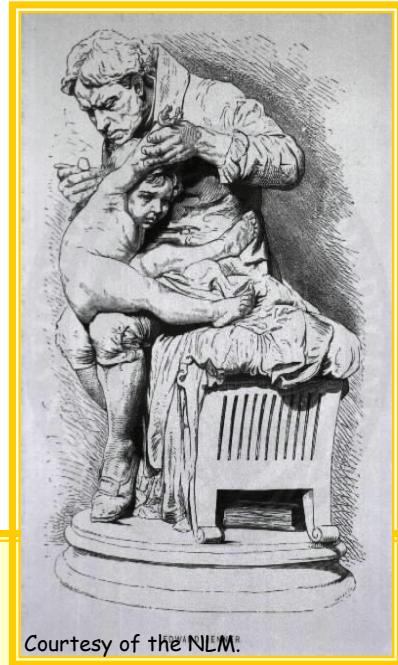
1780

Toothbrush

1793

Gaslight

1796
VACCINATIONS BEGIN!



Courtesy of the NLM.

Dr. Edward Jenner discovers that milkmaids infected with cowpox are immune to smallpox. He purposefully infects an eight-year old boy with cowpox before failing to infect him with smallpox to confirm his observation. He calls his success a vaccination after *vacca*, the Latin word for cow. The often fatal disease of smallpox is prevented by initiating the mild disease of cowpox, rather than a small dose of live but attenuated smallpox. Because millions of people have been dying each year from smallpox or were left with blindness, scarring and other deformities, this vaccine is recommended for universal use in 1798.

Notably through the organized vaccination efforts of the World Health Organization, smallpox was eradicated in 1977. However, stockpiles of the virus remain, some of which may have been sold for bioterrorism & have inspired countries to maintain & upgrade their stocks of vaccine.

Dr. Jenner began a pattern of preventing disease that has been imitated to prevent more than 20 diseases, including influenza, rabies, typhoid, and plague. Vaccines continue to work by convincing the immune system of the presence of disease to which the body begins to defend itself by producing antibodies. To initiate this process, weakened or killed microbes, inactivated microbial toxins, and purified proteins or polysaccharides derived from microbes are introduced into the body. Through biotechnological advances, scientists are also developing ways to sequence and then change the DNA structure of microbes, as well as refining methods for introducing them into foods to create edible vaccines.

Courtesy of the NLM.



The Cow-Pock — or — the Wonderful Effects of the New Inoculation! — visit the Publications of the Anti-Vaccination Society.

1798

Marine Health Service, the nation's first public health agency

1802

Gas stove

1811

Canned food

1815

Silk dental floss

1816

Stethoscope

1817-1827

Cholera, the first worldwide epidemic, runs its course.



Pictures are courtesy of the NLM.



A LONDON BOARD OF HEALTH HUNTING AFTER CASES LIKE CHOLERA.

1824

Bars of soap become affordable through commercial production, although they have been used for 2,500 years.

1842

Chemical fertilizer

1843

Hand washing is proven a key method to prevent the spread of germs. Today, it remains the most effective method of disease prevention.

1844

Safety matches

Condoms made of rubber



Pictures are courtesy of the NLM.

1846

Ether anesthesia

1847

American Medical Association founded

1849

Elizabeth Blackwell,
first woman doctor
in the U.S.,
graduates from
Geneva Medical
College in NY

1850

Meatpacking



1850s

Florence Nightingale uses sanitation to decrease Army hospital death rates from 40% to 2% within two years. Later, she establishes the modern nursing profession & a school of nursing.

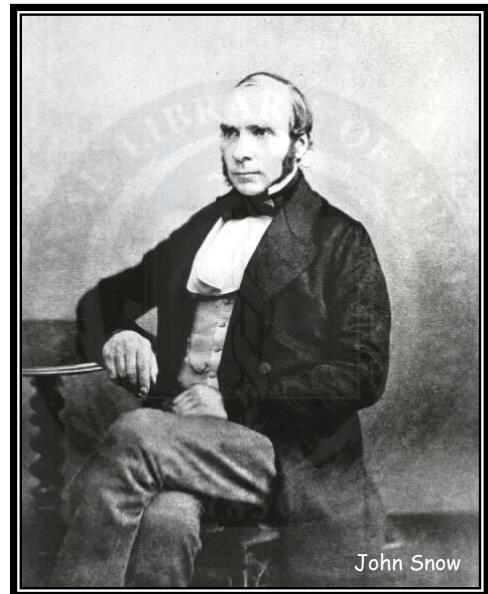
1853

Potato chips, the first junk food

Hypodermic syringe

1854

Dr. John Snow links an outbreak of cholera to a London well contaminated with human waste, exemplifying modern epidemiology. Although the cholera bacillus is identified in 1876, Dr. Snow's work led to increased demands for sanitation, municipal water & sewage systems, building codes & ordinances, & the proliferation of agencies of public health.



John Snow

1855

Can opener



Pictures are courtesy of the NLM.

1857

Toilet paper

1858

Washing machine

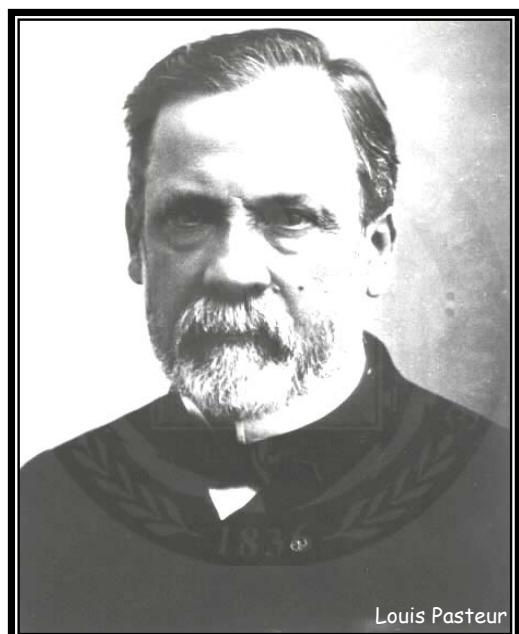
Mason jar for home canning

1861-1865

CIVIL WAR

1862

Louis Pasteur discovers that heat prevents bacterial growth & food spoilage. Pasteurization



Louis Pasteur

is first used to treat wine, but is more widely used to treat milk against tuberculosis.



1866

Metropolitan Board of Health, NYC

1868

Foot-powered dental drill

1869

Massachusetts Board of Health

1872

American Public Health Association Founded

1876

The Age of Bacteriology is borne when Robert Koch proves that particular microorganisms cause specific diseases, such as cholera, tuberculosis, anthrax, leprosy, plague, & malaria.

1877

Louis Pasteur's Germ Theory of Disease

1878

Birth control clinic

1879

First live attenuated vaccine - Chicken cholera

Electric light bulb

1880s

Sterilization of instruments

TOP TEN PUBLIC HEALTH ACHIEVEMENTS

IMMUNIZATIONS

Motor-Vehicle Safety

Workplace Safety

Control of Infectious Diseases

Declines in Deaths from Heart Disease & Stroke

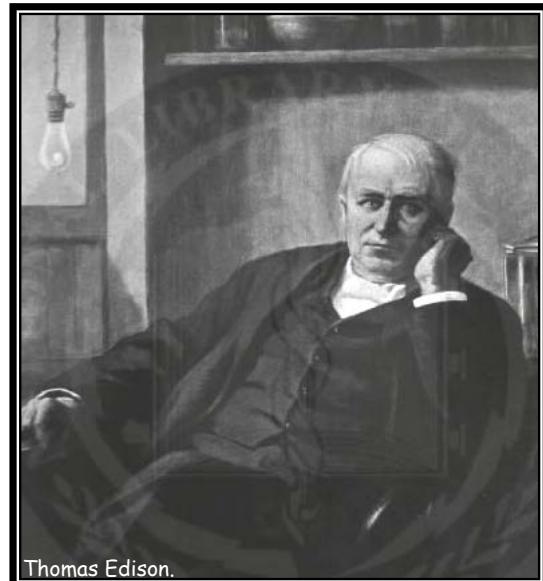
Safer & Healthier Foods

Healthier Mothers & Babies

Family Planning

Fluoridation of Drinking Water

Tobacco as a Health Hazard



Thomas Edison.

Pictures are courtesy of the NLM.



Sterilizer..

1881

Gas heating

1882

Koch identifies tubercle bacillus



Koch's first post graduate course in bacteriology, 1891.

1884

Rabies vaccine
developed

1887

Hygienic Lab
(later National
Institutes of
Health)

1888

Diphtheria
vaccine
discovered

Pictures are courtesy of the NLM.



1890
Rubber gloves

1892
Tube of toothpaste

**1892-1954
IMMIGRATION
THROUGH ELLIS
ISLAND**



Over 12 million immigrants were processed at Ellis Island, giving it the largest human migration in modern history, as well as the largest public health examination. Health inspectors quarantined ships & screened for disease, helping prevent epidemics & death.

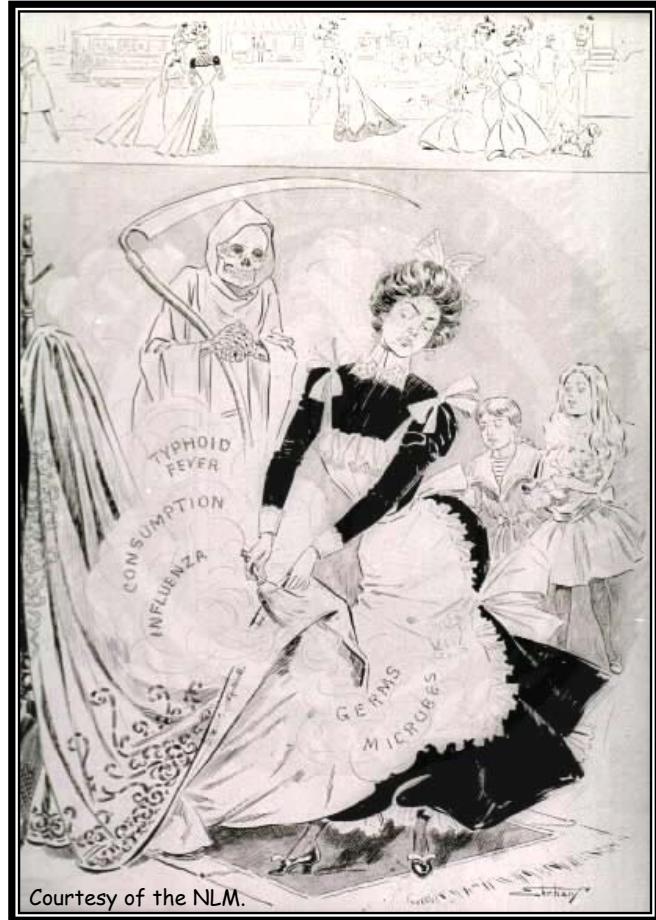
1895
X-rays discovered

1896
Cholera vaccine developed
Typhoid vaccine developed

1897
Aspirin
Plague vaccine developed
First conviction for drunk driving

1900
Carbohydrates, protein & fat identified

1900s
Vital records commonly kept in U.S.
(Massachusetts' records date back to 1841)



1900-1914

The completion of Panama Canal was slowed by mosquitoes carrying yellow fever.

1901

In St. Louis, 13 children die from tetanus-contaminated diphtheria antitoxin.

Disposable products, beginning with the razor blade, create convenience & waste.

1902

Biologics Control Act formed to regulate vaccine production through licensing & inspection

1903

Typhoid Mary, NYC cook

Modern porcelain toilet

Car windshield wipers

Car seatbelts

Airplane travel, facilitating the global transmission of germs

1904

Novocaine anesthetic

1906

Pure Food & Drug Act, prohibiting misbranding or adulteration

Upton Sinclair's *The Jungle* exposes slaughterhouse working conditions, resulting in increased food safety, such as the Meat Inspection Act of 1907.

MILESTONES IN NUTRITION

1906	• Food & Drug Act, Federal Meat Inspection Act
1938	• Federal Food, Drug & Cosmetic Act
1941	• Special Dietary Food Regulations, including Minimum Daily Requirements
1957	• Poultry Products Inspection Act
1969	• White House Conference on Food, Nutrition & Health
1970	• Egg Products Inspection Act
1973	• Nutrition Labeling Regulations, including Recommended Daily Allowances (RDAs)
1977	• <i>Dietary Goals for the United States</i> by Senate Select Committee on Nutrition & Human Needs
1979	• <i>Healthy People: Surgeon General's Report on Health Promotion & Disease Prevention</i> by DHEW
1980	• <i>Dietary Guidelines for Americans</i> by USDA/DHEW
1988	• <i>The Surgeon General's Report on Nutrition & Health</i> by DHHS
1989	• <i>Diet & Health: Implications for Reducing Chronic Disease Risk</i> by NRC • <i>Recommended Dietary Allowances</i> (Tenth Edition) by NRC
1990	• <i>Nutrition Labeling: Issues & Directions for the 1990s</i> by IOM • Reference Daily Intakes & Daily Reference Values rule proposed • Nutrition Labeling & Education Act (NLEA)
1991	• Reference Daily Intakes & Daily Reference values rule proposed to implement NLEA
1992	• Dietary Supplement Act
1993	• Reference Daily Intakes & Daily Reference values rule finalized
1994	• Dietary Supplement Health & Education Act
1997	• Dietary Supplement Labeling Regulations • Food & Drug Administration Modernization Act
2003	• Addition of trans fat to Nutrition Facts

Source: Committee on Use of Dietary Reference Intakes in Nutrition Labeling. (2003). *Dietary Reference Intakes: Guiding Principles of Nutrition Labeling and Fortification*. (pp. 19). Washington, D.C.: The National Academies Press.

LEADING CAUSES OF DEATH

United States, 1900

1. Pneumonia & influenza
2. Tuberculosis
3. Diarrheal illnesses

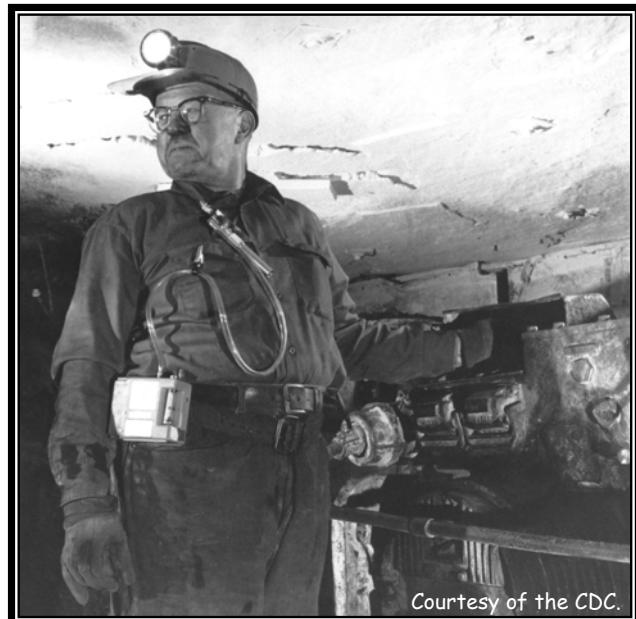
United States, 2003

1. Heart disease
2. Cancer
3. Stroke

1907

Cornflakes, the first ready-to-eat cereal

The largest U.S. coal mine disaster in history kills an estimated 500 men & boys & exemplifies the need for occupational safety.



Courtesy of the CDC.

1908

Chlorine-treated water

First county health departments in U.S.

1909

Public cups abolished

1910

Disposable paper cups

Flexner Report on Medical Education

1911

Drinking fountain

1913

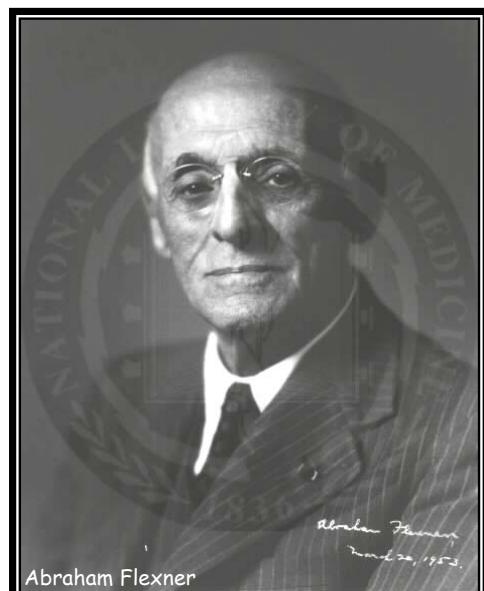
Refrigerators for home use

1914

Tetanus vaccine developed

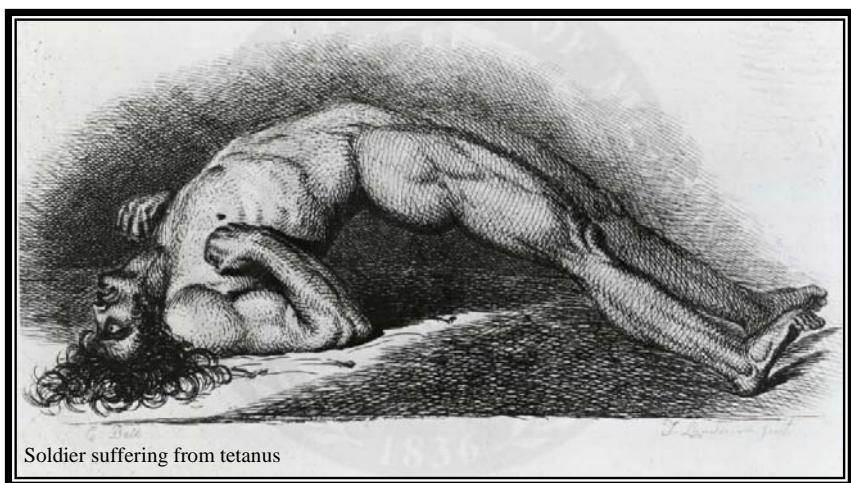
Rabies & typhoid vaccines licensed in U.S.

First traffic light



Abraham Flexner

Pictures are courtesy of the NLM.



Soldier suffering from tetanus

1914-1918

WORLD WAR I

World War I takes place, during which 70% of American soldiers contracted a venereal disease until Assistant Secretary of the Navy, Franklin D. Roosevelt, ordered condom distribution.



1915

Pertussis vaccine licensed in U.S.

Welch-Rose Report on Schools of Public Health

1918

Spanish Flu kills 25-50 million people worldwide

1920

Trucking of fresh produce

Band-Aid

1921

Maternity & Infancy Act

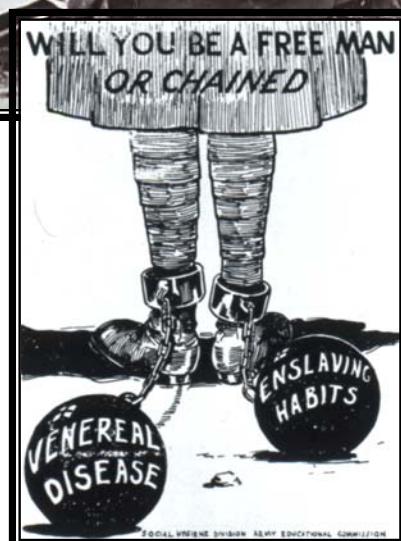
1922

Vitamins discovered

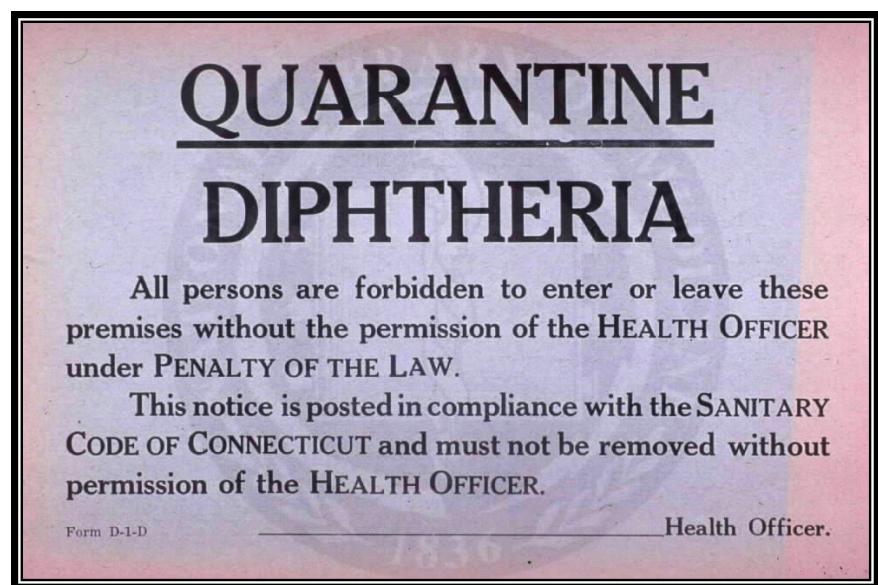
1923

Diphtheria vaccine recommended universally for U.S. children

**WILL YOU BE A FREE MAN
OR CHAINED**



Pictures are courtesy of the NLM.



1924

Kleenex disposable paper handkerchiefs

Aerial crop-dusting

1925

Car headlights

1926

Pertussis vaccine recommended universally for U.S. children

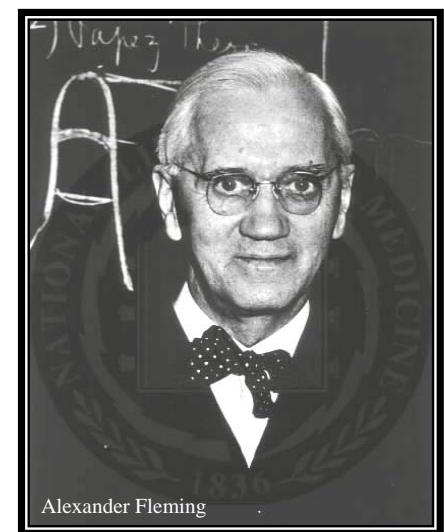


Child with diphtheria. Courtesy of the CDC.

1927

Tuberculosis vaccine developed

Tetanus vaccine recommended universally for U.S. children



Alexander Fleming

1928

First iron lung

Penicillin is accidentally discovered by Alexander Fleming when he notices that penicillin mold growing in a Petri dish resists bacteria. Penicillin is refined in the 1940s & is first used widely during WWII.

1929-1939

GREAT DEPRESSION

Pictures are courtesy of the NLM.

1929

Blue Cross Insurance

1930

Cell culture



Wall Street

OUR ARTIST IN THE UNITED STATES—XI WALL STREET, NEW YORK

Frozen food process invented by Admiral Birdseye

1934

Cat's eye road reflectors

1935

Yellow fever vaccine first licensed in U.S.

Social Security Act

1938

Minimum wage

Garfield/Kaiser Prepaid Group Practice (later Kaiser Permanente)

President F.D. Roosevelt founds National Foundation for Infantile Paralysis (March of Dimes)

1939

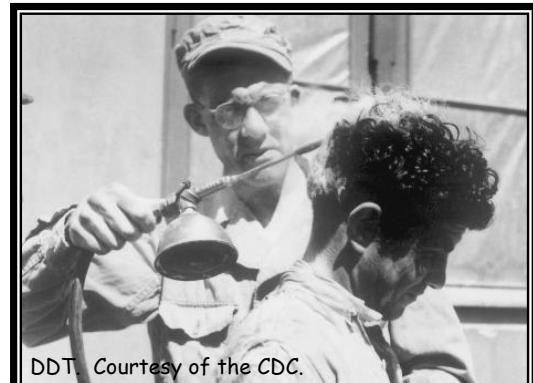
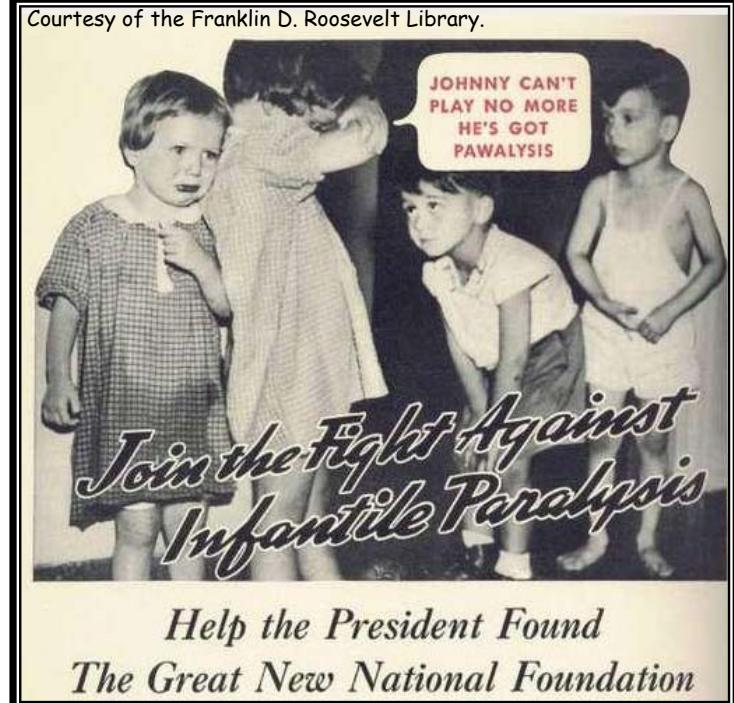
DDT invented

1939-1945

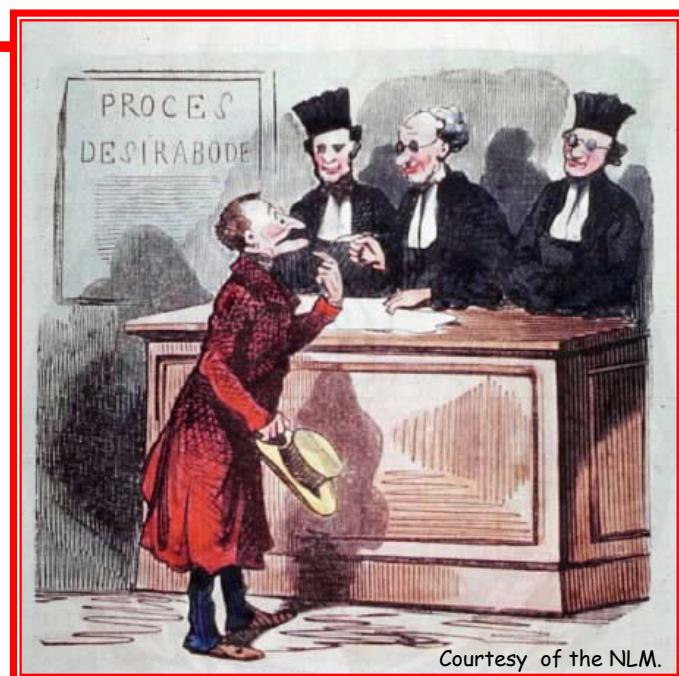
WORLD WAR II

World War II's military physicals reveal that many Americans are of poor health. Not only do they suffer inadequate nutrition, but 20% of the men are rejected because they cannot pass the dental requirement - six pairs of opposing teeth. War Food Order #1 demands the enrichment of white bread to aid in nutrition, penicillin is mass produced to combat infection, & tooth brushing becomes a daily U.S. habit after the men return to civilian life. Further, fat-laden

Courtesy of the Franklin D. Roosevelt Library.



DDT, Courtesy of the CDC.



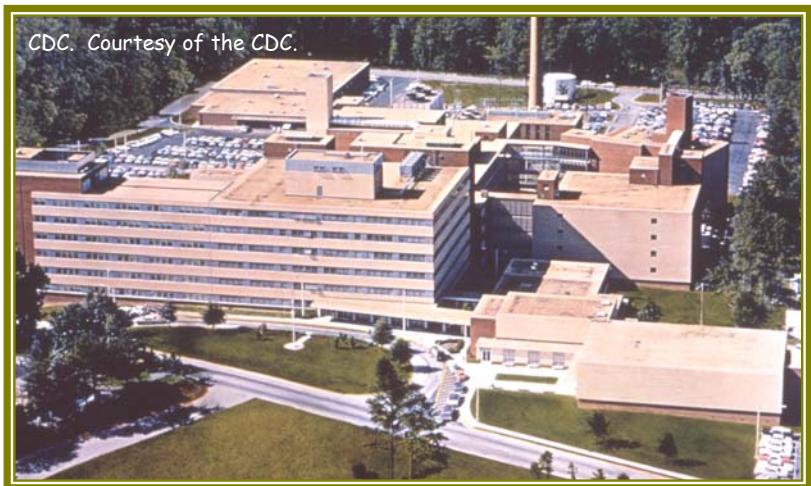
Courtesy of the NLM.

beef replaces pork as America's favorite meat.

1940

Center for Control of Malaria in War Areas (later CDC)

Kark Community-Oriented Primary Care Clinic, South Africa



1941

Aerosol spray can

1942

Influenza A/B vaccine introduced

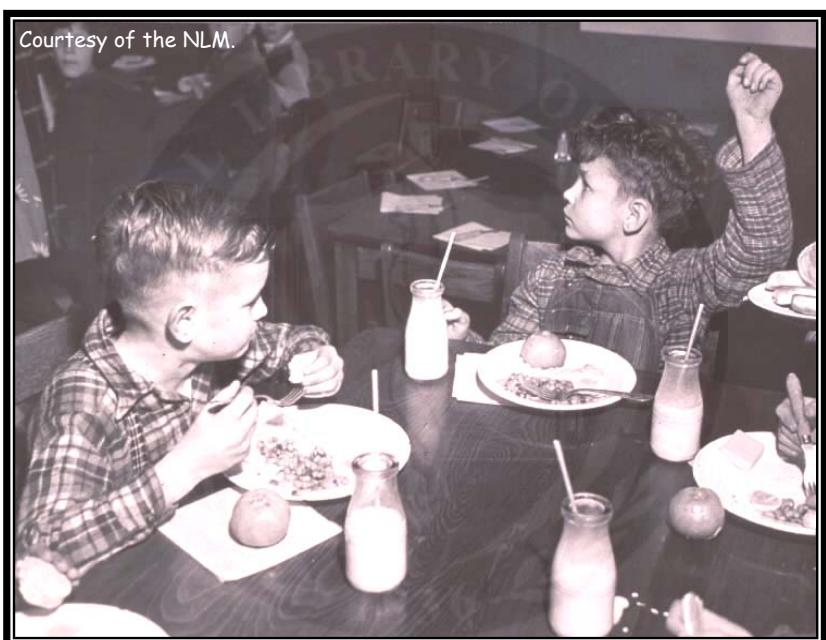
1943

Penicillin mass produced

1944

Public Health Services Act, consolidating legislation affecting the Public Health Service

Prepaid group health insurance



1945

Influenza vaccine licensed for use in U.S.

Offshore oil drilling

The Framingham Heart Study defines high cholesterol, smoking, high blood pressure, poor diet, & inactivity as risk factors of heart disease.

1946

Hill-Burton Act



School Lunch Act passed establishing the National School Lunch Program, which propelled several programs throughout time augmenting the nutritional status of America's youth

1948

Fluoridated water seen to prevent cavities

1949

DTP licensed in U.S.

Last smallpox case reported in U.S.

1950

Disposable diaper

1950s

Civil Defense drills in preparation for war

1951

Air conditioners for home use

Lamaze birth method

Unbreakable waxed cardboard milk carton

1952

Polio epidemic kills 57,628 in U.S.

Salk Polio Vaccine developed

1953

Yellow Fever vaccine licensed for use in U.S.

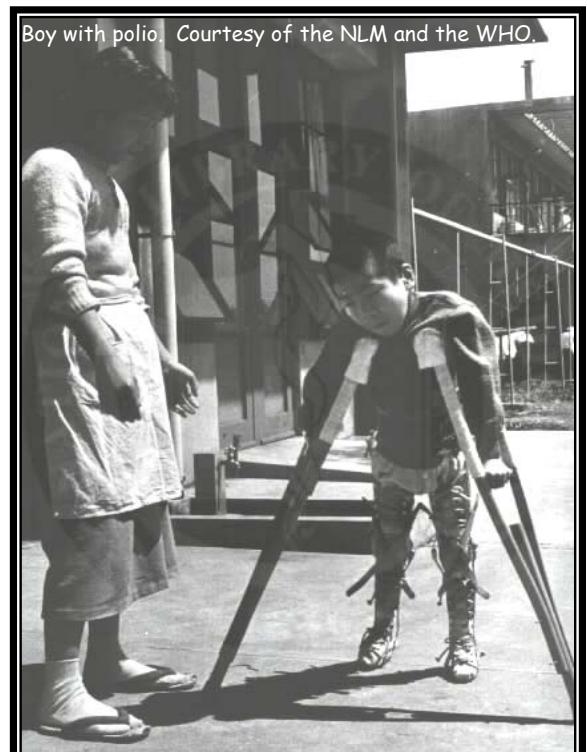
Apgar scale for newborn health evaluation



Dr. Frederick McKay. Courtesy of the CDC.



Courtesy of the NLM.



1954

Birth control pill
Solar energy invented
Frozen TV dinners & other processed foods
Fast food restaurants



1955

Polio vaccine licensed for use & recommended universally for U.S. children
Cutter polio vaccine infects 94 vaccinees, raising the Laboratory of Biologics Control to division status within NIH
Polio Vaccination Assistance Act

1956

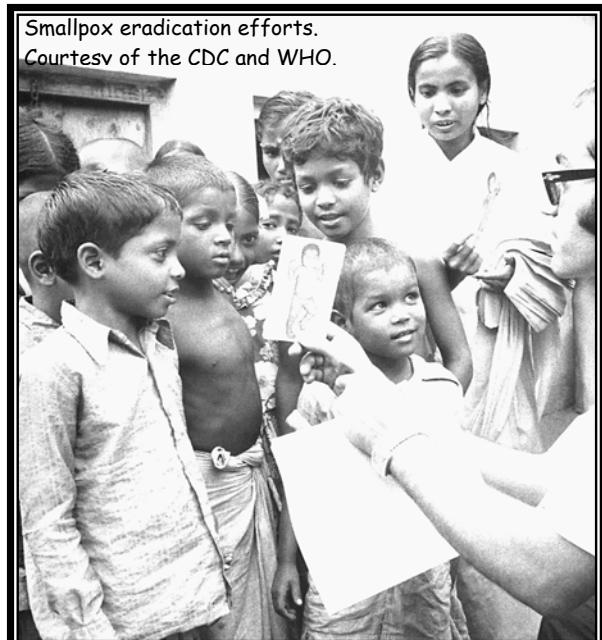
Fluoride toothpaste

1959

World Health Assembly calls for global smallpox eradication

1960

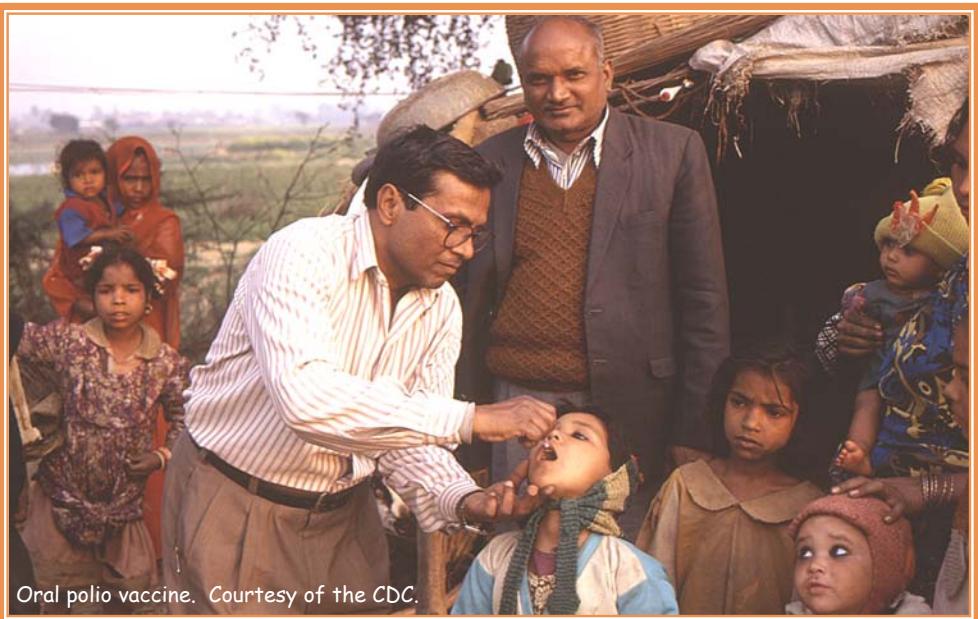
Slaughterhouse disassembly lines eliminate the need for local butchers while increasing the risk of contamination. Today, 13 meat packing factories process most of the beef in the U.S., each producing nearly 800,000 pounds of meat per day. One cow infected with E. coli can contaminate



32,000 pounds of beef.

1960s
Recycling

1961
Oral polio vaccine types 1 & 2 licensed for use in U.S. (type 3 in 1962)



Measles vaccine licensed for use in U.S.
Electric toothbrush

1963
Trivalent oral polio vaccine licensed for use in U.S.

Measles vaccine licensed for use & recommended universally for U.S. children

1964
Advisory Committee on Immunization Practices (ACIP) holds first meeting

911 phone system

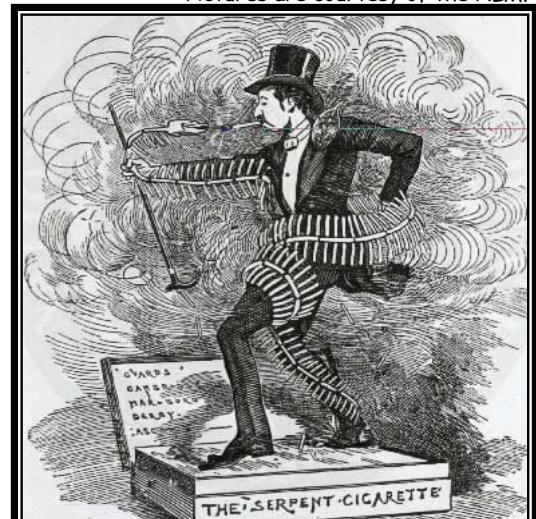
Food Stamp Act

Surgeon General's report linking smoking to lung cancer

Rachel Carson's *Silent Spring* elicits environmental concerns, bringing light to the negative consequences of pesticide use. Through protests in the 1960s & 1970s, people begin to "think globally, act locally", helping to eventually ban DDT.



Pictures are courtesy of the NLM.



1964-1965

Largest rubella epidemic in U.S., 12.5 million cases, 20,000 congenital

1965

Bifurcated smallpox needle
Medicare & Medicaid Act
Cigarette warning label
Turkey pop-up temperature gauge
Ralph Nader's *Unsafe at Any Speed* exposes auto safety hazards.

1965-1973

VIETNAM WAR

Agent Orange kills crops, but is also later associated with soldiers' health.



Pictures are courtesy of the NLM.

1966

U.S. measles eradication goal declared

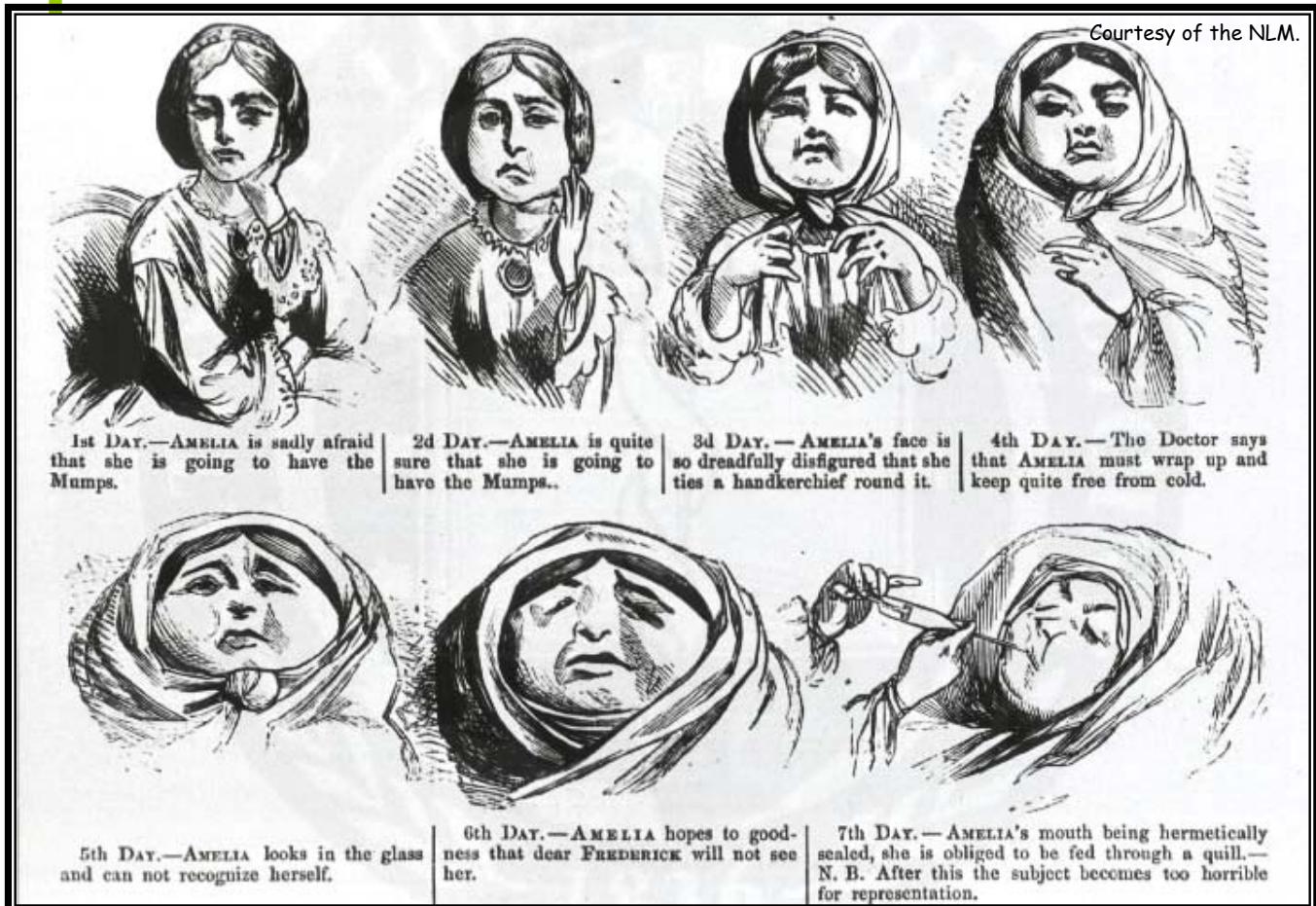
Car seatbelts required

French fries at fast food restaurants are America's favorite food, although they have more saturated fat per ounce than the fast food hamburger. At this time, about 25% of a U.S. child's daily vegetable intake is from potato chips & French fries.

1967

Global Smallpox Eradication Program launched by WHO

Mumps vaccine licensed for use & recommended universally for U.S. children



1969

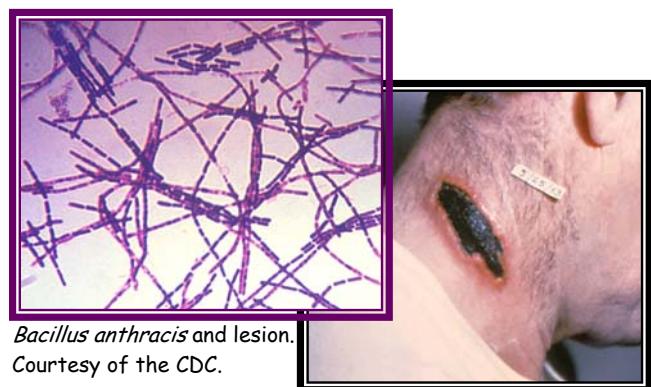
Rubella vaccine licensed for use & recommended universally for U.S. children

Mammography

Smoke detector for home use

1970

Anthrax vaccine licensed for use in U.S.



DDT banned
EPA & OSHA established
Satellite weather forecasts

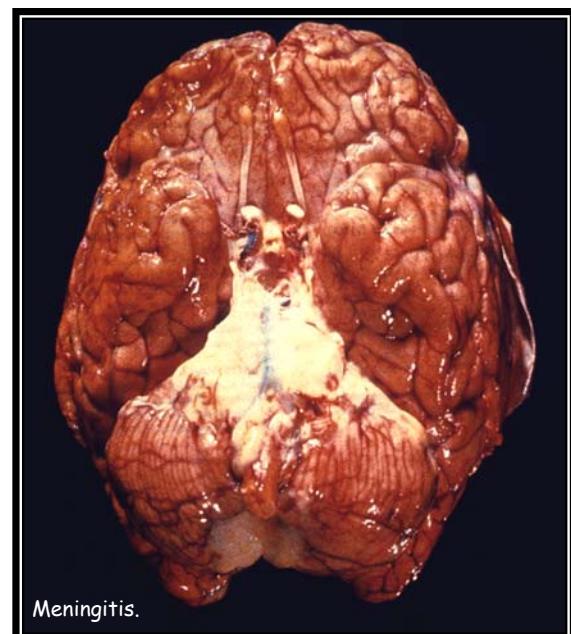
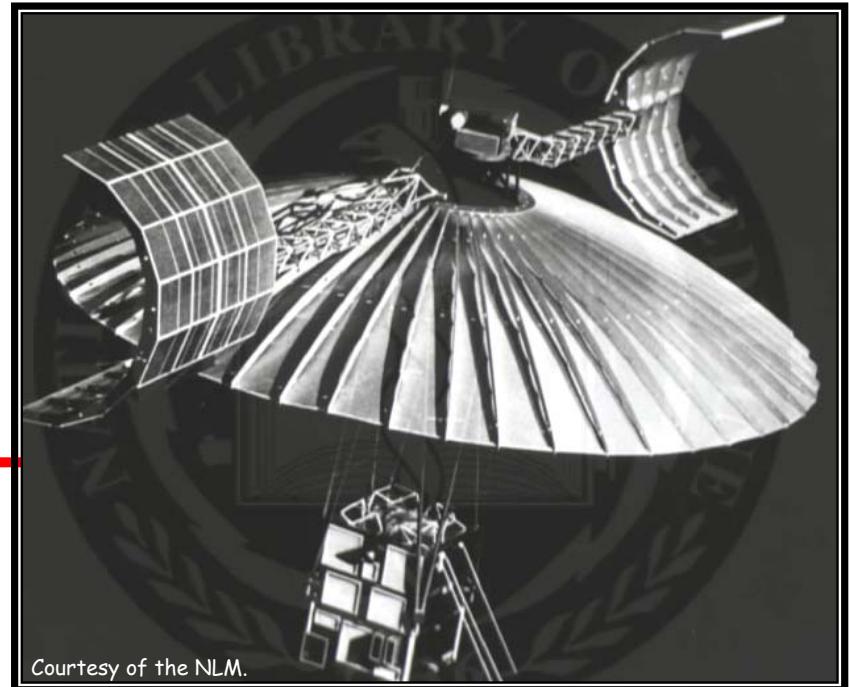
**1970-1995
EXTINCTION OF
LEADED GAS**

1971
Smallpox vaccination no longer required
MMR vaccine licensed for use in U.S.

1972
Division of Biologic Standards transferred to FDA as Bureau of Biologics
WIC Nutrition Program

1973
First monovalent meningococcal polysaccharide vaccine
Car airbags invented
HMO Act of 1973
Nutrition label is developed, transitioning from including Minimum Daily Requirements to Recommended Daily Allowances to today's label, which includes Daily Values.

1974
Safe Drinking Water Act
The first Oil Crisis occurs, resulting in conservation efforts such as allowing car owners with odd numbered license plates to



Pictures are courtesy of the CDC.



purchase gas on odd numbered days & vice versa as well as a national 55mph speed limit. The former lasted until 1976, the latter until 1995.

1975

Meningitis vaccine licensed for use in U.S.

1976

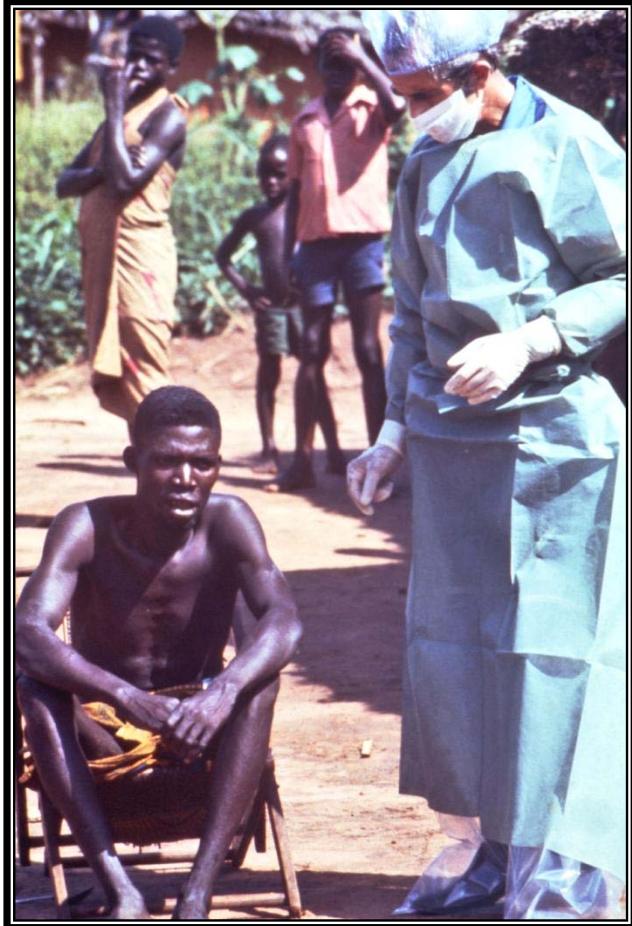
Legionnaire's Disease, Philadelphia

Emergence of multi-drug resistant tuberculosis

Ebola virus discovered in Africa

Decline in beef sales

Swine flu is the largest public vaccination program in U.S. thus far, but is ceased by fewer than 1/100,000 cases of Guillain-Barre Syndrome per shot.



Man (above) and CDC worker (below) suspected of Ebola exposure. Courtesy of the CDC.

1977

Clean Air Act

Pneumonia vaccine licensed for use in U.S.

Last indigenous case of smallpox, in Somalia

1978

Test tube baby

Restriction on lead-based paint & asbestos for home use



CDC reports first outbreak of a new drug-resistant tuberculosis

1979

Last wild U.S. case of poliomyelitis, among Amish

Three Mile Island nuclear reactor accident, Middletown, PA



Courtesy of the CDC.

1980

Smallpox eradicated

Adenovirus vaccine
licensed for use in
U.S.

Rabies vaccine first
licensed in U.S.

Love Canal dioxin
poisoning

Mothers Against
Drunk Driving (MADD)

Toxic Shock Syndrome
recognized



Love Canal, NY, 1978. Courtesy of the CDC.

1980s

Fitness craze, spawning vividly colored stretchy sports clothing of synthetic material

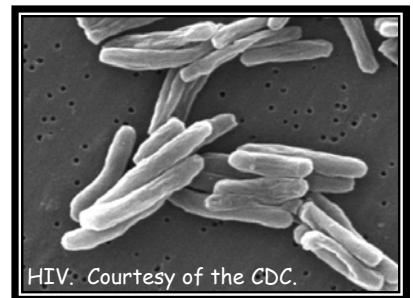


Former President Jimmy Carter and CDC Staff, 1984. Courtesy of the CDC.

1981

First AIDS cases reported

Pneumonia vaccine covered by Medicare Part B



HIV. Courtesy of the CDC.

1982

Hepatitis B vaccine licensed
for use & recommended
universally for U.S. children



Woman with smallpox and vaccinated child.
Courtesy of the National Museum of Health and Medicine.

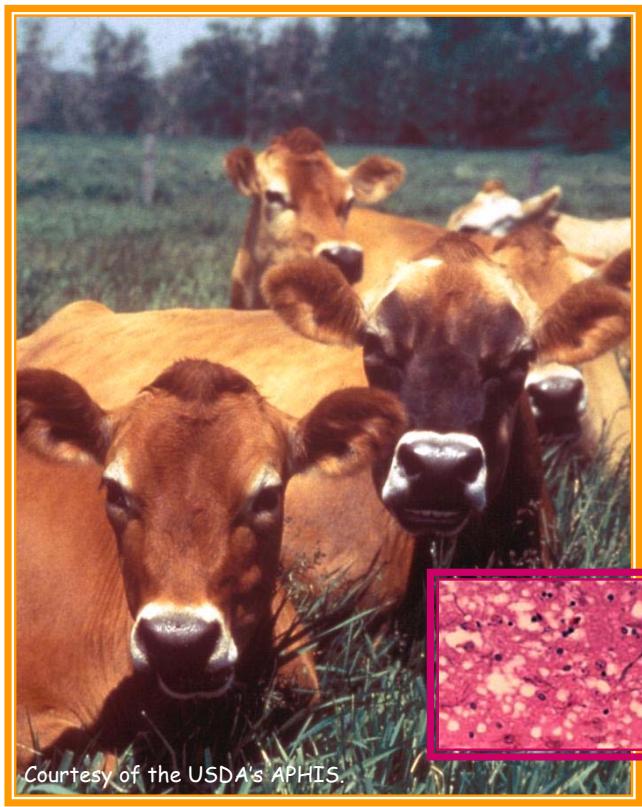
1983

Ozone layer warnings

Chicken nuggets respond to declining beef sales, adding a "healthy" fast food that often contains twice as much fat per ounce than the hamburger.

1984

Mad Cow Disease appears in cows
Community Health Centers Program



Courtesy of the USDA's APHIS.

1985

Haemophilus influenzae type b vaccine licensed for use & recommended universally for U.S. children

1986

National Childhood Vaccine Injury Act

Vaccine Adverse Event Reporting System (VAERS)

Chernobyl nuclear power accident, former USSR



Polio. Courtesy of the WHO.

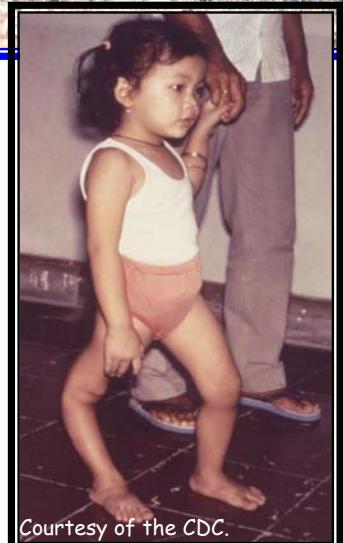
1988

National Vaccine Injury Compensation Program (VICP)

Worldwide Polio Eradication Initiative

Nicotine declared highly addictive

The Future of Public Health by IOM



Courtesy of the CDC.

1989

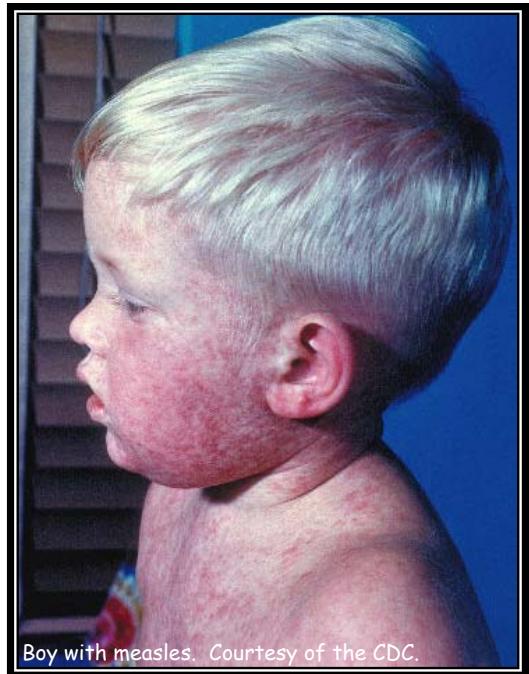
CFCs banned

Guide to Clinical Preventive Services by U.S. Preventive Services Task Force

Exxon Valdez oil disaster, as a tanker hits Bligh Reef off Alaska's Prince William Sound releasing 11 million gallons of crude oil over 1,300 miles of coastline

1989-1991

Resurgence of measles, prompting recommendation for a two-dose MMR



1990

Vaccine Adverse Reporting System (VAERS)

Haemophilus influenzae type b (Hib) vaccine licensed for infant use

Nutrition Labeling & Education Act (NLEA)

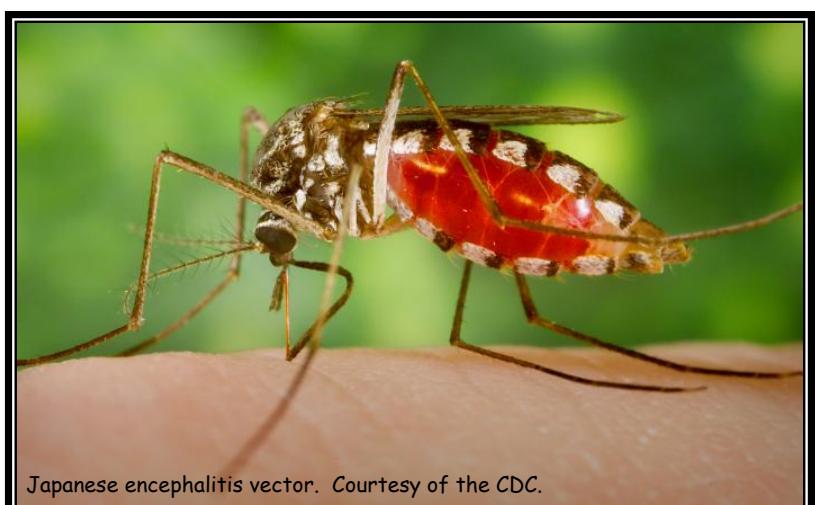
Americans with Disabilities Act

1991

Last case of indigenous polio in Americas, Pichanaqui, Peru

Car airbags required

Last case of wild poliovirus in Western Hemisphere



Japanese encephalitis vector. Courtesy of the CDC.

1992

Japanese encephalitis vaccine licensed for use in U.S.

Emergence of antibiotic resistance to a series of diseases

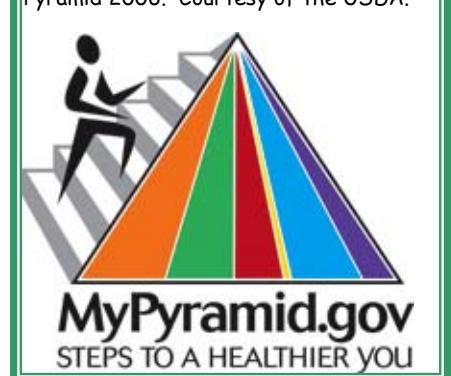
USDA Food Pyramid replaces 1950s Four Food Groups

Chicken consumption surpasses beef

1993

Vaccines for Children Program established

Pyramid 2006. Courtesy of the USDA.



Immunization registries promoted

Influenza vaccine covered by Medicare Part B

National Immunization Program

Hantavirus infection in humans

Health Plan Employer Data & Information Set: HEDIS

Schools begin to allow soft drink & fast food companies to market inside of schools in return for multimillion dollar contracts.

E. coli 0157:H7 is transmitted from undercooked hamburgers, making 900 people ill & four die. Consequently, improvements are made nationwide in meatpacking, food handling, & cooking.

1994

Flav'r Saver tomato, the first genetically-engineered (GE) crop

1995

Hepatitis A vaccine licensed for use in U.S.

Varicella vaccine licensed for use & recommended universally for U.S. children

First childhood immunization schedule

Mad Cow Disease appears in humans

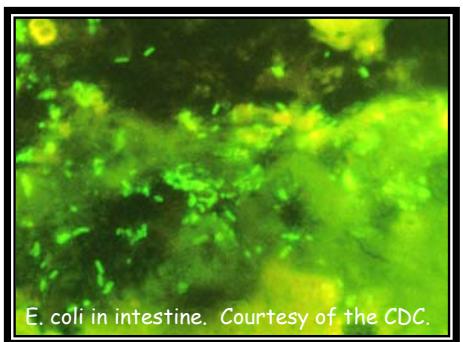
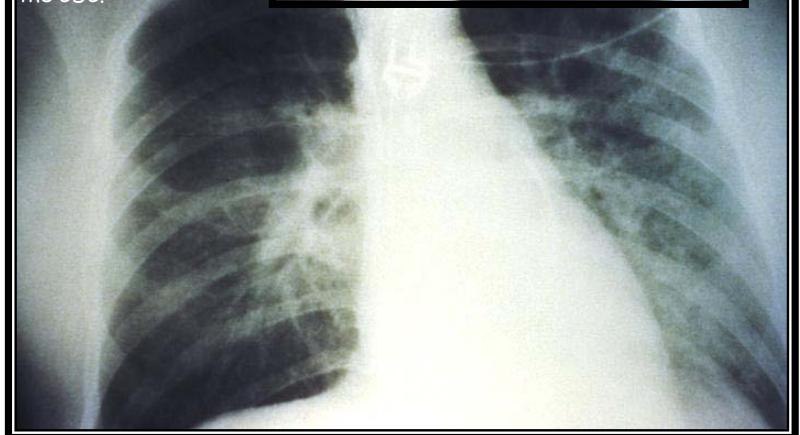
1996

Acellular pertussis vaccine licensed for infant use

Cloning begins with Dolly the sheep

National Congress of the Medicine/Public Health Initiative

Pulmonary effusion.
Pictures are courtesy of
the CDC.



USDA implements new science-based microbial testing system for meat inspections, replacing the former "poke & sniff" method. However, the enforcement of safe food handling extends to health department inspectors, restaurant employees & consumers.

1997

U.S. recalls 35 million pounds of beef potentially contaminated with E. coli



Courtesy of the CDC.

1998

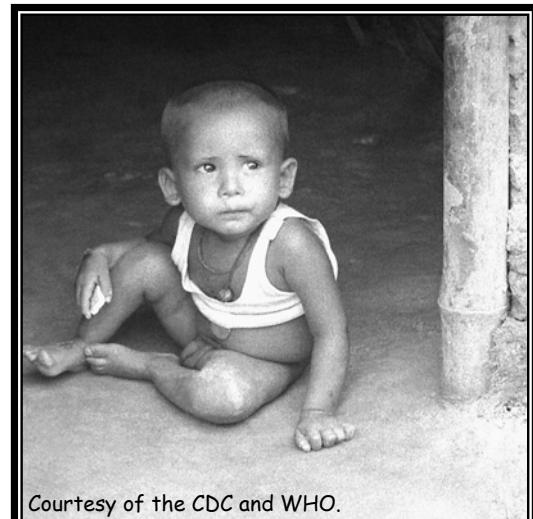
Lyme Disease vaccine licensed for use in U.S.

Rotavirus vaccine licensed for use & recommended universally for U.S. children

First vaccine for HIV/AIDS entered Phase III trial

Children's Vaccine Program, by the Bill & Melinda Gates Foundation

West Nile Virus appears in U.S.



Courtesy of the CDC and WHO.

1999

Rotavirus vaccine withdrawn from market due to intussusception

FDA recommendation to remove mercury from all products including vaccines

1999-2000

Y2K fears, leading to mass emergency preparedness

2000

Pneumococcal conjugate vaccine recommended universally for U.S. children

Worldwide measles initiative launched, no longer endemic in U.S.

USDA organic foods standards



Courtesy of the CDC.

established

Tobacco settlement for \$250 billion

Human Genome Project

Consumer concern over GE foods is recognized & prompts McDonald's to stop using GE potatoes for their fries & the recall of several grocery foods discovered to contain

StarLink GE corn, which was only approved for animal feed. Today, the battle continues as consumers fight for GE labeling against the World Trade Organization's (WTO) promotion of free trade & business profitability.

2001

September 11 prompts bioterrorism concerns

2002

U.S. prepares to dispense smallpox vaccine if necessary

2003

Measles no longer endemic in the Americas

FluMist licensed for use in U.S.

First Adult Immunization Schedule introduced

2004

Inactivated influenza vaccine recommended for children 6-23 months of age

Shortage of influenza vaccine in U.S.

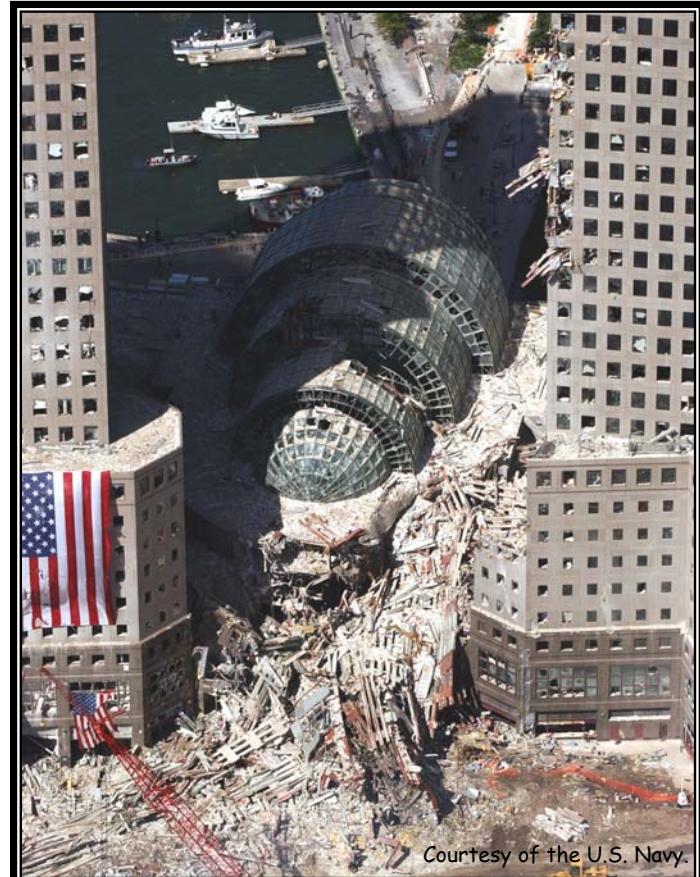
National Uniformity for Food Act of 2005

"To amend the Federal Food, Drug, and Cosmetic Act to provide for uniform food safety warning notification requirements, and for other purposes."

In other words, this bill would require that all laws enacted below the federal level must be no more restrictive on food labeling than federal laws. Federal law currently does not require that genetically-engineered foods be labeled for consumer awareness.

This bill passed the House on March 8, 2006 by a vote of 283-139. It was introduced in the Senate and referred to the Committee on Health, Education, Labor, and Pensions on March 9, 2006.

Source: GovTrack.. (2006). HR 4167. Retrieved July 23, 2006 from <http://www.govtrack.us/data/us/bills.text/109/h4167.pdf>.



Contracts to develop H5N1 avian influenza vaccine

2005

Rubella no longer endemic in U.S.

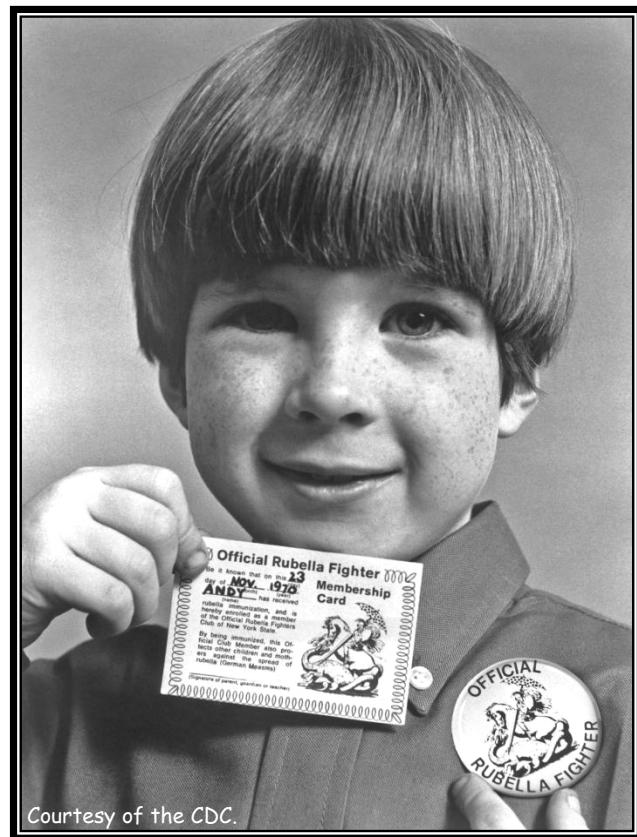
2006

Shingles vaccine licensed for use in U.S.

Gardasil, cervical cancer vaccine, licensed for use in U.S.

2007

Joint Symposium on Veterinary Public Health, the Association of Schools of Public Health and the Association of American Veterinary Medical Colleges



Courtesy of the CDC.

VETERINARIAN'S OATH:

Being admitted to the profession of veterinary medicine, I solemnly swear to use my scientific knowledge and skills for the benefit of society through the protection of animal health, the relief of animal suffering, the conservation of animal resources, the promotion of public health, and the advancement of medical knowledge.

I will practice my profession conscientiously, with dignity, and in keeping with the principles of veterinary medical ethics.

I accept as a lifelong obligation the continual improvement of my professional knowledge and competence.

Source: American Veterinary Medical Association. (2004). *Veterinarian's oath reaffirmed*. Retrieved July 26, 2006 from <http://www.avma.org/onlnews/javma/jun04/040601t.asp>.



AT THE GATES.
Our safety depends upon official vigilance.

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