


ENCYCLOPEDIA OF

GLOBAL HEALTH



YAWEI ZHANG
GENERAL EDITOR

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**GLOBAL
HEALTH**



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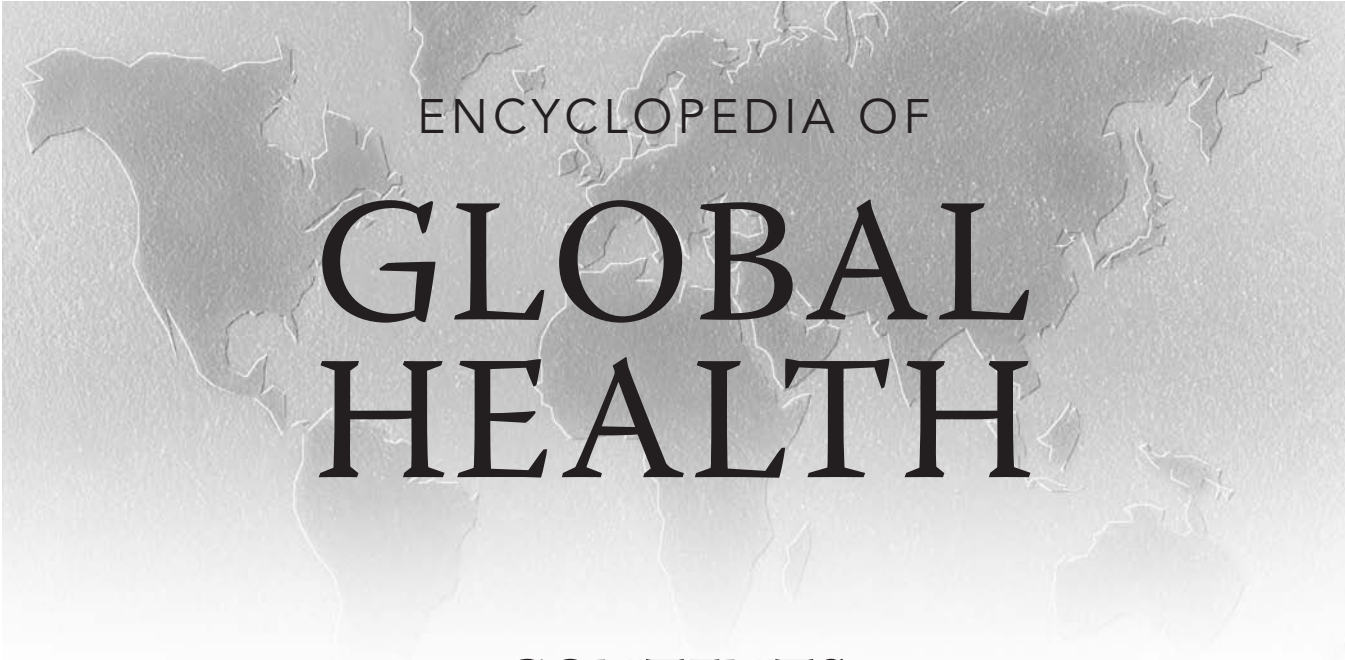
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Encyclopedia of Global Health

About the General Editor

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Dr. Zhang received medical training at West China University of Medical Sciences between 1987 and 1993. After her graduation, she worked at Gansu Health Department, Lanzhou, China for about six years on several major public health studies, such as the National Children's Nutrition Survey Study and the Children's Immunization Program. These nationwide activities inspired her to further pursue research in the field of public health. In addition, her public health experience

in China has also made her believe the importance of health education and the pursuit of research to advance the global understanding of the causes, treatment and prevention of disease.

Dr. Yawei Zhang is currently an Assistant Professor at Yale University School of Public Health. Prior to her appointment at Yale, she obtained post-doctoral training at the National Cancer Institute. She received her Master's degree and Ph.D. degree in Public Health at Yale University. As a cancer epidemiologist, Dr. Zhang has been conducting epidemiological studies of human cancer risk involving various cancers, including Hodgkin's lymphoma and non-Hodgkin's lymphoma, multiple myeloma, and cancers of the breast, testis, lung, and thyroid.

During the past 10 years of research, she worked as Principal Investigator, Co-Investigator, Biostatistician, and Project Director for several major epidemiological studies investigating environmental exposures, endogenous hormones, genetic polymorphisms, and gene-environment interactions in the risk of human cancer. She is currently the Principal Investigator for epidemiological study of Quality of Life among Testicular Cancer Survivors. Dr. Zhang's research has made a significant impact on cancer prevention and control as reflected in her scientific publications.



Introduction

The contemporary understanding of global health is complicated and extends to all ends of the Earth and beyond. From the health effects of global warming to the implications of single nucleotide differences on disease, the factors that impact global health are extremely diverse and are changing constantly. As new scientific advances are made, as new policies are implemented, as wars are waged and peace agreements signed, or as new strains of infectious diseases evolve, the state of global health changes.

Despite this dynamic and diverse system of knowledge, there are issues, people, discoveries, and advances that stand out as having made a significant impact on global health over the past centuries. This encyclopedia subsequently provides readers with a historical context for important changes and issues in global health and will serve as a foundation of knowledge. However, I invite you to use this information to inform your understanding of the current issues and challenges facing the field of global health and to participate in current global health discourse.

The globalization of health began in the late fifteenth century when the European explorers discovered the Americas. Not only did the European explorers establish trade routes between Asia, Europe, and the Americas, they also geographically spread disease between continents. Soon after, they made connection between Africa and the Americas through slave trade, as well as many other areas of the world where

they traded. Over the past several decades, rapid development of economic, political, social, and cultural globalization and the easy access to high-speed forms of transportation have led to an exponential rise in international travel. It has given rise to new patterns in the spread of infectious diseases.

The recent outbreak of the virus SARS (Severe Acute Respiratory Syndrome) represents a good example of how new infectious diseases can spread globally in an unprecedented speed. Health officials in Hong Kong reported that within seven days, a man infected with SARS had flown from Hong Kong to Munich, Barcelona, Frankfurt, London, Munich again, Frankfurt again and then back to Hong Kong before entering a hospital. The man is believed to be responsible for spreading SARS to Europe.

On the other hand, the international response to SARS highlights the importance of global scientific networks in addressing the problem of emergent infectious diseases. While it took two years to identify HIV as the cause of AIDs in 1980s, it took only two weeks to identify coronavirus as the cause of SARS in the recent outbreak because the World Health Organization (WHO) created a global network involving 13 laboratories in ten countries to work on the case of SARS.

A number of new infectious diseases have emerged during the past several decades that can be attributed to the urbanization, deforestation, change in land use

and climate, population growth, poverty, political instability, and even terrorism.

The rise of globalization has also led to a rise in the incidence of non-communicable diseases through the adoption of unhealthy lifestyles, including stress, alienation and the aggressive marketing of fast foods, cigarettes, and alcohol.

Although economic development and the introduction of modern medicine have reduced the incidence of infectious diseases and have made a general improvement in population health, the reduction of mortality from infectious diseases has been paralleled by an increase in non-communicable diseases, such as heart disease, diabetes, and cancer. This health transition experienced by most developing countries has been slower than the health transition in the more developed countries. Globalization has promoted uneven socioeconomic development in many developing countries, leading to rising incomes for certain sectors of the population and to lifestyle changes in these sectors that create a new health burden of non-communicable diseases and injuries.

Meanwhile the poorer sectors of the population whose incomes and lifestyles have not changed that much still suffer from the old health burden of infectious diseases and malnutrition. The Global Burden of Disease project by the World Bank and the WHO in the early 1990s provided evidence of the epidemiological transition of disease burden in developing countries, and predicted that causes of death attributable to non-communicable diseases are expected to rapidly increase while causes of death attributable to communicable, perinatal, maternal and nutritional causes will decline over the next couple of decades. The international health data in 1990 revealed that the heart disease, stroke, and cancer have replaced the major communicable diseases and malnutrition as the prime causes of death worldwide, and the total number of deaths from non-communicable disease causes was actually greater in the developing countries than in more-developed countries.

INFECTIOUS DISEASES

Infectious diseases, also called communicable diseases, are characterized by the presence or activation of one or more pathogenic microbial agents, transmitted through contact with infected individuals, by water, food, airborne inhalation, or through vector-borne spread. Infectious diseases have historically been the leading cause of human morbidity and mortality. Over the past 150 years, the mortality due

to infectious diseases has declined substantially in developed countries, and non-communicable diseases such as cardiovascular disease, cancer, stroke, chronic obstructive pulmonary disease, and diabetes mellitus have become the leading causes of death in these countries.

In the United States, only pneumonia, influenza, and HIV/AIDS, currently, rank among the top 10 causes of mortality. However, in developing countries, acute infectious diseases are the leading cause of death among children and young adults, and account for half of all deaths. It has been suggested that acute infectious diseases will decrease substantially during the next few decades.

In addition, it is well documented that chronic infections play an important role in pathogenesis of a number of chronic diseases, including cervical cancer (human papilloma virus [HPV]), hepatic cancer and cirrhosis (hepatitis B virus [HBV] and probably hepatitis C virus [HCV]), gastric cancer and peptic ulcer disease (*Helicobacter pylori*), and possible cardiovascular disease (*Chlamydia pneumoniae* or other infectious agents).

A number of strategies have been employed to prevent morbidity and mortality from specific infectious diseases, including vector control (i.e., malaria, dengue, yellow fever, and onchocerciasis [river blindness]), vaccination (i.e., smallpox, measles, polio, neonatal tetanus, diphtheria, pertussis, tetanus, hepatitis B, meningococcal meningitis, and yellow fever), mass chemotherapy (i.e., hookworm, onchocerciasis, dracunculiasis [guinea worm], and sexually transmitted infections [STIs]), improved sanitation and access to clean water (i.e., diarrheal diseases), improved care-seeking and caregiving (i.e., diarrheal diseases, acute respiratory infections, and neonatal tetanus), and behavior change (i.e., HIV and other STIs, diarrheal diseases, and dracunculiasis), among others.

Through a combination of enhancements in case identification, containment, and vaccination, smallpox was successfully eradicated in the late 1970s worldwide. WHO and various partner agencies subsequently launched the Expanded Program of Immunizations (EPI) in 1974 to eradicate polio, dramatically reducing morbidity and mortality from measles and neonatal tetanus, and decreasing morbidity and mortality from diphtheria and pertussis worldwide. Furthermore, the success of HBV and HPV vaccination makes hepatic cancer and cirrhosis from HBV infection and cervical cancer from HPV a preventable chronic disease.

NON-COMMUNICABLE DISEASES

Non-communicable diseases are also called chronic diseases, or degenerative diseases, which are characterized by complex risk factors, functional impairment or disability, with a prolonged course of illness and the unlikelihood of cure. While it has been a major public health concern in developed countries, non-communicable diseases are expected to become a big burden to developing countries during the next few decades.

In 1990, epidemiologists found that non-communicable diseases such as heart disease, stroke, and cancer have replaced the major communicable diseases and malnutrition as the prime causes of death worldwide, and estimated that by 2020 non-communicable diseases will account for 7 of 10 deaths in developing countries. Considerable efforts have been made to investigate potential risk factors for non-communicable diseases since the 1950s. It is currently well accepted that tobacco use, alcohol consumption, dietary intake, and physical activity are the major principle lifestyle factors highly associated with non-communicable diseases morbidity and mortality. In addition, a number of other factors are also currently linked to the etiology of non-communicable diseases, including social class, culture, social networks, education, income, race, gender, and occupation, although the results from current available literatures are inconsistent.

Cardiovascular disease refers to a group of diseases that involve heart and blood vessels. While it has been the leading cause of death and disability in industrialized countries, it is the second leading cause of death and disability among individuals in developing countries. In 2000, cardiovascular diseases accounted for 20 percent of all deaths worldwide. The mortality pattern varies by age, race, and gender. Not only is cardiovascular disease the major cause of death in older age groups and in men, it is also a very significant contributor to mortality in persons of economically productive ages (30–69 years) and in women. In the United States, cardiovascular disease mortality is higher in men than in women, and less for white men and women than for black men and women. Although cardiovascular disease has been widely studied in developed countries, information on diagnosis, treatment, and their natural history is sparse in developing countries.

Cancer is the second leading cause of death in the United States. The global burden of cancer is currently unclear because of the limited information on

cancer incidence in developing countries. The International Agency for Research on Cancer (IARC) has produced numerous publications on cancer, including a detailed compilation of cancer incidence data from high-quality registries, which served as the basis for global estimation of cancer. The incidence rate of specific cancers varies between developed and developing countries. While cancers of the lung, breast, colon, and prostate are the most frequent types in the developed world, cancers of the mouth and oropharynx, stomach, and liver are the most common malignancies in the developing world.

Although lung cancer is relatively less common in the developing countries, its incidence and mortality is increasing as tobacco smoking becomes more prevalent. One of the well-established risk factors for lung cancer is tobacco smoking, but it is the most difficult to control because tobacco products are a great source of revenue for businesses and a major source of tax revenue for many governments. It has been suggested that 81 percent of worldwide liver cancer is attributable to infectious with hepatitis B and C viruses and to parasites that invoke a chronic inflammatory process. Because these infectious agents are more prevalent in developing countries, liver cancer is more frequent in these countries. Hepatitis B is generally transmitted through sexual intercourse or mother to child. A vaccination against hepatitis B is available now and has been demonstrated to be effective in reducing the incidence of liver cancer.

In developing countries, the state-of-the-art medical treatments with surgery or chemotherapeutic medicines are not widely available. As such, the major focus is on prevention rather than treatment. Although enormous resources are devoted to treating cancer in developed countries such as the United States, prevention efforts have also proven to be the most successful means of decreasing mortality from cancer over the past several decades. A recent publication by IARC demonstrated that differences in the average length of survival between developed and developing countries were greatest for certain cancers in which multiple therapy (radiation, surgery, and chemotherapy) is most effective, including testicular cancer, leukemia, and lymphoma that occur predominantly among younger individuals.

However, for the most common preventable cancers such as those of the mouth, stomach, liver, and lung, uniformly poor survival outcomes in all registries including those in either developed or developing countries were observed.

Diabetes has become enormously prevalent and is a major cause of disability worldwide. There are two major distinct types, (a) insulin-dependent diabetes mellitus or type 1 diabetes which is characterized by immune destruction of the cells of the pancreas that secrete insulin; and (b) noninsulin-dependent diabetes mellitus or type 2 diabetes which is characterized by a high level of serum glucose and elevated levels of insulin. Type 1 diabetes usually occurs in younger people and appears to have a strong genetic component. It has been shown that type 1 diabetes rates are the highest in Finland and Sweden and the lowest in Asian countries, Mexico, Chile, and Peru. In the United States, the disease rates are generally higher among the white population than black or Hispanic population, but the lowest among Native Americans. On the other hand, type 2 diabetes prevalence is increasing among populations experiencing modernization with decreases in physical activity and increases in average body mass. The high rates of type 2 diabetes have been observed in Pacific Islanders, Australian aborigines, Asian Indians, and certain subsets of Native Americans. Both types of diabetes can lead to major complications including blindness, renal failure, injuries and chronic infections of the extremities, or even large vessel disease, such as ischemic heart disease. As such, the WHO has identified diabetes as a major priority in non-communicable disease control.

Injuries are among the leading causes of death and burden of diseases all over the world. Every day, almost 16,000 individuals die from injuries. Incidence and severity of injuries vary according to age, sex, race, occupation, as well as economic and geographic factors. Globally, injuries are an enormous toll for children, adolescents and young adults, and their associated death rates are higher among boys than among girls. The burden of injuries in developing countries differs from developed countries. China, Latin America, the Caribbean, sub-Saharan Africa are among the highest injury burden countries. Compared to intentional injuries, unintentional injuries conferred a much bigger health burden. Unintentional injuries are responsible for 5.2 percent of total deaths and account for 10–30 percent of all hospital admissions. The leading cause of injury deaths is motor-vehicle accidents globally, then suicide, homicide, drowning, war-related injuries, falls, burns, and poisonings. Although motor-vehicle injuries are preventable, declines in incidence have not been observed around the world. In fact, increases during the next few years are expected because a number of factors that con-

tribute to motor-vehicle injuries are still issues particularly in for developing countries, including rapid population growth, increasing motorization, little access to emergency care, lack of safety features in cars, crowded roads, poor road maintenance, and lack of police enforcement.

MENTAL HEALTH

Mental health has received little attention historically because of its limited mortality. However, a recent assessment using the disability-adjusted life years (DALYs) as an indicator of the burden of disease has underscored the importance of mental health and stimulated reexamination of international health priorities. In developing countries, five of the ten leading causes of disability among persons 15–44 years are mental health and behavioral problems. All together, these five conditions account for almost 22 percent of all DALYs in the most productive years of life. While mental health and related conditions accounted for 10.5 percent of the disease burden with an additional 1.5 percent attributed to intentional injuries in developing countries, they accounted for 23.5 percent with an additional 2.2 percent attributed to intentional injuries in developed countries. It has been estimated that mental health and related conditions in developing countries are increasing toward the level in developed countries.

THE ENCYCLOPEDIA

The *Encyclopedia of Global Health* is a comprehensive A to Z, interdisciplinary, one-stop reference to a broad array of health topics worldwide. It covers all aspects of health including physical and mental health entries, current health status in each country of the five continents, biographies of major doctors and researchers, profiles of major medical institutes, organizations, corporations, and foundations, descriptions of major drugs and operations, articles on national health policies, and thematic health topics in the humanities. Pedagogical elements of the encyclopedia include an in-depth chronology detailing advances in health through history, a glossary of health definitions, extensive cross-references to related topics, and thorough bibliographic citations. Not only is the *Encyclopedia of Global Health* a useful reference for health professionals, but also for general populations.

YAWEI ZHANG
GENERAL EDITOR



Reader's Guide

This list is provided to assist readers in finding articles related by category or theme.

CHILDREN'S HEALTH

Adolescent Development
Adolescent Health
Adoption Medicine
Alcohol and Youth
Asthma in Children
Birth Defects
Breech Birth
Child Abuse
Child Behavior Disorders
Child Dental Health
Child Development
Child Mental Health
Child Safety
Childhood Cancers
Childhood Immunization
Diabetes Type I (Juvenile Diabetes)
Dysmorphology
Exercise for Children
Failure to Thrive
Fetal Alcohol Syndrome
Hearing Problems in Children
Infant and Newborn Care
Infant and Toddler Development
Infant and Toddler Health
Juvenile Rheumatoid Arthritis
Neonatologist
Neonatology

Pediatrics
Premature Babies
Prenatal Care
Rickets
Smoking and Youth
Spina Bifida
Sudden Infant Death Syndrome
Tanner Stages

COUNTRIES: AFRICA

Algeria
Angola
Benin
Botswana
Brunei Darussalam
Burkina Faso
Burundi
Cameroon
Cape Verde
Central African Republic
Chad
Comoros
Congo
Congo, Democratic Republic
Côte d'Ivoire
Djibouti
Egypt
Equatorial Guinea

Eritrea
Ethiopia
Gabon
Gambia
Ghana
Guinea
Guinea-Bissau
Kenya
Lesotho
Liberia
Madagascar
Malawi
Mali
Mauritania
Mauritius
Morocco
Mozambique
Namibia
Niger
Nigeria
Rwanda
São Tomé and Príncipe
Senegal
Sierra Leone
Somalia
South Africa
Sudan
Swaziland

Tanzania
Togo
Tunisia
Uganda
Zambia
Zimbabwe

COUNTRIES: AMERICAS

Antigua and Barbuda
Argentina
Bahamas
Barbados
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Brazil
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Dominica
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Grenada
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Guyana
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Honduras
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Paraguay
Peru
Saint Kitts and Nevis
Saint Lucia
Saint Vincent and the Grenadines
Suriname
Trinidad and Tobago
United States Statistics
Uruguay
Venezuela

COUNTRIES: ASIA

Afghanistan
Azerbaijan
Bahrain
Bangladesh
Bhutan
Cambodia

China
East Timor
Georgia
India
Indonesia
Iran
Iraq
Israel
Japan
Jordan
Kazakhstan
Korea, North
Korea, South
Kuwait
Kyrgyzstan
Laos
Lebanon
Malaysia
Maldives
Moldova
Mongolia
Myanmar Republic
Nepal
Oman
Pakistan
Palestine
Philippines
Qatar
Russia
Saudi Arabia
Seychelles
Singapore
Sri Lanka
Syria
Tajikistan
Thailand
Turkey
Turkmenistan
Ukraine
United Arab Emirates
Uzbekistan
Vietnam
Yemen

COUNTRIES: EUROPE

Albania
Andorra
Armenia
Austria
Belarus
Belgium

Bosnia and Herzegovina
Bulgaria
Croatia
Cyprus
Czech Republic
Denmark
Estonia
Finland
France
Germany
Greece
Hungary
Iceland
Ireland
Italy
Latvia
Liechtenstein
Lithuania
Luxembourg
Macedonia FYROM
Malta
Monaco
Netherlands
Norway
Poland
Portugal
Romania
San Marino
Serbia and Montenegro
Slovakia
Slovenia
Spain
Sweden
Switzerland
United Kingdom

COUNTRIES: PACIFIC

Australia
Fiji
Kiribati
Marshall Islands
Micronesia
Nauru
New Zealand
Palau
Papua New Guinea
Samoa
Solomon Islands
Tonga
Tuvalu
Vanuatu

DISEASES, CANCERS

Adrenocortical Carcinoma
 Anal Cancer
 Bile Duct Cancer
 Bladder Cancer
 Bone Cancer
 Brain Cancer
 Breast Cancer
 Cancer (General)
 Carcinoid Tumors
 Carcinoma of Unknown Primary
 Colorectal Cancer
 Esophageal Cancer
 Extragonadal Germ Cell Tumor
 Eye Cancer
 Gallbladder Cancer
 Head and Neck Cancer
 Hodgkin's Lymphoma
 Kidney Cancer
 Leukemia
 Liver Cancer
 Lung Cancer
 Malignant Mesothelioma
 Multiple Myeloma
 Neuroblastoma
 Non-Hodgkin Lymphoma
 Oncologist
 Oncology
 Oral Cancer
 Osteonecrosis
 Ovarian Cancer
 Pancreatic Cancer
 Penile Cancer
 Pheochromocytoma
 Pituitary Tumor
 Prostate Cancer
 Skin Cancer
 Small Intestine Cancer
 Soft Tissue Sarcoma
 Stomach Cancer
 Testicular Cancer
 Thymus Cancer
 Thyroid Cancer
 Uterine Cancer
 Vaginal Cancer
 Vulvar Cancer

DISEASES, LOCALIZED

Acid Reflux
 Acne
 Acoustic Neuroma

Age-Related Macular Degeneration
 Alzheimer's Disease
 Amblyopia
 Anal/Rectal Diseases
 Aneurysms
 Angina
 Aphasia
 Appendicitis
 Arrhythmia
 Arteriosclerosis
 Asbestos/Asbestosis
 Asthma
 Back Injuries
 Back Pain
 Bell's Palsy
 Birthmark
 Bladder Diseases
 Blepharitis
 Blepharospasm
 Blindness
 Bone Diseases
 Bone Marrow Diseases
 Brain Diseases
 Brain Injuries
 Brain Malformations
 Breast Diseases
 Breathing Problems
 Bronchitis
 Carpal Tunnel Syndrome
 Cataract
 Celiac Disease
 Cellulitis
 Chlamydia Infections
 Chronic Obstructive Pulmonary Disease
 (COPD)
 Cirrhosis
 Cleft Lip and Palate
 Colon Polyps
 Colonic Diseases (General)
 Concussion
 Congenital Heart Disease
 Conjunctivitis
 Connective Tissue Disorders
 Constipation
 Cornea and Corneal Disease
 Coronary Disease
 Deafness
 Dental Health
 Dermatitis
 Diabetic Eye Problems
 Diabetic Foot

Diabetic Kidney Problems
 Diabetic Nerve Problems
 Diabetic Teeth and Gum Problems
 Diarrhea
 Digestive Diseases (General)
 Diverticulosis and Diverticulitis
 Dysphagia
 Ear Disorders
 Ear Infections
 Elbow Injuries and Disorders
 Emphysema
 Esophagus Disorders
 Eye Diseases (General)
 Facial Injuries and Disorders
 Foot Health
 Foot Injuries and Disorders
 Fractures
 Gallbladder and Bile Duct Diseases
 Gastroesophageal Reflux/Hiatal Hernia
 Gastrointestinal Bleeding
 Genetic Brain Disorders
 Genital Herpes
 Glaucoma
 Glomerular Diseases
 Goiter
 Gonorrhea
 Gout and Pseudogout
 Gum Disease
 Hair Diseases and Hair Loss
 Hand Injuries and Disorders
 Head and Brain Injuries
 Head and Brain Malformations
 Head Lice
 Headache and Migraine
 Heart Attack
 Heart Diseases (General)
 Heart Valve Diseases
 Hemorrhoids
 Hepatitis
 Hepatitis C
 Hernia
 Hip Injuries and Disorders
 Huntington's Disease
 Hydrocephalus
 Impetigo
 Incontinence
 Inflammatory Bowel Disease
 Intestinal Parasites
 Irritable Bowel Syndrome
 Kidney Diseases (General)
 Kidney Failure and Dialysis

Kidney Stones
 Knee Injuries and Disorders
 Leg Injuries and Disorders
 Liver Diseases (General)
 Low Vision
 Meniere's Disease
 Mouth Disorders
 Neck Disorders and Injuries
 Neural Tube Defects
 Nose Disorders
 Onchocerciasis
 Paget's Disease of Bone
 Pancreatic Diseases
 Peptic Ulcer
 Pneumonia
 Polycystic Kidney Disease
 Pulmonary Embolism
 Pulmonary Fibrosis
 Raynaud's Disease
 Respiratory Diseases (General)
 Retinal Disorders
 Rheumatic Heart Disease
 Rosacea
 Salivary Gland Disorders
 Scoliosis
 Severe Acute Respiratory Syndrome
 (SARS)
 Shoulder Injuries and Disorders
 Sinusitis
 Skin Diseases (General)
 Skin Pigmentation Disorders
 Spinal Cord Diseases
 Spinal Cord Injuries
 Spinal Muscular Atrophy
 Spinal Stenosis
 Spleen Diseases
 Stomach Disorders
 Taste and Smell Disorders
 Temporomandibular Joint Dysfunction
 Thoracic Outlet Syndrome
 Throat Disorders
 Thyroid Diseases
 Tinnitus
 Trachoma
 Tuberculosis
 Ulcers
 Urinary Tract Infections
 Usher Syndrome
 Vitiligo
 Voice Disorders
 Wrist/Arm Injuries and Disorders

DISEASES, SYSTEMIC
 Acquired Mutation
 Addison's Disease
 AIDS
 AIDS and Infections
 AIDS-Related Malignancies
 Alcoholism
 Allergy
 Anemia
 Anorexia Nervosa
 Arthritis
 Autoimmune Diseases (General)
 Bacterial Infections
 Beriberi
 Bird Flu
 Bleeding Disorders
 Botulism
 Bulimia
 Bursitis
 Cerebral Palsy
 Chagas Disease
 Chickenpox
 Cholera
 Chronic Fatigue Syndrome
 Coma
 Common Cold
 Cystic Fibrosis
 Degenerative Nerve Diseases
 Dengue
 Developmental Disabilities
 Diabetes
 Diabetes Type II
 Diphtheria
 Disabilities (General)
 Dizziness and Vertigo
 Down Syndrome
 Dystonia
 Eating Disorders
E. Coli Infections
 Edema
 Ehlers-Danlos Syndrome
 Endocrine Diseases (General)
 Epilepsy
 Fainting
 Fever
 Filariasis / Elephantiasis
 Food Allergy
 Foodborne Diseases
 Fungal Infections
 Gaucher's Disease
 Genetic Disorders

Germline Mutation
 Giardia Infections
 Growth Disorders
 Guillain-Barre Syndrome
 Hemorrhagic Fever
 Herpes Simplex
 High Blood Pressure
 Hyperactivity
 Hypoglycemia
 Hypothermia
 Immune System and Disorders
 Infectious Diseases (General)
 Influenza
 Klinefelter's Syndrome
 Kwarshiorkor
 Lactose Intolerance
 Lead Poisoning
 Legionnaire's Disease
 Leishmaniasis
 Leprosy
 Leukodystrophies
 Lou Gehrig's Disease
 Low Blood Pressure
 Lupus
 Lyme Disease
 Lymphatic Diseases
 Malaria
 Marasmus
 Marfan Syndrome
 Measles
 Meningitis
 Metabolic Disorders
 Missense Mutation
 Movement Disorders
 Multiple Chemical Sensitivity
 Multiple Sclerosis
 Mumps
 Muscle Disorders
 Muscular Dystrophy
 Myasthenia Gravis
 Myositis
 Nausea and Vomiting
 Neurofibromatosis
 Neurologic Diseases (General)
 Neuromuscular Disorders
 Nonsense Mutation
 Osteoarthritis
 Osteogenesis Imperfecta
 Pain
 Paralysis
 Parasitic Diseases

- Parathyroid Disorders
 Parkinson's Disease
 Peripheral Nerve Disorders
 Phenylketonuria
 Pituitary Disorders
 Point Mutation
 Poisoning
 Polio and Post-Polio Syndrome
 Polymyalgia Rheumatica
 Porphyria
 Prader-Willi Syndrome
 Psoriasis
 Rabies
 Reflex Sympathetic Dystrophy
 Rett Syndrome
 Reye Syndrome
 Rheumatoid Arthritis
 Rubella
 Salmonella Infections
 Sarcoidosis
 Scleroderma
 Seizures
 Sexually Transmitted Diseases
 Shingles (Herpes Zoster)
 Shistosomiasis
 Sickle Cell Anemia
 Sjogren's Syndrome
 Smallpox
 Somatic Mutation
 Staphylococcal Infections
 Streptococcal Infections
 Stress
 Stroke
 Tay-Sachs Disease
 Tetanus
 Tourette Syndrome
 Transient Ischemic Attack
 Tremor
 Tuberous Sclerosis
 Turner's Syndrome
 Typhoid
 Vasculitis
 Viral Infections
 Whooping Cough
 Wilson's Disease
- DRUGS AND DRUG COMPANIES**
 Adult Immunization
 Amphetamines
 Anabolic Steroids
 Antibiotics
- Drug and Medical Device Safety
 Generic Drug
 Immunization/Vaccination
 Inhalants
 Maintenance Medication
 Me-Too Drug
 Over-the-Counter (OTC) Drug
 Pharmaceutical Industry (Worldwide)
 Pharmacist
 Pharmaco-epidemiology
 Pharmacogenetics
 Pharmacogenomics
 Pharmacologist
 Pharmacology
 Pharmacopeia/Pharmacopoeia
 Pharmacy
 Placebo
 Prescription Drugs Abuse
 United States Pharmacopeia and National
 Formulary (USP-NF)
- HEALTH SCIENCES**
 Acquired Immunity
 Active Immunity
 Activities of Daily Living (ADLs)
 Aerospace Medicine
 African American Health
 AIDS, Living with
 Air Pollution
 Alcohol Consumption
 Allele
 Allopathy
 Alpha Error
 Alternative Medicine
 Alzheimer's Caregivers
 Amputees
 Anthrax
 Antioxidants
 Artificial Limbs
 Asian American Health
 Background Radiation
 Bacteriology
 Base Excision Repair
 Base Pair
 Base Sequence
 Beta Error
 Biochemistry
 Biodefense
 Bioinformatics
 Biological and Chemical Weapons
 Biomarker
- Biosafety
 Bioterrorism
 Birth Cohort
 Birth Rate
 Bisexual
 Body Cell Mass
 Body Mass Index
 Body Surface Area
 Bone Health
 Bone Mass Density
 Bone Mineral Density
 Brown Fat
 Burns
 Caffeine
 Calcium
 Cancer—Coping with Cancer
 Cardiologist
 Cardiology
 Caregivers
 Carotenoid
 Cascade
 Centenarian
 Cervical Spine
 Chemokine
 Chemokinesis
 Chinese Medicine, Traditional
 Cholesterol
 Chromosome
 Chronology of Global Health
 Circadian
 Clone
 Club Drugs
 Cocaine Abuse
 Coefficient of Inbreeding
 Complex Humanitarian Emergencies
 Conventional Medicine
 Cosmetics
 Craniology
 Crossing Over
 Crude Mortality Rate
 Cytogenetics
 Cytokine
 Daily Reference Values (DRVs)
 Date Rape
 Death and Dying
 Death Rate
 Demographic Transition
 Diesel Exhaust
 Dieting
 Disasters and Emergency Preparedness
 Disease and Poverty

Disease Prevention
Dizygotic Twin
DNA
DNA Repair
Drinking Water
Drug Abuse
Dyslexia
Ecogenetics
Ectoparasites
Elder Abuse
Electromagnetic Fields
Electrophysiology
Empiric Risk
Endemic
Endocrinology
Engram
Environmental Health
Environmental Medicine
Environmental Tobacco Smoke (ETS)
Environmental Toxicology
Epidemic
Epidemiologist
Epidemiology
Epigenetics
Evidence-Based Medicine
Exercise for Seniors
Exercise/Physical Fitness
Eye Care
Falls
False Negative
False Positive
First American Medical School
Flea Bites
Fluoride
Folic Acid
Food Contamination/Poisoning
Food Safety
Forensic Medicine
Fraternal Twins
Gastroenterologist
Gastroenterology
Gay Gene
Gene Pool
Genetic Code
Genetics
Genomic Library
Genotype
Geriatrics
Gerontology
Global Health Ethics
Hair Dye
Haploid
Hardy-Weinberg Law
Healthcare, Africa
Healthcare, Asia and Oceania
Healthcare, Europe
Healthcare, South America
Healthcare, U.S. and Canada
Heart Diseases—Prevention
Heat Index
Hematologist
Hematology
Hemizygous
Hemochromatosis
Herbal Medicine
Herbal Remedy
Herbalism
Herbalist
Heroin Abuse
Heterosexual
Heterozygote
Hispanic American Health
Histology
Homeopathy
Homicide
Homosexual
Homozygote
Hormones
Household Poisons
Hygiene
Immunologist
Immunology
In Situ
In Vitro
In Vivo
Inbreeding
Incidence
Indoor Air Pollution
Infertility
Innate Immunity
Inpatient
Institutional Review Board (IRB)
Internal Medicine
Internist
Iridology
Knockout
Lean Body Mass
Learning Disorders
Lesbian
Linkage Analysis
Linkage Map
Locus
Malariologist
Malariology
Marijuana Abuse
Medical College Admissions Test (MCAT)
Medical Entomology
Medical Geography
Medical Helminthology
Medical Jurisprudence
Medical Physics
Medical Prefix
Medical Tourism
Memory
Mercury
Meta-analysis
Methamphetamine Abuse
Methylation
Mismatch Repair
Molds
Monozygotic Twin
Mortality
Mosquito Bites
Native American Health
Naturopathy
Nephrologist
Nephrology
Neuroendocrinology
Neurologist
Neurology
Neuropsychologist
Neuroradiologist
Neuroradiology
Neuroscience
Neuroscientist
Noise
Nuclear Medicine
Nutrition
Nutritionist
Obesity
Occupational Health
Occupational Injuries
Occupational Medicine
Ophthalmologist
Ophthalmology
Optometrist
Oral Surgeon
Organ Donation
Orthomolecular Medicine
Orthopedics
Orthopedist
Osteopathy
Otolaryngologist

- Otolaryngology
 Otology
 Outpatient
 Ozone
 Passive Immunity
 Pasteurization
 Pathologist
 Pathology
 Pathophysiology
 Perinatologist
 Perinatology
 Pesticides
 Phenotype
 Phrenology
 Phylogenetics
 Physiatrist
 Physical Therapist
 Physiology
 Piercing and Tattoos
 Podiatrist
 Pollution
 Polymerase Chain Reaction (PCR)
 Polymorphism
 Prevalence
 Preventive Care
 Primary Care
 Proctology
 Programmed Cell Death
 Pulmonology
 Radiation Exposure
 Radiologist
 Radiology
 Radon
 Rare Diseases
 Refractive Errors
 Refugee Health
 Rehabilitation
 Reproductive Health (General)
 Roentgenology
 Safety (General)
 Satellite DNA
 Saturated Fat
 Sleep Disorders
 Smokeless Tobacco
 Smoking
 Smoking Cessation
 Snellen's Chart
 Speech & Communication Disorders
 Spider Bites
 Sports Injuries
 Sprains and Strains
- Sun Exposure
 Sun Protection Factor (SPF)
 Telepathology
 Third World
 Tick Bites
 Toxicology
 Trans Fat
 Travel Medicine
 Traveler's Health
 Tropical Medicine
 Tumor Registry
 Ultraviolet Radiation
 United States Medical Licensing Examination (USMLE)
 United States Statistics
 Universal Donor
 Unsaturated Fat
 Urological Surgeon
 Urologist
 Virology
 Vitamin A Deficiency
 Vitamin and Mineral Supplements
 West Nile Virus
- MEN'S HEALTH**
 AIDS
 Bisexual
 Breast Cancer
 Heterosexual
 Homosexual
 Hormones
 Impotence
 Infertility
 Male Genital Disorders
 Penile Cancer
 Prostate Cancer
 Prostate Diseases
 Reproductive Health (General)
 Testicular Cancer
 Urinary Tract Infections
- MENTAL HEALTH**
 Anxiety Disorders
 Attention Deficit Disorder
 Attention Deficit Disorder with Hyperactivity
 Autism
 Bereavement
 Dementia
 Depression
- Manic-Depressive Illness
 Mental Health
 Obsessive-Compulsive Disorder
 Psychiatrist
 Psychiatry
 Psychoimmunology
 Psychologist
 Psychology
 Psychoneuroimmunology
 Psychooncology
 Psychotherapy
 Schizophrenia
 Suicide
- ORGANIZATIONS AND ASSOCIATIONS**
 Adult Congenital Heart Association (ACHA)
 Alzheimer's Association
 Alzheimer's Disease Education and Referral Center (ADEAR)
 American Academy of Addiction Psychiatry (AAAP)
 American Academy of Family Physicians (AAFP)
 American Academy of Nurse Practitioners (AANP)
 American Academy of Ophthalmology (AAO)
 American Academy of Orthopedic Surgeons (AAOS)
 American Academy of Pediatrics (AAP)
 American Association for Cancer Research (AACR)
 American Association for Health Education (AAHE)
 American Association of Orthodontists (AAO)
 American Cancer Society (ACS)
 American College Health Association (ACHA)
 American College of Epidemiology (ACE)
 American College of Nurse-Midwives (ACNM)
 American College of Obstetricians and Gynecologists (ACOG)
 American College of Occupational and Environmental Medicine (ACOEM)
 American College of Physicians (ACP)
 American College of Preventive Medicine (ACPM)

- American College of Sports Medicine (ACSM)
 American College of Surgeons (ACS)
 American Council for Fitness and Nutrition (ACFN)
 American Dental Association (ADA)
 American Dental Hygienists' Association (ADHA)
 American Diabetes Association (ADA)
 American Fertility Association (AFA)
 American Geriatrics Society (AGS)
 American Health Care Association (AHCA)
 American Heart Association (AHA)
 American Lung Association
 American Medical Association (AMA)
 American Medical Women's Association (AMWA)
 American Nurses Association (ANA)
 American Obesity Association (AOA)
 American Osteopathic Association
 American Pharmaceutical Association (APhA)
 American Podiatric Medical Association (APMA)
 American Pregnancy Association (APA)
 American Psychological Association (APA)
 American Public Health Association (APHA)
 American Red Cross
 American Social Health Association (ASHA)
 American Society for Reproductive Medicine (ASRM)
 American Society of Clinical Oncology (ASCO)
 American Society of Clinical Pathologists (ASCP)
 American Society of Human Genetics (ASHG)
 American Society on Aging (ASA)
 American Urological Association (AUA)
 Association for International Cancer Research (AICR)
 Association of Maternal and Child Health Programs (AMCHP)
 Association of Schools of Public Health (ASPH)
 Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN)
- European Association for Cancer Research (EACR)
 European Association for the Study of Obesity (EASO)
 Fondation Jean Dausset (CEPH)
 Human Genome Organisation (HUGO)
 Institute for Children's Environmental Health (ICEH)
 Institute of Medicine (IOM)
 International AIDS Vaccine Initiative (IAVI)
 International Center for Equal Healthcare Access (ICEHA)
 International Classification of Diseases (ICD)
 International Clinical Epidemiology Network (INCLEN)
 International Committee of the Red Cross (ICRC)
 International Council of AIDS Service Organizations (ICASO)
 International Epidemiological Association (IEA)
 International Federation of Red Cross and Red Crescent Societies (IFRC)
 International Genetic Epidemiology Society (IGES)
 International Red Cross and Red Crescent Movement (RCRC)
 International Society for Environmental Epidemiology (ISEE)
 International Society for Pharmacoepidemiology (ISPE)
 International Society of Geographical and Epidemiological Ophthalmology (ISGEO)
 International Women's Health Coalition (IWHC)
 MedicAlert
 Médecins Sans Frontières
 National Asian Women's Health Organization (NAWHO)
 National Association of Health Data Organizations (NAHDO)
 National Association of People with AIDS (NAPWA)
 National Breast Cancer Coalition (NBCC)
 National Coalition for Cancer Survivorship (NCCS)
 National Environmental Health Association (NEHA)
- National Mental Health Association (NMHA)
 National Network for Immunization Information (NNii)
 National Women's Health Organization (NWHO)
 North American Association for the Study of Obesity (NAASO)
 Pasteur Institute
 School Nutrition Association (SNA)
 Society for Healthcare Epidemiology of America (SHEA)
 Society for Nutrition Education (SNE)
 Society for Public Health Education (SOPHE)
 Voluntary Euthanasia Society (VES)
- PEOPLE**
 Abse, Dannie
 Ames, Bruce N.
 Avery, Oswald Theodore
 Axelrod, Julius
 Beals, Rodney K.
 Beijerinck, Martinus W.
 Bell, Charles
 Blackwell, Elizabeth
 Bross, Irwin D.J.
 Brown, Louise
 Brown, Michael Stuart
 Calabresi, Paul
 Casals-Ariet, Jordi
 Chekhov, Anton
 Chen, Zhong Wei
 Crick, Francis
 Da Vinci, Leonardo
 Darwin, Charles
 Ehrlich, Paul
 Farmer, Paul
 Fredrickson, Donald
 Gage, Phineas
 Galton, Sir Francis
 Gibbon, John H., Jr.
 Hardy, James D.
 Hounsfield, Godfrey
 Hughlings Jackson, John
 Kelman, Charles D.
 Kirklin, John W.
 Kübler-Ross, Elisabeth
 La Montagne, John
 Lauterbur, Paul C.
 Lederberg, Joshua

Lewis, Edward B.
 Mansfield, Peter
 Marx, Gertie F.
 McClintock, Barbara
 Mead, Margaret
 Moscati, St. Joseph
 Nirenberg, Marshall W.
 Osler, Sir William
 Parkinson, James
 Pasteur, Louis
 Pauling, Linus
 Ramsay Hunt, James
 Rodbell, Martin
 Roentgen, Wilhelm
 Sabin, Albert
 Sabin, Florence R.
 Sachs, Jeffrey
 Schweitzer, Albert
 Soper, Fred L.
 Stewart, Alice
 Stickler, Gunnar B.
 Thomas, Lewis
 Thorn, George W.
 Varco, Richard L.
 Warshaw, Joseph
 Watson, James
 Wilkins, Lawson
 Zoll, Paul M.

PROCEDURES AND THERAPIES

Acupuncture
 Allograft
 Angioplasty
 Biofeedback
 Biotherapy
 Blood/Blood Transfusion
 Cancer Alternative Therapy
 Cancer Chemotherapy
 Cancer Radiation Therapy
 Cardioversion
 Chemoprevention
 Chemoradiotherapy
 Chemotherapy
 Chiropractic
 Cryopreservation
 Cryosurgery
 Diagnostic Imaging
 Diagnostic Tests
 Dialysis
 Enzyme-Linked Immunosorbent Assay (ELISA)

Exercise Treadmill Test
 Gamete Intrafallopian Transfer (GIFT)
 Gel Electrophoresis
 Gene Array Analysis
 Gene Mapping
 Gene Silencing
 Gene Transfer
 Genes and Gene Therapy
 Genetic Testing/Counseling
 Genetic Transformation
 Genomic Imprinting
 Heart Bypass Surgery
 Heart Transplantation
 Immunosuppression
 Immunotherapy
 Kidney Transplantation
 Laboratory Tests
 Liver Transplantation
 Lung Transplantation
 Microsurgery
 Oral Rehydration Therapy
 Organ Transplantation
 Pancreas Transplantation
 Stem Cells/Stem Cell Transplantation
 Surgery
 Telesurgery

RESEARCH

Case-Control Study
 Clinical Trial
 Cohort Study
 Cross-Sectional Study
 Crossover Study
 Double-Blinded Study
 Framingham Heart Study
 Longitudinal Study
 Nurses' Health Study
 Prospective Study
 Randomized Clinical Trial
 Retrospective Study
 SEER (Surveillance, Epidemiology, and End Results Program)

SOCIETY AND HEALTH

Administration on Aging (AoA)
 Administration for Children and Families (ACF)
 Agency for Healthcare Research and Quality (AHRQ)
 Agency for Toxic Substances and Disease Registry (ATSDR)

Center for Food Safety and Applied Nutrition (CFSAN)
 Centers for Disease Control and Prevention (CDC)
 Centers for Medicare and Medicaid Services (CMS)
 Department of Energy (DOE)
 Department of Health and Human Services (HHS)
 Drug Enforcement Administration (DEA)
 Employment Retirement Income Security Act (ERISA)
 Environmental Protection Agency (EPA)
 European Food Safety Authority (EFSA)
 European Public Health Alliance (EPHA)
 European Public Health Association (EUPHA)
 Federal Emergency Management Agency (FEMA)
 Fee-for-Service
 Food and Drug Administration (FDA)
 Food and Agriculture Organization of the United Nations (FAO)
 Global Health Council
 Health Insurance Portability and Accountability Act (HIPAA)
 Health Maintenance Organization (HMO)
 Health Resources and Services Administration (HRSA)
 Indian Health Service (IHS)
 Insurance
 International Agency for Research on Cancer (IARC)
 International Health Ministries Office (IHMO)
 Joint FAO/WHO Expert Committee on Food Additives (JECFA)
 Joint United Nations Programme in HIV/AIDS (UNAIDS)
 Managed Care
 Medical Research Council
 Medicaid
 Medicare
 Medigap Policy
 MEDLINE
 Mine Safety and Health Administration (MSHA)
 National Cancer Institute (NCI)
 National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP)