

Index

Boxes, figures, notes, and tables are indicated by *b*, *f*, *n*, and *t* following the page number.

- abortions**, 499, 510, 1077–1078, 1078t
Down syndrome and, 942–945, 944t, 948
illegal and unsafe, 1078
integration into contraception programs, 1085
postabortion care, 512–513
- Abuja Declaration on HIV/AIDS, Tuberculosis, and Other Related Infectious Diseases**, 229
- accountability of health provider organizations**, 188
- accreditation**
hospitals, 1223–1224, 1224f, 1226, 1296
traditional or alternative medicine, 1287
- acne**, 708
- ACT**. *See* artemisinin combination therapy
- acupuncture**, 975, 1282, 1285, 1288
- acute management, defined**, 59
- acute myocardial infarction (AMI)**, 646, 650–651, 653–654
See also cardiovascular disease (CVD)
- acute pharyngitis in children**, 483–484
- acute renal failure**, 698
See also kidney and urinary system diseases
- acute respiratory infections**. *See* respiratory diseases of adults; respiratory diseases of children
- addiction**. *See* alcohol use and control; drug dependence; tobacco use and control
- ADHD (attention deficit hyperactivity disorder)**, 935b
- adolescents and young adults**, 1109–1125
alcohol use by, 1111
burden of disease and, 1109–1112, 1110t
cannabis and, 918–919
clinical health services for, 1116
contraception and, 1112
cost-benefit analysis and, 1117–1120
costs and cost-effectiveness of interventions, 1117, 1118–1119t
- DALYs and, 1109–1111, 1110t
deworming and, 1116
drug use by, 1111
economic benefits of interventions, 1117, 1120t
health challenges of, 1109
health risk behaviors of, 1111–1112
improving health systems to meet needs of, 1122
injuries and, 1111
interventions, 1114–1117
lessons learned, 1120–1122
mass media as influential on, 1116
mental disorders and, 621, 1111
nutrition and, 1111–1112, 1116
poverty as factor in health of, 1112
principles of health programming for, 1121
promising but not proven interventions, 1116–1117
research and development agenda, 1122–1123
scaling up of programs for, 1121
sexual and reproductive behaviors of, 1112, 1113t, 1114–1116
sexually transmitted infections and, 1112
smoking and, 875, 1111, 1116
social marketing and, 1116
in workplace, 1116
youth development programs, 1116
- advertising**
See also social marketing
alcohol products, 894
food marketing aimed at children, 842
tobacco products, 876
- Afghanistan**
leishmaniasis in, 453
as opium producer, 908
- aflatoxin**, 573–574
- Africa**
See also specific countries and regions
abortions in, 1078
African trypanosomiasis in, 456
asthma in, 686
burn-related injuries in, 741
cleft lip and palate in, 731
community-based health in, 1070–1071
contraceptive use in, 1082, 1086
coronary artery disease in, 833
dental treatment in, 729
development assistance for health to, 245
diarrheal diseases in, 778
epilepsy in, 630
excreta disposal in, 779, 780
family planning in, 1079
hemoglobinopathies in, 668, 676–677, 678
hepatitis B in, 396
HIV and TB in, 299
hygiene promotion in, 784–785
insecticide-treated nets (ITNs) for malaria prevention, 217
interpersonal violence in, 757
kidney and urinary system diseases in, 695, 697
lymphatic filariasis in, 439, 440
malaria in, 413, 414–415, 416t, 417–418, 420–421, 426
measles elimination campaign in, 98–99, 168, 170, 173
mental disorders in, 620–621
neurological diseases, 641
onchocerciasis in, 957
Parkinson's disease in, 632
polio in, 1170
schistosomiasis in, 471
school health programs in, 1100
skin diseases in, 714
social marketing to reach adolescents in, 1122

- Africa** (*Continued*)
 traditional medicine in, 1287
 vital events registration in, 1021
 water supply in, 771, 772, 773, 774, 776
 WHO–ILO Joint Effort on Occupational Health and Safety in Africa, 1134
 yellow fever in, 396–397
- Africa Measles Partnership**, 404
- African Americans**
 coronary artery disease of, 833
 diabetes of, 598
- African Programme for Onchocerciasis Control (APOC)**, 168, 172, 437, 444, 957
- African trypanosomiasis**
 burden of, 456
 characteristics and transmission, 453–454
 costs and cost-effectiveness of interventions, 46, 459–460
 economic impact of, 456
 management and control strategies of, 458, 462–463
 social impact of, 456
- African Union**, 462
See also Pan African Initiative
- aging**
 arthritis and, 963
 chronic diseases and, 107, 1333–1334
 dementia and, 124
See also Alzheimer's disease (AD) and other dementias
 hearing loss and, 958
 pregnancy of women over 40, 1079
 shift of burden of disease due to, 1331
 understanding biological basis of, 124
- Agreement on Agriculture (WTO)**, 220
- Agreement on Trade-Related Aspects of Intellectual Property Rights**. *See* TRIPS (Agreement on Trade-Related Aspects of Intellectual Property Rights)
- agricultural productivity, effect of**, 190, 220
- agricultural runoff**, 821
- AIDS**. *See* HIV/AIDS
- AIDSVAX**, 360b
- air and water pollution**, 817–832
See also indoor air pollution
 air pollutants, 818–820
 causes and burden of, 817–822
 costs and cost-effectiveness of interventions, 825–827, 826t
 air pollution, 825–826
 comparison of interventions, 825, 827t
 water pollution, 826–827
 economic benefits of interventions, 827–828
- exposure to air pollutants, 819
 exposure to chemical water pollution, 822
 health impacts
 air pollution, 819–820
 water pollution, 822
 industrial sectors contributing to, 818, 819t, 821
 interventions, 823–824, 823f
 air pollution, 823–824, 824b
 water pollution, 824
 lessons learned
 air pollution, 828–829
 water pollution, 829
 research and development agenda, 829–830
 sources of air pollution, 818–819
 sources of chemical water pollution, 820–822
 water pollutants, 820–822
- albinism**, 717–718
- alcohol use and control**, 887–906
 addiction as clinical disorder, 887–888
 adolescents and, 1111
 advertising bans, 894
 beneficial effects of moderate alcohol use, 887
 costs and cost-effectiveness of interventions, 49, 896–899, 898t
 drowning and, 741
 drunk driving and, 739–740, 893, 894t, 901–902
 economic benefits of interventions, 899–900
 epidemiology of, 887–890, 888f
 fetal alcohol syndrome, 936b
 high-risk drinking
 burden of disease related to, 890–892, 891t
 DALYs attributable to, 892t
 epidemiology of, 888–889, 889t
 interventions for reducing, 892–896
 relationship to alcohol use disorders, 889
 interpersonal violence and, 760
 interventions
 brief interventions, 894, 902
 population-level effects and costs, 896–899, 897t
 self-help, 911
 kidney disease and, 699
 lessons learned, 900–902
 liver cancer and, 573
 musculoskeletal disorders and, 966
 relationship between alcohol use and disease categories, 889–890
 research and development agenda, 902–903
- sales hours and places of purchase, regulation of, 893–894, 900–901
 social determinants of exposure and risk, 890
 taxation to discourage use, 218, 893, 895t, 900
- Alcoholics Anonymous**, 911
- alfacalcidol**, 972
- allergies and homeopathy**, 1288
- Alma Ata Declaration on Primary Health Care (1978)**, 88, 1193
- alternative medicine**. *See* complementary and alternative medicine (CAM)
- Alzheimer's disease (AD) and other dementias**, 124, 131, 627–629
See also neurological disorders
 burden of, 628, 629t
 cost-effectiveness of interventions in developing countries, 637
 interventions, 628–629
 multi-infarct dementia, 628, 629
 personal interventions, 629
 population-based interventions, 628–629
 prevalence and incidence rate, 628
 recommendations, 640
 research and development agenda, 640, 641
 risk and protective factors and survivorship, 628
 women and, 201, 205–206
- ambulances**, 1267–1271, 1269t, 1270t
- ambulatory care**. *See* primary care
- American Academy of Pediatrics recommendation on television watching**, 835
- American Heart Association**, 651, 658
- American Psychiatric Association**, 908
- American trypanosomiasis**. *See* Chagas disease
- AMI**. *See* acute myocardial infarction
- amphetamines**. *See* drug dependence
- anemia**
 in adolescents, 1111
 in AIDS patients, 359–360
 in children, 553–554, 1094
 costs and cost-effectiveness of interventions, 561
 developmental delays and, 562
 helminth infections and, 467–468, 471, 553
 interventions, 558
 lack of data on interventions for, 563–564
 in pregnant women with malaria, 420
 in school-age children, 1094
- ankylosing spondylitis**, 976
- anthrax**, 107

- antibiotics, indiscriminate use of**, 122, 1340
See also drug resistance
in animals, 1032–1033, 1041
in humans, 314, 378, 1031–1032
- antiretroviral drugs (ART)**
costs and cost-effectiveness of, 43, 355–358
HIV/AIDS and, 14, 110, 294, 302, 305, 331, 345, 349–350, 351, 354–358, 357b, 359, 1070, 1204, 1333
low levels of use, 184
success in high-income countries, 27
- anxiety disorders**, 611–613
See also mental disorders
cost-effectiveness methods and results, 613–619, 614–618t
generalized anxiety disorder, 611
interventions for panic disorder, 612–613
natural history and course, 612
obsessive-compulsive disorders, 612
phobias, 612
posttraumatic stress disorder (PTSD), 605, 610, 621
social anxiety disorder, 611
- APOC**. *See* African Programme for Onchocerciasis
- “appropriate science” for developing world**, 109–111
- Argentina**
arsenic contamination of water in, 821
Chagas disease in, 438, 442
fluoridation of water in, 725
kidney and urinary system diseases in, 703
- array technology**, 128
- arsenic contamination of water**, 821, 822, 822b
- ART**. *See* antiretroviral drugs
- artemisinin, use of**, 111, 1288
- artemisinin combination therapy (ACT)**, 419, 420–421, 423, 424, 425, 427, 1043
- arthritis**. *See* musculoskeletal disorders
- asbestosis**. *See* occupational lung diseases
- ascariasis**
excreta disposal and, 783–784
water supply and, 779
- Asia**
See also specific countries and regions
abortions in, 1078
asthma in, 686
avian influenza in, 682–683b
burn-related injuries in, 741
contraceptive use in, 1076, 1086
dengue in, 461
diarrheal diseases in, 373, 778
drug dependence in, 908, 916
excreta disposal in, 780
hepatitis B in, 396
kidney and urinary system diseases and, 697
leprosy in, 445
malaria in, 413, 417, 421
rheumatic heart disease in, 647
road traffic injuries in, 740
water supply in, 772, 773–774, 774, 776
- Asian Development Bank**, 1070
- Asian-Pacific International Molecular Biology Network**, 133
- aspirin**
cancer and, 574
as inexpensive intervention for CVD, 109, 123f
- asthma**. *See* chronic obstructive pulmonary disease (COPD) and asthma
- attention deficit hyperactivity disorder (ADHD)**, 935b
- Australia**
COPD and asthma in, 686
dengue in, 452
detoxification methods in, 912
ecstasy (MDMA) use in, 924
heroin use in, 908, 909
illicit drug use in, 909, 922
interpersonal violence in, 763
kidney and urinary system diseases in, 700
skin diseases in, 708, 710
tobacco taxes in, 882
traditional medicine in, 1289
- autism**, 935b
- avian influenza threat**, 112b, 117, 682–683b, 1005–1006
- ayurveda**, 1286
- bacillus Calmette-Guérin (BCG)**, 40, 121, 292, 389, 441, 1325
- back pain**. *See* musculoskeletal disorders
- bacterial skin infections**, 708, 709, 710–713, 712–713t
- Bamako Initiative**, 227
- Bangladesh**
arsenic contamination of water in, 821, 822b
child mortality of under age five in, 246
community-based programs in, 1067
contraceptive use in, 1083
contracting for health care services in, 188, 1320
development assistance and health policy, 248b
diarrheal diseases in, 170, 176, 372, 374
drowning in, 741
excreta disposal in, 780, 782
family planning program in, 167
helminth disease control in, 784
hospitals in, 1220b, 1257b
IMCI program in, 1180–1181, 1187
interpersonal violence in, 756, 757
leishmaniasis in, 452
leprosy in, 441
medical workers in, 1312
neonatal deaths in, 531, 533, 1079
nutrition investment in, 248b
respiratory diseases of children in, 492
road traffic injuries in, 746
TB in, 291, 295
tidal wave in, 1149
- BCG**. *See* bacillus Calmette-Guérin
- behavioral change interventions**
successful programs, 175–177
- Belarus**
cardiovascular disease in, 649, 649t
- Belize**
interpersonal violence in, 766
- Bellagio Study Group on Child Survival**, 539, 541, 1196, 1202
- Belmont Report of National Commission for the Protection of Human Subjects**, 267
- benign prostatic hypertrophy**, 698
See also kidney and urinary system diseases
- Benin**
excreta disposal in, 780
hemoglobinopathies in, 675
road traffic injuries in, 749b
- Bernard, Claude**, 119
- Better Health in Africa (World Bank)**, 1194
- Bhopal catastrophe (India 1984)**, 819, 819b, 1133, 1149
- bicycles**. *See* transportation
- Bill & Melinda Gates Foundation**
AIDS prevention efforts and, 254
development assistance for health from, 165, 240n5, 243, 244–245, 244t, 397
disease control priorities and, 111, 115
Diseases of the Most Impoverished initiative and, 378
economic issues for future medical research and, 134
food fortification efforts and, 254
funding commitment for disease control in developing countries, 147
MCE and, 1190
MDGs and, 182
polio eradication efforts and, 24, 254b, 1171
stimulating growth of public-private partnerships, 147

- biologic terrorism**
surveillance for, 998, 1008
- biologically based practices**, 1282
See also complementary and alternative medicine (CAM)
- biomedical research priorities**, 126, 132
- bipolar disorder**, 608–610
See also mental disorders
costs and cost-effectiveness of interventions, 47, 613–619, 614–618t
epidemiology and burden, 609
genomics and, 131
interventions, 609–610
natural history and course, 609
policy and service implications, 619–621
- bird flu.** *See* avian influenza threat
- blackfly control**, 178, 435
- blindness**, 953–957
burden of, 954–956, 955t
cataract surgery, 956, 1258b
causes and epidemiology of, 953–957, 954t
childhood blindness, 957
cost-effectiveness of interventions, 954t
definitions of visual impairment levels, 954t
interventions, 956–957
river blindness. *See* Onchocerciasis
- blood pressure.** *See* cardiovascular disease (CVD)
- blood-related disorders.**
See hemoglobinopathies
- blood safety measures**, 346
- blood transfusions**
Chagas disease and, 434, 438–439
HIV/AIDS and, 346–347
- Bolivia**
Chagas disease in, 436, 438, 442
newborn project in, 535
- Bone and Joint Decade (2000–10)**, 963, 978
- bone marrow transplantation.** *See* hemoglobinopathies
- Botswana**
African trypanosomiasis in, 458
HIV/AIDS in, 349, 360b
- brain drain of medical personnel**, 94, 95b, 1309–1310
- Brazil**
alcohol consumption regulation in, 900–901
breast cancer management in, 205
cardiovascular disease in, 650, 659
cervical cancer screening in, 576, 577t
Chagas disease in, 436, 438, 442
combination of high blood pressure, cholesterol, and obesity in, 853–854
dengue in, 461
diarrheal diseases in, 374, 375, 376, 378, 778
excreta disposal in, 783
fluoridation of water in, 725
health knowledge, dissemination to mothers, 187
HIV/AIDS in, 13, 106
IMCI program in, 1181, 1183, 1185b, 1186
leishmaniasis in, 452
leprosy in, 437
lifestyle changes in, 839b, 841b
malaria in, 418
Multi-Country Evaluation of IMCI Effectiveness, Cost, and Impact (MCE) in, 1183
occupational health in, 1140
physical activity initiative in, 841b
road traffic injuries in, 744, 745–746, 900–901
sexually transmitted infections in, 323
skin diseases in, 715
smallpox in, 1163
surveillance project in, 1021
transportation policy in, 839b
water pollution in, 829
- breast cancer**, 205
age-specific incidence of, 582f
chemotherapy for, 268, 580–581
mind-body interventions and, 1288–1289
radiation for, 581
rates of, 570
screening for, 577–579, 578t, 579t, 580t
tamoxifen and, 574
treatment interventions for, 580–581
- breastfeeding**
community health and nutrition programs, 1058
diarrheal disease prevention due to, 375–376, 379
duration of, 555
infant mortality and, 539
programs to promote, 559
supplemental or substitute feeding, 345, 375–376, 555, 557b, 1058
transmission of HIV and, 334, 336, 375
- bronchiolitis**, 485
- bronchitis.** *See* chronic obstructive pulmonary disease (COPD) and asthma
- Brunei**
fluoridation of water in, 725
- Bulgaria**
milk fluoridation in, 726
- burden of disease**, 105–106
See also specific diseases and categories of diseases (e.g., infectious diseases, tropical diseases)
broad patterns of (by region), 105t, 1335
children under age five, 105–106
estimates for different diseases and injuries, 28–32
as factor in cost-effectiveness analysis, 272–273
leading causes of (by region), 105t
in low- and middle-income countries, 31t
purpose of measures of, 29–32
shift from infectious to noncommunicable diseases as major causes, 1331, 1333
women's excess burden, 196, 198–199, 199t, 200t, 201t
- Burkina Faso**
African trypanosomiasis in, 458
drug policy in, 1346
health care worker safety for immunizations and injections in, 1132
hygiene promotion in, 785
malaria in, 421
sexually transmitted infections in, 325
- burn-related injuries.** *See* unintentional injuries
- calcitonin**, 972
- calcium supplementation**, 967, 971–972
- CAM.** *See* complementary and alternative medicine
- Cambodia**
avian influenza in, 682b
dengue in, 454
health sector reform in, 1315
IMCI program in, 1186, 1187
medical workers' New Deal experiment in, 1317–1318, 1319b
oral precancer and cancer in, 730
outsourcing of primary health care services in, 96b
performance-based contracts with NGOs in, 253
refugee populations and surveillance, 1009
sexual risk behaviors in, 312
water pollution in, 829
- Cameroon**
drug treatment in, 1346
malaria in, 426
sexually transmitted infections in, 323
user fees and improved quality in, 89

Canada

cigarette smoking in, 875, 877
development assistance for health from, 244, 254
fluoridation of water in, 725
hemoglobinopathies in, 673, 675
illicit drug use costs in, 909
interpersonal violence in, 760, 765
pollution control in, 828
SARS in, 1005

cancer, 569–589

See also specific types

burden of, 107, 569–572, 570f
DALYs lost due to, 570, 571t
failure of U.S. “war on cancer,” 112
interventions
costs and cost-effectiveness of, 46, 572–582, 582–583
diagnosis and treatment, 572, 579–582
dietary and related interventions, 573–574
early detection and secondary prevention, 572, 574–579, 582
genomics and, 128
immunization, 572–573
medical advances in, 123
palliative care, 572, 581–582
pharmacological interventions, 574
primary prevention, 572–574
screening, 123, 573, 574–575, 582
starting small and scaling up, 585
time horizon and approach to control programs, 585
tobacco and alcohol control programs, 573
types of, 572
pain control, 572, 581–582
See also palliation
research and development priority, 583–584, 1333
women and, 203, 205, 570

cannabis. *See* drug dependence

capital charging and management of physical resources, 1345

cardiovascular disease (CVD), 15–16, 645–662

acute management of, 48
acute myocardial infarction (AMI), 646, 650–651, 653–654
advances in treatment of, 122–123, 123f
atrial fibrillation, 633, 646
burden of, 107, 649–650, 649f
as cause of death, 107
clinical research, 659
congestive heart failure. *See* congestive heart failure (CHF)

costs and cost-effectiveness of interventions, 47–48, 650–658, 655t, 656t, 657t, 858–863, 861t

demographic changes and, 105

diabetes and, 597

diet contributing to, 652

See also obesity

epidemiology of, 645–649, 648t

equity issues and prevention strategies, 863

folic acid and, 836

glossary, 646b

hypertension

CHF and, 646

control of, 646

IHD and, 646

kidney disease and, 698, 699, 700, 701

as risk factor, 649, 652

strokes and, 633, 634, 641

hypertension in combination with cholesterol and obesity, 851–868

burden of, 852–854, 853f, 853t

cost-effectiveness of interventions, 858–863, 861t

economic benefits of

interventions, 864

effectiveness of interventions, 855–858

epidemiology of, 851–852, 852f

equity issues, 863

financial burden of, 853–854

interventions, 854–858

personal interventions, 856–858

pharmacological interventions, 856–858, 859t

population-based interventions, 855–856, 859

research and development agenda, 864–865

surgical interventions, 856–858

surveillance and, 1009

ischemic heart disease. *See* ischemic heart disease (IHD)

lifestyle changes in response to, 652

linking costs and effectiveness in developing countries, 653–656, 655t, 656t

in high-income countries, 656–658, 657t

long-term management of, 651–652

invasive interventions, 651

nonpharmacological

interventions, 652

pharmacological interventions, 651–652

personal interventions for, 48, 856–858

pharmacological interventions, 15–16, 650–654, 656, 658, 856–858, 859t, 860–863, 862t, 863t

population-based primary prevention of, 47–48

predominant diseases, 645–649

primary prevention, 658

regional burdens, 649–650

research and development agenda, 658–659, 864–865

rheumatic heart disease (RHD), 647, 656

burden of, 650

cost-effectiveness of interventions, 653, 656, 657t, 658

epidemiological transition and, 647, 648t

strokes and, 634

risk factors, 649, 851–862, 854t

social and economic impact of, 650, 864

strokes and, 634, 645–646, 646, 647, 648t, 649–650, 657t, 658

types of inexpensive interventions for, 109, 123f

women and, 201

Caribbean. *See* Latin America and Caribbean

Carter Center, 167

cash-transfer programs to increase school enrollment, 1101

cataracts. *See* blindness

cattle

African trypanosomiasis and, 458

CBHI. *See* community-based health insurance

CDC. *See* U.S. Centers for Disease Control and Prevention

cell theory, 119

census data, 1020

Center for Global Development's Global Health Policy Research Network, 165

Central America. *See* Latin America and Caribbean

Central Asia

cardiovascular disease in, 649, 654, 655t, 656t

contraception demand in, 1076

diarrheal diseases in, 378

mental disorders in, 618, 619

proposed guidelines for HIV/AIDS in, 348–349

road traffic injuries in, 746

strokes in, 634

TB, spread of, 291

vaccine-preventable diseases in, 394, 399, 400, 402, 408

- cerebral palsy**, 947, 948
- cerebrovascular disease.** *See* Alzheimer's disease (AD) and other dementias; stroke
- cervical cancer**
 age-specific incidence of, 582f
 HBV vaccine and, 573
 HPV, association with, 569
 mortality rates and, 570
 radiation for, 581
 screening for, 203–205, 575–577, 577t
 treatment interventions for, 312, 581
- Chagas disease**, 433–434
 burden of, 436
 cardiovascular disease and, 650
 costs and cost-effectiveness of interventions, 45–46, 442
 interventions and effectiveness of, 438–439
 research priorities, 446
 Southern Cone countries initiative on, 167, 170, 177, 438
- chemotherapy**
 for cancer, 268, 574, 580–581, 583
 for schistosomiasis, 474, 479
 for TB, 1045
- Chernobyl nuclear disaster (1986)**, 819, 1133
- CHF.** *See* congestive heart failure
- child abuse**, 756, 758, 765
See also interpersonal violence
- Child Health Epidemiology Reference Group**, 533
- child mortality rates**
 under age 5 mortality, 11–13, 12f
 diarrheal disease and, 374
 interventions for, 11–13
 malaria and, 416t
 malnutrition and, 552, 552t
 MDGs for, 7, 11
 rate of progress in reducing, 12f, 246
- infant and neonatal mortality, 4b, 505–508, 507t, 531–549
 achieving optimal newborn care within system constraints, 544–546
 advocating for newborn health, 544
 cost of scaling up universal neonatal packages, 541–543, 542t, 544b
 delays in access to care and, 534
 direct causes of, 533–534
 emergency care and, 540–541
 essential newborn care and, 535–539
 family-community care and, 535
 in first week after birth, 532
 income level of countries and, 532, 533f, 533t
- indirect causes of, 534
 interventions for, 4b, 43–44, 535–541, 536–538t
 lessons learned, 543–547
 low birthweight and, 534, 540
 MDGs on, 7, 531, 534, 547–548
 monitoring of coverage and measuring for cost-effectiveness, 546–547
 neural tube defects and, 939
 poverty and, 534
 research priorities, 547
 resuscitation program and, 539–540, 539b, 545
 systematic scaling-up of newborn care, 546
 time trends and, 532–533, 532f
- malaria and, 414, 416t, 417, 418, 421, 423, 556
- child sexual abuse**, 764
See also interpersonal violence
- Child Survival and Development Projects (World Bank)**, 1068
- childbirth conditions**
See also maternal conditions
 access to skilled attendance, 44, 512, 547b
 birth preparedness, 511
 components of comprehensive safe motherhood strategy, 508–509, 509b
 cost-effective interventions, 44
 fetal monitoring and, 948
 male involvement, 511
 maternal death. *See* maternal mortality
 midwives, role of, 174, 511
 neonatal death. *See* child mortality rates
 preterm birth, 534, 547
 prevention of, 947–948
 retinopathy of prematurity, 954–955
 quality of evidence on, 509–510, 512
 risks associated with, 1078–1079
 sexually transmitted infections of mother and, 315
 strokes and, 634
 technological improvements in, 131
- childhood health**, 10–13
See also specific diseases and conditions
 under age five. *See* childhood illnesses of children under age 5
 community health and nutrition programs. *See* community health and nutrition programs (CHNPs)
 dental health. *See* dental caries
 helminth infections and, 471, 473, 474
 improved quality of treatment for children with childhood diseases, 1303–1304
- integrated services. *See* integrated management of childhood illness (IMCI)
- interpersonal violence. *See* interpersonal violence
- learning disabilities. *See* learning and developmental disabilities (LDDs)
- malnutrition. *See* stunting, wasting, and micronutrient deficiency disorders
- mental disorders and, 621
- out-of-school children and youth, 1098, 1121–1122
- perinatal conditions, 499–529
See also perinatal conditions
 research priority of, 126
- respiratory disease. *See* respiratory diseases of children
- rheumatic heart disease and, 647
- school-based health. *See* school health programs
- stunting, wasting, and micronutrient deficiency disorders, 551–567
- TB and, 293
- Tinea capitis, 714–715, 716t, 718, 719t
- unintentional injuries. *See* unintentional injuries
- childhood illnesses of children under age 5**
 burden of, 105–106
 deaths. *See* child mortality rates
 interventions, 43–45
 malnutrition and, 552, 553t
- Chile**
 arsenic contamination of water in, 821
 Chagas disease in, 436, 438, 442
 combination of high blood pressure, cholesterol, and obesity in, 856
 fluoridation of water in, 725
 food fortification in, 558
 Hib disease prevention in, 167, 172
 interpersonal violence in, 760
 life expectancy, increases in, 3
 noncommunicable diseases and causes of death in, 6, 7f
 occupational health in, 1133
 pain control in, 987b
 public health improvements in, 3
 respiratory diseases of adults in, 691
 universal coverage approach of, 237
- China**
 abortions in, 1078
 arsenic contamination of water in, 821
 artemisinin use in, 1288
 asbestos exposure in, 1128
 burn-related injuries in, 741
 cardiovascular disease in, 647, 649, 650, 658, 659

- combination of high blood pressure, cholesterol, and obesity in, 853–854, 856
- contraceptive use in, 1080
- dengue in, 452
- diabetes in, 593
- diarrheal diseases in, 374, 377
- drug addiction in, 908, 916
- fall-related injuries in, 748–749
- folic acid deficiency in, 836
- food manufacture in, 845
- food taxes in, 219
- hemoglobinopathies in, 668, 670
- hypertension in, 835
- incentive pay to doctors in, 94–95, 95b, 170
- indoor air quality and energy programs in, 190, 795, 809, 810b
- influenza in, 684
- kidney and urinary system diseases in, 702, 703
- lung cancer in, 795
- lymphatic filariasis in, 436
- malaria in, 421, 425
- mental disorders in, 620
- milk fluoridation in, 726
- neonatal deaths in, 531
- neonatal resuscitation program in, 539b
- neurological disorders in, 628
- oral and craniofacial diseases and disorders in, 723
- oral health and education program in, 726
- road traffic injuries in, 740, 747, 839
- rotavirus vaccine in, 377
- salt iodination program in, 168, 173
- SARS in, 997, 1005
- school-based physical activity in, 838
- stomach cancer in, 573
- strokes in, 633
- TB control program in, 36b, 94–95, 168–169, 174, 247
- tobacco use in, 871, 1128
- transportation choices in, 839–840
- vital events registration in, 1021
- water pollution in, 829
- women in, 195
- chiropractic medicine**, 1282, 1286, 1288
- chlamydia**, 203, 312, 314–315, 316
 - See also* sexually transmitted infections (STIs)
- chlorination**, 821
- chloroquine**, 414, 418, 420f, 423, 1035f, 1043f, 1327
- CHNPs**. *See* community health and nutrition programs
- cholera**, 120, 377, 379, 774, 777, 778
- cholesterol levels**
 - in combination with high blood pressure and obesity, 851–868
 - See also* cardiovascular disease (CVD)
- CVD and, 15
- diabetes and, 598
- drugs to control, 857, 1323
- modeling of interventions for lifestyle diseases, 844–845
- chronic diseases**, 833–850
 - See also specific diseases*
 - advances in treatment of, 123
 - alcohol use and, 890
 - burden of, 107, 1333
 - community-based interventions, 842, 846
 - cost-effectiveness of interventions, 844–846
 - diet and lifestyle changes to prevent, 833–836, 847
 - evidence of effectiveness, 836–837
 - educational interventions, 837–838
 - health care providers modifying unhealthy behaviors, 838
 - interventions, 837–844
 - recommended priority interventions, 846–848
 - malnutrition in childhood associated with, 563
 - medications for, 1331
 - modeling of likely interventions, 844–846
 - physical activity interventions, 835, 838, 841b, 842, 846, 847
 - research and development agenda, 846
 - surveillance and, 1009–1010
 - transportation policy and environmental design as intervention, 839–840
 - worksites interventions, 838, 838b
- chronic kidney disease (CKD)**. *See* kidney and urinary system diseases
- chronic obstructive pulmonary disease (COPD) and asthma**, 684–689, 685f, 687t
 - See also* respiratory diseases of adults
 - air pollution and asthma in children, 820
- cigarette smoking**. *See* tobacco use and control
- circumcision to protect against sexually transmitted infections**, 320, 322, 360b
- civil service reform**, 96
- CKD (chronic kidney disease)**. *See* kidney and urinary system diseases
- Clean Air Act of 1970 (U.S.)**, 828, 829t
- clean drinking water**. *See* water supply
- cleft lip and palate**, 731
- climate**
 - See also* global warming
 - health systems' efficacy and, 1340
 - helminth infections and, 470
- Clinton Foundation**, 359, 1333
- cocaine**. *See* drug dependence
- cognitive function**
 - cannabis and, 918
 - malnutrition's effect on, 562
 - of school-age children. *See* school health programs
- COHRED**. *See* Council on Health Research for Development
- collaboration for research**. *See* research and development
- collective efficacy**, 1067
- Colombia**
 - ambulatory surgery in, 1256
 - contraception, access to, 1076
 - interpersonal violence in, 756, 763
 - stomach cancer in, 573
 - universal coverage approach of, 237
 - volcanic eruptions in, 1150
- colorectal cancer**, 570, 574, 575, 575t, 581, 836
- Commission on Health Research in Development**, 106
- Commission on Macroeconomics and Health (WHO)**
 - on close-to-client services, 521
 - on constraints of low-income countries to improve health care, 98
 - on cost-effective analyses, 234, 261
 - on district hospitals, 1214
 - on external financing for health, 245
 - on HIV/AIDS, 9
 - on mobilizing skills and resources, 134
 - on primary care interventions, 246, 1194, 1200
 - on scaling up health coverage, 190
 - on training to enhance skills of medical workers, 1344
- Common Rule of Conduct of U.S. Code of Federal Regulations**, 266
- communicable diseases**. *See* infectious and communicable diseases
- communication for emergency medical services**, 1267
- community-based health insurance (CBHI)**, 231, 236
- community-based programs and treatment**
 - breastfeeding, programs to promote, 559
 - central government transfers to local authorities for, 253
 - community health and nutrition programs, 1053–1074

- community-based programs and treatment** (*Continued*)
- See also community health and nutrition programs (CHNPs)
 - decentralizing health functions to, 253
 - depression treatment, 110
 - epilepsy treatment for children, 110
 - HIV/AIDS, 1070–1071
 - home-based care, 1204
 - IMCI and, 1178, 1180
 - infant and neonatal mortality and, 535
 - learning and developmental disabilities, 946–947
 - management of health services in, 1343–1344
 - mental disorders, 608, 613, 615–616t, 615t, 619, 621
 - neurological disorders, 631, 641
 - nutrition programs, 559, 561, 842, 846
 - See also community health and nutrition programs (CHNPs)
 - onchocerciasis control program, 440
 - oral health and, 732
 - physical activity programs, 842, 846
 - primary care, 1202, 1204
 - scabies and, 710
 - skin diseases, 710, 715, 718, 720
 - Tanzania Essential Health Interventions Program approach to health planning for. See Tanzania Essential Health Intervention Program (TEHIP)
 - TB, quality of care and treatment of, 295
- community clinics and surgery**, 1249, 1253–1255, 1253t, 1254t, 1256f
- community health and nutrition programs (CHNPs)**, 1053–1074
- breastfeeding and, 1058
 - community- and facility-based programs, 1056–1057, 1059f, 1060b
 - complementary feeding of children and, 1058
 - contextual factors for, 1065–1067, 1065t
 - cost-effectiveness of, 1068–1070
 - coverage, targeting, and resource intensity, 1060–1063, 1061–1062t
 - description of, 1058–1059
 - effectiveness of, 1054–1056, 1055t
 - estimated contributions to disease burden, 1054t
 - future applications of, 1070–1071
 - growth monitoring, 1058
 - HIV/AIDS and, 1070–1071
 - IMCIs and, 1056
 - immunizations, 1059
 - impact of, 1067–1068, 1069t
 - micronutrient fortification, 1059
 - micronutrient supplementation, 1058–1059
 - oral rehydration, 1059
 - organization of, 1064
 - political commitment and, 1066
 - prenatal care, 1058
 - process indicators and, 1067
 - programmatic factors for, 1060–1064
 - research and development agenda, 1071–1072
 - success factors for, 1057–1058
 - supplementary feeding, 1059
 - technology and, 1063
 - underweight children and, 1055, 1056f
 - women's health and nutrition, 1058
 - workers in, 1063–1064
- community violence**, 756
- See also interpersonal violence
- complementary and alternative medicine (CAM)**, 1281–1291
- See also specific types of treatment (e.g., acupuncture, homeopathy)
 - ancillary benefits and costs of, 1286
 - defined, 1281
 - demography and use of, 1282–1283, 1282t, 1283t
 - domains of, 1281–1282
 - economic evidence on use of, 1285–1286
 - economic factors influencing use of, 1283–1285
 - efficacy of, 1283, 1284t
 - epilepsy and, 630
 - expanding beneficial use of, 1286–1287
 - lessons learned, 1287–1289
 - for mental disorders, 620
 - for neurological disorders, 629, 641
 - for Parkinson's disease, 632, 640, 641
 - research and development agenda, 1289
 - for skin diseases, 715
 - toxicity of herbal products, 1283
- conditionality and development assistance**, 247
- condoms**
- See also HIV/AIDS
 - import taxes not charged on, 220
 - subsidy programs, 216
 - Thailand distribution program. See Thailand
 - use as contraceptive, 1080, 1082, 1086
 - See also contraception
- congenital and developmental disorders**
- cleft lip and palate, 731
 - hyperthyroidism, 945–946, 949
 - medical treatment of, 123
 - oral and craniofacial diseases and disorders, 731
 - research priority of, 126
- congestive heart failure (CHF)**, 646–647
- See also cardiovascular disease (CVD)
 - cost-effectiveness of interventions, 653
 - in developing countries, 654, 656
 - in high-income countries, 656, 657t, 658
- Congo, Democratic Republic of**
- African trypanosomiasis in, 454
 - Ebola in, 1006
- consumer subsidies**, 212–218
- consumer taxes**, 218–220, 219b
- contextual knowledge**, 110
- contingent valuation**, 280
- continuous quality improvement in health care**, 1298
- contraception**, 1075–1090
- See also family planning
 - adolescents and, 1112
 - condom use, 1080, 1082, 1086
 - costs and cost-effectiveness of interventions, 1081–1085, 1082t
 - costs per births averted, 1083–1084
 - costs per DALY, 1084
 - costs per death averted, 1084
 - outside of programs, 1083–1084, 1084t
 - within programs, 1084–1085
 - demand for, 1076, 1077t
 - diaphragms, 1080
 - HIV/AIDS and, 360b
 - economic benefits of intervention, 1086
 - emergency contraception, 1081
 - equity issues and, 1086
 - female sterilization, 1080, 1082
 - fertility and population growth, 1075–1076, 1086
 - financing of, 1332t
 - health consequences and, 1076–1079
 - interventions, 1080–1081
 - IUDs, 1080
 - methods, 1080–1081
 - “the pill,” 1080, 1082
 - research and development agenda, 1087
 - risks associated with pregnancy and birth, 1078–1079
 - risks associated with unwanted pregnancies, 1077–1078, 1078t
 - social marketing of, 1081
 - tubal ligation, 1080
 - vasectomy, 1080
- contracting for health services.**
- See outsourcing of health care services
- Convention on the Rights of the Child**, 1095
- cooking fuels and air quality.** See indoor air pollution
- COPD.** See chronic obstructive pulmonary disease (COPD) and asthma

- cost-effective interventions**, 24–27, 25t, 35–86, 36f
 See also *specific diseases and conditions*
 analysis of. See cost-effectiveness analysis
 assessing evidence of, 40–50, 41–42f
 building health systems, 27, 53–58
 communicable diseases, 53
 lack of reliable data on, 58
 methodology of study, 38–40, 39t
 noncommunicable diseases, 53
 personal. See personal interventions
 policy setting and, 36b
 population-based. See population-based interventions
 priority setting, 35–38, 37–38b, 271–273
 private sector and, 38
 quality as determinant of
 cost-effectiveness, 50
 regional variations, 39
 target audiences and, 38
 technological progress and, 53
 women and, 203–206, 204–205t
- cost-effectiveness analysis**, 26b, 271–285
 aggregation and cost differences in, 263–264
 amount of health (by service or intervention) US\$1 million will buy, 25t, 284
 burden of disease and, 272–273
 CER, use of. See cost-effectiveness ratio
 costs of producing intervention used in, 261–262
 currency units used in, 281
 data for, 281–282
 defined, 271
 discounting in, 262, 278
 discrimination against persons with disabilities, 264–265
 estimating effectiveness in health, 277–280
 ethical considerations for, 259–260, 272
 evaluation of health benefits in, 260–261
 evaluation of nonhealth benefits in, 279
 fair chances and best outcomes in, 264
 improving, 284
 modeling in, 281
 population impact and, 283–284
 quality-adjusted life years in.
 See quality-adjusted life years (QALYs)
 reasons to develop, 273–277
 reliability and uncertainty of, 282–283
 resource allocation based on, problems from, 262–265
 for South Asia and Sub-Saharan Africa, 50, 51–52t
- unit of measurement of health, 278–280
 See also DALYs (disability-adjusted life years)
 weighting of life years in, 261
- cost-effectiveness ratio**
 average and incremental, use of, 275, 276–277b, 283
 defined, 271–272
 use of, 272, 282
- Costa Rica**
 child mortality in, 1068
 community-based programs in, 1065, 1066, 1067, 1068
 diet in, 836
 disaster damage to hospitals in, 1156
 health sector reform in, 1298
 interpersonal violence in, 766
 universal coverage approach of, 237
- Côte d'Ivoire**
 African trypanosomiasis in, 459, 460
 malaria in, 426
 road traffic injuries in, 749b
- Council for International Organizations of Medical Sciences**, 266
- Council on Health Research for Development (COHRED)**, 161, 1297
- counterfeit medicines**, 1327
- craniofacial diseases**. See oral and craniofacial diseases and disorders
- criminal enforcement for dependent illicit opioid use**, 911–912
- Croatia**
 cardiovascular disease in, 649, 649t
- cross-level services and inputs**
 district hospitals and, 1215, 1222–1226
- Crossing the Quality Chasm (IOM)**, 1295
- Cuba**
 dengue in, 454, 455, 461
 public health improvements in, 88
- cure**
 defined, 59
- CVD**. See cardiovascular disease
- Cyprus**
 hemoglobinopathies in, 665, 673
 malaria in, 421
- Czech Republic**
 cardiovascular disease in, 649
- DALYs (disability-adjusted life years)**
 See also *specific diseases and conditions*
 gender differences, 197, 198t, 199t
 in low- and middle-income countries, 31t
 for tropical diseases, 437–438, 438t
 use to assess burden of disease, 29–32
 use to measure health, 278–280
 use to value health, 158, 161
- Darwin, Charles**, 119
- data collection**. See information systems
- Daubert v. Merrell Dow Pharmaceuticals (1993)**, 153
- day care at work**, 221
- DCPP**. See Disease Control Priorities Project
- deafness**. See hearing loss
- death**. See child mortality; mortality rates; *specific diseases*
- decentralizing health functions to local governments**, 253
- decision making, information for**, 1017–1030
 See also information systems
- Declaration of Helsinki**, 266, 267, 268, 269n3
- dehydration**. See oral rehydration therapy (ORT)
- dementia**. See Alzheimer's disease (AD) and other dementias
- demographic changes of 20th century**, 124
- Demonstration in Small Industries for Reducing Wastes Project**, 825b
- dengue**
 burden of, 454–455
 characteristics and transmission, 451–452
 costs and cost-effectiveness of interventions, 459
 economic impact of, 455
 management and control strategies of, 457
 risk factors of, 461
 social impact of, 455
 vaccine development for, 460–461
- dental caries**, 723–729, 724t, 725f
 common-risk-factors intervention programs, 731–732, 732t
 cost-effectiveness of oral health care, 733–734, 733f
 effectiveness of oral health programs, 726, 727–728t, 729
 fluoridation and, 168
 intervention programs, 725–726
 oral health education and promotion programs, 726
 research and future action, 733
 treatment of, 729
- depression**
 See also major depressive disorders
 burden of, 107, 1334
 community-based treatment of, 110
 costs and cost-effectiveness of interventions, 47
 women and, 107, 196, 201, 202, 206
- detoxification**. See drug dependence
- developed countries**. See high-income countries

- developing countries.** *See* low-income countries
- development assistance and health policy,** 22–25, 28, 243–257
See also Millennium Development Goals (MDGs)
- absorptive capacity of countries and, 232–233, 232t
- aid effectiveness and, 233, 250–256
 reaching local communities, 255–256
- budget support and, 250–251
- central government transfers to local authorities, 253
- conditionality and, 247
- donor disbursements to national governments, 253
- fungibility vs. earmarking of funding, 247–249
- harmonizing procedures in, 249, 251
- lessons learned, 246–250
- performance-based financing, 251–253
- policy environment and, 246–247
- pooling of donor funding, 251
- private sector and, 253–255
- sources and amounts, 243–244, 244t
- transaction costs of, 249
- trends and gaps in, 243–246
- unpredictability of, 249–250, 250t
- developmental disabilities,** 933–951
See also learning and developmental disabilities (LDDs)
- developmental disorders at birth.**
See congenital and developmental disorders
- deworming.** *See* helminth infections
- Diabcare-Asia project,** 599
- diabetes,** 591–603
 combination of hypertension, cholesterol, and obesity and, 851
 cost-effectiveness of interventions, 594t, 595–598, 600–602, 601t
 estimating in developing countries, 595, 596t
 ranking implementation priorities, 595–598
 death and disability rate of, 591–592
 diet contributing to, 836
 economic burden of, 592–593
 education on, 598
 epidemiological and economics research, 600
 epidemiological transitions and, 124
 estimated prevalence of, 591, 592t
 foot problems and, 597
 health systems and operational research, 600
 increasing burden of, 107, 591–592, 600, 1333
 insulin resistance syndrome and, 834b
 interventions, 593–595
 kidney disease and, 695, 698, 699, 700, 702
 lessons learned, 599–600
 lifestyle changes in response to, 593
 low birthweight and, 121
 management of, 594–595
 nature and distribution of, 591–593
 periodontal disease and, 729–730
 prevention, 599, 600
 quality of treatment and care, 599–600
 research and development agenda, 600
 risk factors for, 593
 screening for, 594, 598
 self-management of, 598
 stokes and, 633–634
 type 1 diabetes, 593
 type 2 diabetes, 593
- Diabetes Prevention Program,** 593
- Diagnostic and Statistical Manual of Mental Disorders, 4th ed. (DSM-IVTR) (American Psychiatric Association),*** 607, 908
- diagnostics, development of,** 144–146, 145, 145t
- diaphragms.** *See* contraception
- diarrheal diseases,** 371–387
See also oral rehydration therapy (ORT)
- bloody diarrhea
 diagnosis of, 372
 management of, 378
- breastfeeding preventing, 375–376, 379
- burden of, 373–375, 373f
- case management of, 378
- cholera immunization and, 377
- complementary feeding practices and, 376
- cost-effectiveness of interventions, 378–383, 380–382t, 383f, 383t
- drug therapy for, 378
- environment and, 373
- hand washing to prevent. *See* hand washing as intervention
- interventions, 45, 375–377
- laboratory diagnosis of, 372
- long-term consequences of, 374–375
- malnutrition and, 372
- measles immunization and, 377
- mortality rate and, 372, 374, 374f
- oral rehydration therapy and. *See* oral rehydration therapy (ORT)
- personal and domestic hygiene, 377
 poverty and, 373
 public health significance of, 373, 373f, 374–375, 374f
 research and development agenda, 383–384
 rotavirus immunization, 376–377
 successful programs in combating, 167, 176, 375–377, 1303–1304
 syndromic diagnosis of, 372
 transmission of, 371–372
 water and sanitary facilities and, 187, 189–190, 377, 776, 777, 777t, 782, 785, 786–791, 786t, 787f, 789t, 790t, 791t
See also sanitation improvements; water supply
 zinc supplementation and, 378
- diet.** *See* nutrition
- Difference Principle,** 262
- diphtheria, pertussis, tetanus**
See also Expanded Program on Immunization (EPI); vaccine-preventable diseases
 control of, 394–395
 neonatal deaths caused by tetanus, 533, 534
 vaccine, combined with Hib vaccine, 405b
 vaccine for, 121, 389, 1325
- directly observed therapy short course (DOTS),** 36b, 110, 170, 174, 289, 293–294, 293–295, 303–304, 1041, 1044–1045
 agenda for action, 1045–1046
- disabled persons**
 discrimination against, 264–265
- disaster relief**
 cash assistance, 1157–1158
 coordination of humanitarian effort, 1154
 costs and cost-effectiveness of interventions, 1156–1158
 disease prevention and control, 1157
 donations and supplies following, 1154, 1157
 emergency preparedness of health sector, 1155, 1158
 field hospitals for, 1157
 hospital damage and, 1155–1156
 in-kind donations, 1157
 lessons learned, 1159, 1161
 mobilization of resources, 1158–1159
 preparedness funding, 1158
 prevention and mitigation, 1155–1156, 1158
 funding for, 1159
 reconstruction funding, 1159

- research and development agenda, 1159–1160
- resources for emergency response, 1158
- search and rescue, 1157
- shelters, 1157
- strategic approach to, 1160–1161
- water systems, repair of, 1156
- disasters**, 1147–1162
 - See also* disaster relief
 - age and, 1149
 - classification of, 1147
 - climatic disasters, 1151
 - communicable diseases and, 1151, 1154
 - earthquakes, 1149–1150, 1150t
 - economic valuation of, 1151–1152
 - environmental health and, 1154
 - gender and, 1149
 - hazards, defined, 1148
 - health and economic losses from, 1148, 1148f
 - hospitals and health installations, damage to, 1153
 - hurricanes, 1151
 - interventions, 1153–1156
 - long-term impact, 1151–1153, 1152t
 - mass casualties, treatment of, 1154
 - poverty and, 1149
 - as public health condition, 1147–1153
 - response and rehabilitation, 1153–1154
 - risk
 - defined, 1148
 - geographic distribution of, 1148–1149
 - short-term health burden of, 1149–1151
 - surveillance in, 1008, 1154
 - terminology for, 1147–1148
 - tsunamis, 1150
 - volcanic eruptions, 1150
 - vulnerability
 - defined, 1148
 - factors affecting, 1149
 - water and sewage systems, damage to, 1153, 1156
- discount rate**, 262, 278
- discrimination**
 - against HIV positive individuals, 109
 - against persons with disabilities, 264–265
 - social exclusion and public health, 1072n1
- Disease Control Priorities in Developing Countries (DCP) (Jamison et al., 1993)**
 - burden of disease estimates, 279
 - estimates of deaths by causes, 28
 - intervention focus of, 16
- Disease Control Priorities Project (DCPP)**
 - death estimates for, 11b
 - on diarrheal diseases, 378–379
- focus on most cost-effective interventions for developing countries, 165
- on suicides, 607
- on tuberculosis, 295–296
- district hospitals**, 1211–1228
 - central financing of, 1220–1221
 - changing disease spectrum, implications of, 1226
 - clinical management of, 1223
 - clinical services provided by, 1214–1215
 - cost-effectiveness of services, 1216, 1219, 1220t
 - costs of care in, 1218–1219, 1218t
 - cross-cutting services and, 1215, 1222–1226
 - defined, 1212
 - demand for services, 1221–1222
 - economics of, 1216–1219
 - economics of scale and, 1213, 1213f
 - efficiency and, 1213, 1217–1218, 1219t, 1224–1225
 - equity issues and, 1214
 - factors influencing performance of, 1219–1222
 - framework for delivery of services by, 1212f
 - health information systems and, 1216
 - hospital-acquired diseases in, 1224
 - human resources and, 1223
 - integration with other local health-related services, 1215
 - levels of care, 1217
 - national level and costs, 1217
 - private sector and, 1217
 - quality improvements and accreditation of, 1223–1224, 1224f, 1226
 - research and development agenda, 1226
 - services provided by, 1214
 - supervision and, 1216
 - supply of services, 1222
 - surgery and, 5b, 27, 1249, 1253–1255, 1253t, 1254t, 1256f
 - technology, information, and integration in, 1223, 1226
 - training and, 1215–1216
- DNA markers, study of.** *See* genomics
- Doctors without Borders' Drugs for Neglected Diseases**, 1323
- Doha Declaration**, 151
- domestic violence**, 48–49, 202, 756, 760
 - See also* interpersonal violence
- Dominican Republic**
 - contraceptive use in, 1081
 - sexual risk behaviors in, 312
- DOTS.** *See* directly observed therapy short course
- Down syndrome**, 941–945, 944t
- dracunculiasis.** *See* guinea worm eradication
- drinking water.** *See* water supply
- driving injuries.** *See* traffic injuries
- drowning.** *See* unintentional injuries
- drug dependence**, 907–931
 - abstinence-oriented treatments, 910–911
 - adolescents and, 1111
 - amphetamines, 922–923
 - interventions, 923
 - burden of disease associated with, 909, 914–916, 915t
 - cannabis, 917–919
 - interventions, 919
 - causes and health consequences of, 907–909
 - cocaine, 919–922
 - interventions, 921–922
 - cost-effectiveness of interventions, 912–913, 915t
 - comparing different interventions, 913–914
 - criminal justice interventions, 911–912
 - detoxification, 910, 912, 913
 - in developing countries, 916
 - drug-free treatment, 912–913
 - cost-effectiveness of, 913–914
 - ecstasy (MDMA), 923–924
 - heroin use
 - antecedents of, 907–908
 - health consequences of, 908–909
 - HIV infection and, 909
 - mortality and morbidity, 909
 - prevention of, 909–910
 - reducing heroin-related harm, 910
 - interventions, 909–916
 - methadone maintenance, 910, 911, 913
 - research and development agenda, 916
 - self-help groups, 911, 913
- drug resistance**, 1031–1051, 1332–1333
 - agenda for action and, 1045–1046, 1340
 - anthelmintic, 479
 - antibiotic use and. *See* antibiotics, indiscriminate use of
 - containing spread of resistant micro-organisms, 1041–1042, 1340
 - diagnostic tests and, 1040
 - diarrheal diseases and, 378
 - disease burden and, 1033–1036, 1033t, 1034t, 1340
 - DOTS and. *See* directly observed therapy short course (DOTS)
 - drug quality and, 1040
 - drug treatment strategies and, 1037–1039
 - economic burden of, 1036–1037
 - global coordination and, 1042–1043
 - gonorrhoea and, 1036

- drug resistance** (*Continued*)
- helminth infections and, 479
 - history of, 122
 - HIV/AIDS, 358
 - humans and drug use, 314, 378, 1031–1032
 - integrated management of childhood illness and, 1044
 - interventions, 1037–1044, 1038t
 - at patient level, 1040–1041
 - at provider level, 1039–1040
 - lessons learned, 1044–1045
 - malaria. *See* malaria
 - multi-drug resistant TB (MDR-TB), 289, 293, 294, 296, 297, 299, 301, 305, 1333
 - new drug development and, 1043–1044
 - pneumococci and, 1033–1034, 1045–1046
 - prescribing patterns and, 1039–1040
 - reducing selection pressure, 1039
 - research and development agenda, 1046
 - retail pharmacies and outlets and, 1040
 - risk factors and, 1031–1036
 - sexually transmitted infections, 314, 1036
 - shigella and, 1034–1036, 1045
 - surveillance and, 1042–1043
 - TB and, 294, 304–305, 1036, 1045–1046, 1333
 - transmission of resistant pathogens and, 1033
- drugs**, 1323–1337
- See also specific drugs and diseases*
 - adherence of patient to therapy, 1330, 1346
 - for cardiovascular disease, 15–16, 650–654, 656, 658, 856–863, 859t, 862t, 863t
 - for cholesterol, 857
 - counterfeit, 1327
 - dispensing, 1330
 - disposal of, 1329
 - distribution and storage, 1328–1329, 1345–1346
 - donated drugs, management of, 1329
 - financing of, 1330, 1332t
 - future challenges for, 1331–1334
 - generic, 1326, 1328
 - for hemoglobinopathies, 672
 - for influenza, 683b, 684
 - insulin. *See* insulin
 - for kidney and urinary system diseases, 699–700, 703
 - local production of, 1328
 - for malaria, 418–420
 - management of, 1345–1346
 - Model List of Essential Drugs, 1324–1325
 - for neurological disorders, 629, 631, 632, 634–635, 637, 640, 641
 - new product development, 141–144
 - drug resistance and, 1043
 - financing in developing countries, 150
 - R&D costs in developing countries, 142–143
 - R&D costs in industrial countries, 141–142
 - patent system and, 150–152
 - pharmacogenomics, 129, 129t
 - policies on, 1323–1324, 1345–1346
 - polypill. *See* polypill
 - prescription and use, 1039–1040, 1329–1330
 - pricing, 1326–1327
 - affordability, ways to increase, 150
 - differential or “tiered” pricing, 146–147
 - orphan drug acts, 147
 - procurement of, 1326–1327, 1345–1346
 - for psychiatric disorders, 605–606, 608, 609–610, 611, 612, 613, 618–619, 621
 - public education about, 98
 - quality assurance of, 1327
 - regulation of, 92b, 1345–1346
 - research and development agenda, 5b, 141–144, 1335, 1336t
 - for respiratory diseases of adults, 686–688
 - for rheumatoid arthritis, 974–975
 - sales tax exemptions on, 220
 - subsidies for medicines and medical supplies, 217
 - for TB, 304
 - WHO prequalification process for, 1327–1328
- Drugs for Neglected Diseases**, 1323
- drunk driving**, 893, 894t
- dysentery**, 372, 378
- See also* diarrheal diseases
- E. coli***, 371–372
- See also* diarrheal diseases
- Early Breast Cancer Trialists’ Collaborative Group**, 580
- early childhood education**, 221
- earthquakes**, 1149–1150, 1150t
- East Africa**
- See also specific countries*
 - development assistance for health to, 245
 - fluorosis of teeth in, 731
 - indoor air pollution and energy programs in, 803, 809
 - leishmaniasis in, 453
 - malaria in, 425
 - water supply in, 773
- East Asia and Pacific**
- See also specific countries*
 - alcohol consumption in, 898
 - cardiovascular disease in, 647, 649, 655t, 656t
 - development assistance for health to, 245
 - diabetes in, 592
 - interpersonal violence in, 757
 - lymphatic filariasis in, 436
 - mental disorders in, 618
 - neurological disorders in, 628
 - proposed guidelines for HIV/AIDS in, 348–349
 - skin diseases in, 715
 - strokes in, 633, 634
 - vaccine-preventable diseases in, 397, 399, 402, 408
 - water supply, sanitation, and hygiene promotion in, 787
- Eastern Europe**
- See also specific countries*
 - arsenic contamination of water in, 821
 - cardiovascular disease, 649, 649t
 - diabetes in, 591
 - drug dependence in, 908, 916
 - hospitals in, 1348
 - kidney and urinary system diseases in, 695, 698–699
 - strokes in, 633
 - TB, spread of, 291
- EBM Toolbox**, 121
- Ebola**, 1006
- Economic Commission for Latin America and the Caribbean (ECLAC)**, 1151, 1152
- economic growth and consequences**
- adolescent interventions and, 1117
 - African trypanosomiasis and, 455
 - air and water pollution interventions and, 827–828
 - alcohol consumption interventions and, 899–900
 - contraception or family planning and, 1086
 - CVD interventions and, 864
 - dengue and, 455
 - disasters, effect on, 1151–1152
 - helminth infection interventions and, 477–478, 478f
 - of high-technology medicine, 124–125, 133–134, 133t
 - improved health, effect of, 4b, 7–8, 165
 - of infectious disease outbreaks, 112b
 - leishmaniasis and, 455
 - maternal and perinatal conditions and, 522
 - quality of health care and, 1301–1302
 - school health interventions and, 1099–1101

- stunting, wasting, and micronutrient deficiency disorders, 562–563
- WB projections for 2000–15, 183
- economic policies to encourage healthy behavior choices**, 842–844
- ecstasy**. *See* drug dependence
- eczema**, 708
- education**
 - See also* training of medical personnel
 - adolescents and, 1115
 - on alcohol abuse, 893
 - on diabetes, 598
 - early childhood education, 221
 - of girls, 1095
 - on helminth infections, 472, 475
 - HIV/AIDS education campaigns, 344, 344b, 1105
 - on illegal drug use, 910
 - information, education, and communication campaigns, 176
 - life-skills and health education, 1115
 - on lifestyle changes for health, 837–838, 842, 859
 - on malaria, 422
 - malnutrition and school performance, 563
 - on osteoarthritis, 972
 - patient education, effect of, 98
 - peer education programs, 1115
 - referral hospitals' role in, 1233–1234, 1234t
 - on risk factors, 121
 - sex education, 344, 344b, 1121
- Egypt**
 - diarrheal diseases in, 167, 176, 374, 378
 - food subsidy programs in, 216
 - health sector reform in, 1315
 - kidney and urinary system diseases and, 697
 - schistosomiasis in, 479
 - school health insurance program in, 187
- El Salvador**
 - contracting for health care services in, 189
 - interpersonal violence in, 766
 - occupational health risks in, 1136b
- elder abuse**, 756
 - See also* interpersonal violence
- electrification**, 795, 803–804, 810
- electronic medical records (EMRs)**, 1300
- ELISA**. *See* enzyme-linked immunosorbent assay
- embryonic stem cells**, 130
- emergency medical services**, 1261–1279
 - absence of ambulance system and, 1273b
 - ambulances, 1267–1271, 1269t, 1270t
 - burden of disease, 1262–1263, 1263t, 1274f
 - communication systems for, 1267
 - costs and cost-effectiveness of interventions, 49, 1265–1266, 1266t, 1267t, 1268, 1270t
 - deaths from trauma, 1278n1
 - defined, 1262
 - description of, 1261, 1262t
 - disaster relief. *See* disaster relief
 - documentation and quality assurance, 1272
 - equipment and supplies, 1266–1267, 1271–1272, 1275–1278t
 - financing for, 1272
 - first aid, 1264
 - future challenges for, 1274
 - health facility-based system, 1271–1272
 - helicopter ambulances, 1268
 - interventions, 1263–1272
 - lay responders, 1264, 1267t, 1270t
 - legislation on, 1272
 - lessons learned, 1272
 - malaria and, 1262
 - for newborns, 540–541
 - paramedical personnel, 1264–1265, 1270t
 - cost-effectiveness of combining with lay responders, 1267t
 - defined, 1262
 - planning and implementation of, 1272
 - prehospital care, 1264–1271
 - research and development agenda, 1272–1274
 - response time, 1265
 - training for hospital emergency workers, 1271, 1273b
 - triage, defined, 1262
 - universal emergency care, 1271
- emphysema**. *See* chronic obstructive pulmonary disease (COPD) and asthma
- EMRs (electronic medical records)**, 1300
- end-of-life care for HIV/AIDS patients**, 351–353
- end stage renal disease (ESRD)**. *See* kidney and urinary system diseases
- endangered species and traditional medicine**, 1286
- endemic treponematoses**, 709
- endoscopic surgery**, 130
- energy medicine**, 1282
 - See also* complementary and alternative medicine (CAM)
- Energy Sector Management Assistance Programme**, 811
- England**. *See* United Kingdom
- environmental risk factors**
 - air and water pollution, 817–832
 - clinical epidemiology and, 120
 - diarrheal diseases and, 373
 - in disasters, 1154
 - health systems' efficacy and, 1340
 - indoor air pollution and, 797–798
 - interventions for environmental control, 177–179
 - learning and developmental disabilities and, 936b
 - mental disorders and, 605
 - posttraumatic stress disorder (PTSD), 605
 - respiratory diseases of adults and, 690
 - surveillance, 1006–1007
- enzyme-linked immunosorbent assay (ELISA)**
 - African trypanosomiasis and, 462
 - leishmaniasis and, 457
- EPI**. *See* Expanded Program on Immunization
- Epidemic Intelligence Service (U.S.)**, 1002
- epidemics**
 - flu. *See* influenza pandemic, possibility of HIV/AIDS. *See* HIV/AIDS
 - surveillance for outbreaks, 1005–1006
- epidemiological trends**, 6–7
 - modern epidemiology, 120–124, 125
- epidemiologists**
 - field epidemiologists providing evidence, 1001–1002
 - training of, 1002
- epilepsy**, 629–631
 - childbirth and, 948
 - community-based treatment of, 110
 - costs and cost-effectiveness of interventions, 47
 - in developing countries, 637, 638t
 - faith healers and, 630
 - onchocerciasis and, 435
 - patient compliance, 630
 - prevalence, incidence rate, remission, and mortality, 630
 - recommendations, 640
 - risk factors, 630
 - stigma of, 631
 - treatment gap for, 630, 641
- epistemology, defined**, 110
- equalization funds**, 228
- equity issues**, 259–260
 - contraception and, 1086
 - cost-effectiveness analysis and, 272
 - CVD interventions and, 863
 - district hospitals and, 1214
 - Down syndrome and, 944–945
 - drug accessibility and, 1323
 - health improvements and, 4b, 7, 104b
 - helminth infection interventions and, 476
 - IMCI and, 1184

- equity issues** (*Continued*)
- justice and special concern for the worst off, 262–263
 - primary care and, 1198
 - referral hospitals and, 1239
 - sexually transmitted infections and, 318, 318t, 319t
- eradication of infectious diseases**, 1163–1176
- See also* infectious and communicable diseases; *specific diseases*
- ergonomics in workplace**, 1137
- Eritrea, malaria in**, 418, 421
- esophageal cancer**, 570, 573
- ESRD (end stage renal disease)**. *See* kidney and urinary system diseases
- Estonia**
- asthma in, 686
- ethics**, 259–270
- See also* equity issues
- in choosing research priorities, 114, 265–269
 - in cost-effectiveness analysis. *See* cost-effectiveness analysis
 - current controversies in research ethics, 267–269
 - discrimination against persons with disabilities, 264–265
 - fair chances and best outcomes in terms of, 264
 - genomics era and, 135
 - goals of ethical review of research, 266–267
 - in health resource allocation, 259–265
 - hemoglobinopathies and, 670, 678
 - informed consent of human research subjects, 266–267, 269
 - placebo controls and, 268
 - responsibility for health needs, 265
 - rights of host communities and, 268–269
 - standard of care and, 267–268
 - state secrets of experimentation with human subjects, 269n1
 - in stem cell therapy, 130
- Ethiopia**
- African trypanosomiasis in, 458
 - child mortality in, 544b
 - dental treatment in, 729
 - development assistance for health to, 245
 - diarrheal diseases in, 378
 - health care expenditures in, 245
 - leprosy in, 444
 - malaria in, 414, 421, 426
 - maternal deaths in, 544b
 - neonatal deaths in, 531
 - skin diseases in, 708, 709
- Europe**
- See also specific countries*
- cardiovascular disease in, 649, 654, 655t, 656t
 - cleft lip and palate in, 731
 - diarrheal diseases in, 378
 - food manufacture in, 845
 - hemoglobinopathies in, 670, 673
 - heroin use in, 908
 - HIV/AIDS, proposed guidelines for, 348–349
 - kidney and urinary system diseases in, 695, 698, 700
 - mental disorders in, 618, 619
 - occupational lung diseases in, 690
 - road traffic injuries in, 746
 - salt fluoridation in, 726
 - sexual risk behaviors in, 312
 - strokes in, 634
 - transportation choices in, 840
 - vaccine-preventable diseases in, 394, 399, 400, 402, 408
- European Program for Intervention Epidemiology Training**, 1002
- European Union approval of pharmaceutical products**, 152–153
- evidence-based medicine**, 121, 144, 1001, 1026t
- excreta disposal**. *See* sanitation improvements
- exercise**. *See* physical activity interventions
- Expanded Program on Immunization (EPI)**, 44, 121, 383, 389, 397, 405b, 1177, 1186, 1324, 1347
- eye disease**
- See also* blindness; onchocerciasis; trachoma
- diabetes and, 597
- fall-related injuries**. *See* unintentional injuries
- family care leave**, 221
- family planning**, 1075–1090
- See also* contraception
- cost-effectiveness as intervention, 203
 - fertility behavior change, 510
 - organization of programs, 1081
 - social marketing of, 1081
 - successful programs in, 167
 - time interval between pregnancies, 1079
 - vertical vs. integrated programs, 1081, 1085
- family violence**, 756
- See also* interpersonal violence
- FDA**. *See* U.S. Food and Drug Administration
- fecal-oral transmission**, 317
- See also* diarrheal diseases
- Fédération des Associations de Lutte contre la Drépanocytose en Afrique (Federation of Associations to Control Sickle Cell Anemia in Africa)**, 678
- fee-for-service basis**, 19
- female genital mutilation (FGM)**, 202
- fertility and population growth**, 1075–1076
- fetal alcohol syndrome**, 936b
- fetal monitoring during childbirth**, 948
- fibromyalgia**, 965
- financing**, 16–21, 225–242
- See also* fiscal policies to promote health
- absorptive capacity of countries, 232–233, 232t
 - aid effectiveness, 23, 192–193, 233, 250–256
 - MDGs and, 185, 192–193
 - reaching local communities, 255–256
 - challenges and transitional nature of, 239–240
 - composition of health financing by region and income level (2001), 230t
 - for contraception, 1332t
 - by country income level (2001), 18, 18t
 - development assistance. *See* development assistance and health policy
 - distributing and sourcing health expenditures, 229
 - district hospitals and, 1220–1221
 - for drugs, 1330, 1330t, 1332t
 - for emergency medical services, 1272
 - fiscal sustainability, 233
 - functions involved in, 225–227, 226f
 - for health information systems, 1018–1019
 - for health promotion and disease prevention, 211–223
 - in low-income countries, 5b, 20–21, 211–212, 234–236
 - community-based health insurance, 231, 236
 - needs gap, 234
 - new global alliances and funds, 234
 - PRSPs, 235–236
 - macroeconomic consequences of aid, 23–24
 - MDGs requirements, 185–193, 191b, 192t
 - in middle-income countries, 5b, 19–20, 236–239
 - alternative risk pooling arrangements, 236–238
 - donor disengagement from, 238–239
 - national health services, 238

- private health insurance, 238
- single pool vs. virtual single pool, 238
- sources of financing, 238
- universal coverage initiatives, 236, 237–238, 237t
- mobilizing government revenues, 229–231
- models of, 226
- national health service (NHS) model, 226, 238
- for new product development, 146–150
 - pharmaceutical firms in developing countries, 150
 - private sector, 146–147
 - public-private partnerships, 147–150, 149t
 - public sector, 146
- Poverty Reduction Strategy Papers (PRSPs) and, 235–236
- for primary care, 1199–1200, 1200t
- private foundations, role of, 182, 253–255
 - See also specific foundations*
- private insurance model, 226, 238
- project support vs. budget support, 23
- purchasing, 226
- reallocation based on cost-effective criteria, 5b, 186
- revenue sources, 226, 227, 231t, 240n2
- risk pooling, 226, 227–232, 236–238
- social insurance model, 226
- SWaps, 234–235
- trends by country income level, 231–232, 231f
- for vaccines, 406–407, 1331, 1332t
- Finland**
 - CVD and lifestyle changes in, 837, 837b
 - diabetes and lifestyle changes in, 593
 - rheumatoid arthritis in, 974
 - tobacco taxes in, 882
- firearms and violence**, 760, 763, 765
 - See also interpersonal violence*
- first aid**, 1264
- fiscal policies to promote health**, 211–223
 - family care leave, 221
 - lessons in using, 222t
 - in low-income countries, 211–212
 - maternity leave, 221
 - sick leave, 221
 - subsidies for health and health-related products, 212–218, 212t, 213–214t
 - consumer subsidies, 212–218
 - producer subsidies, 218
 - taxes. *See* taxation
 - workplace health, 220–221
- fiscal sustainability**, 233
- fluoridation**, 972
 - dental caries. *See* dental caries
 - negative health effects of, 821
- FOCUS on Young Adults**, 1114, 1115t
- Focusing Resources on Effective School Health (FRESH)**, 784, 1096, 1096t, 1097, 1098b, 1099, 1101, 1102–1103t
- folic acid**, 836, 842, 939, 940–941, 948
- folklore and alternative medicine**, 1282
- food**. *See* nutrition
- food manufacture**, 841–842, 856
- foot problems and diabetes**, 597
- foreign direct investment and health gains**, 8
- Framework Convention on Tobacco Control**, 882
- Framingham, Massachusetts, study of males and heart disease**, 120, 855
- France**
 - homeopathic products, use in, 1282
 - skin diseases in, 714
- free trade agreements**, 1141
- FRESH**. *See* Focusing Resources on Effective School Health
- fuel choice and air quality**. *See* indoor air pollution
- full income**, 8–9, 9f
 - defined, 4b, 8
- fungal infections of skin**, 713–715
- Gambia**
 - malaria in, 418
 - respiratory diseases of children in, 492
- GATB**. *See* Global Alliance for TB Drug Development
- GAVI**. *See* Global Alliance for Vaccines and Immunization
- gender differences**, 195–210
 - See also women*
 - African trypanosomiasis and, 456
 - background, 195–197
 - burden of disease and, 197–198
 - disasters and, 1149
 - hearing loss and, 958
 - leishmaniasis and, 455
 - mental disorders and, 605
 - research agenda, 206–207
 - sex distinguished from gender, 196
 - sexually transmitted infections and, 318
 - vision impairment and, 955
- general primary care**. *See* primary care
- generic drugs**, 1326, 1328
- genetic disorders**
 - hemoglobinopathies and, 669–670, 671, 672, 678
 - See also hemoglobinopathies*
 - kidney disease and, 696
 - mental disorders and, 605
- genetically modified crops**, 131–132
- genetics**
 - diabetes and, 593
 - helminth infections and, 470
 - hemoglobinopathies and, 673
 - insulin resistance syndrome and, 834b
- genital herpes**, 312
 - See also* sexually transmitted infections (STIs)
- genital mutilation**, 761, 763
- genomics**, 107–109, 126–130, 128b, 133, 135
- Genomics and World Health (WHO report)**, 127, 133, 135
- Germany**
 - homeopathic products, use in, 1282
 - influenza in, 684
 - transportation choices in, 840
 - universal coverage approach of, 237
- GFHR**. *See* Global Forum for Health Research
- Ghana**
 - breastfeeding programs in, 559, 561
 - deworming programs in, 478
 - emergency transport to hospital in, 1264
 - food fortification in, 558
 - health sector support program in, 251
 - malaria in, 1092
 - medical workers in, 1309
 - newborn survival rates in, 540
 - organizational structure of health systems in, 93, 1345
 - road traffic injuries in, 746–747
 - sexually transmitted infections in, 323, 325
 - traditional medicine in, 1283–1284
- gingivitis**, 729–730
 - See also* oral and craniofacial diseases and disorders
- Global Alliance for Improved Nutrition**, 182, 254
- Global Alliance for TB Drug Development (GATB)**, 140, 142
- Global Alliance for Tuberculosis**, 182
- Global Alliance for Vaccines and Immunization (GAVI)**, 24, 182, 234, 244, 245, 253, 389, 397, 406, 491, 492, 493
- Global Burden of Diseases 2000 study (World Health Organization)**, 613
- Global Campaign against Epilepsy**, 631
- Global Forum for Health Research (GFHR)**, 106, 114, 157, 161, 749
- Global Fund to Fight AIDS, Tuberculosis and Malaria**, 110, 147, 182, 234, 243, 245, 305, 332, 425, 1333

- Global HIV Prevention Working Group**, 332
- Global Immunization and Vision Strategy**, 394
- Global Initiative on Children's Environmental Health Indicators**, 812
- Global Polio Eradication Initiative**, 1347
- Global Programme against AIDS**, 14
- Global Programme for the Elimination of Lymphatic Filariasis**, 439, 440
- Global Strategy on Diet, Physical Activity, and Health**, 219
- global surveillance networks**, 1011–1012, 1012f
- global warming**, 104b, 118
- Global Water Supply and Sanitation Assessment 2000 Report (WHO and UNICEF)**, 772–773, 779
- globalization, effect of**, 3, 104, 104b, 1140–1141
- glomerulonephritis**, 696–697
See also kidney and urinary system diseases
- goiter**, 554
- gonorrhea**. *See* sexually transmitted infections (STIs)
- gout**. *See* musculoskeletal disorders
- government reform and health care delivery**, 90–91
to meet MDGs, 185–190
- Grand Challenges in Global Health**, 115
- Greece**
dengue in, 452
hemoglobinopathies in, 669, 673
malaria in, 421
- growth faltering**. *See* stunting, wasting, and micronutrient deficiency disorders
- Guatemala**
field epidemiology in, 1002
food fortification in, 558, 562
indoor air quality and energy programs in, 190, 811
interpersonal violence in, 766
occupational health risks in, 1136b
performance-based contracts with NGOs in, 252, 252b
- guinea worm eradication**, 167, 169, 176, 779, 1173
- Gulf Cooperation Council Group Purchasing Program**, 1327
- guns and violence**, 760, 763, 765
See also interpersonal violence
- H. pylori* infection**, 569, 573, 574
- Haddon matrix**, 739
- Haemophilus influenzae* type B (Hib)**.
See Hib disease prevention
- Haiti**
contracting for health care services in, 188, 1299
HIV/AIDS in, 358
malaria in, 413
performance-based contracts with NGOs in, 252
- hand washing as intervention**, 187, 189–190, 377, 379, 556, 1041
- Harvard lifesaving study**, 39b
- HBV vaccine**, 572–573
- healers, use of in traditional medicine**, 630, 1283, 1286–1287
- health care organizations, specificities of**, 1341b
- health care workers**. *See* medical workers
- health education**. *See* education
- health gains**, 5–6
See also specific diseases, regions, and countries
effect on economic welfare, 4b, 7–9
lessons of experience, 165–179
linked to research, 160–161
research methods on, 166
successful programs for
behavioral change interventions, 175–177, 175b
cases selected for study, 166–169
combination or bundled interventions, 178
demand-side incentives, 175
environmental control interventions, 177–179
intervention type, programmatic characteristics, and policies, 170–178
product-intensive interventions, 171–173, 171b
service-intensive interventions, 173–175, 173b
- health information systems**.
See information systems
- health insurance**
community-based, 231, 236
private, 231, 238
universal coverage approaches, 236, 237–238, 237t
- health management information system (HMIS)**, 1017
- Health Metrics Network (HMN)**, 1020b
- health policy**
See also policy instruments
challenges for, 6–7, 1339–1340
cost-effectiveness and, 36b
IMCI and, 1177–1178
- health systems**
adolescents and, 1122
assessment of approaches to, 91–97
capacity of
defined, 86n3
low-capacity environments, solutions in, 98–99, 99t
civil service reform and, 96
constraints on delivery, 89–91, 89t, 90t, 1340
cost-effective interventions aimed at, 27, 53–58
crisis in, 107
health care organizations, specificities of, 1341b
history and current themes, 88–89, 107
horizontal approach to. *See* horizontal approach to health systems
human resources. *See* medical workers
IMCI and, 1178
improving quality, effect of, 188–189, 1178
inequities in. *See* equity issues
information and surveillance. *See* information systems; surveillance
lack of information on, 99–100, 100b
management. *See* management of health services
mass campaigns, 88
occupational health and, 1141–1142
organizational structures and financing of, 92–94
outsourcing management of, 93–94, 93b
primary care and, 1195–1196
quality assessment and assurance, 96–97
regulatory approach, 91–92, 92b, 96, 97
research and development agenda, 99–100, 116
service-level mechanisms, 98, 1340
stewardship approach, 91–92
strategic purchasing by, 1348–1349, 1349f
strengthening of, 87–102, 1002
successes of, 88
surveillance. *See* surveillance
sustainability of, 233
systems-level mechanisms, 97–98
vertical approach to. *See* vertical approach to health systems
weak, 99, 1340
- health workers**. *See* medical workers
- hearing loss**
acute ear infections in children, 484
aging and, 958
causes and epidemiology of, 953, 957–960, 958t
chronic middle ear infection, 959

- cost-effectiveness of interventions, 954t
gender differences and, 958
hearing aids, 960
interventions, 959–960
mortality and, 958–959
research and development agenda, 960
risk factors for, 958
years lived with disability and
DALYs, 959
- helicobacter pylori.** *See h. pylori* infection
- helicopter ambulances,** 1268
- helminth infections,** 467–482
See also guinea worm eradication
adolescents and, 1116
age-associated prevalence of, 469, 469f
burden of, 470–471, 476–477
causes and characteristics of, 467–468
control of, 478–479, 783–784
costs and cost-effectiveness of
interventions, 46, 472–476, 475t
deworming (anthelmintic drug
treatment), 472–474
school-based, 473, 474–475, 1092,
1098b
economic benefits of interventions,
477–478, 478f
education and communication about,
472, 475
epidemiology of, 468–470
excreta disposal and, 783–784
global prevalence and distribution of, 467,
468t
preschool children and, 473, 474
research and development initiatives,
479–480
risk factors for, 470
sanitation improvements and, 472
school-age children as high-risk
population for, 473, 474, 476,
1092, 1098b
selective treatment, 472
soil-transmitted, 467–468
targeted treatment, 472, 476
universal treatment, 472, 476b
water supply and, 779
- hemoglobinopathies,** 663–680, 669–672
bone marrow transplantation, 669, 672,
675, 677, 678
burden of, 667–669, 669t
clinical features, 664
costs and cost-effectiveness of diagnosis
and management, 673–677,
674t, 675t
thalassemias, 673–675, 674t, 675t
ethical and social issues, 678
future research needs, 678–679
- global distribution and frequency of,
665–667, 665f, 666f, 666t, 667f
HIV/AIDS and, 670
international and national support
groups, 678
interventions, 45, 670–671, 677–678
normal hemoglobin, 663
population genetics and dynamics,
664–665
prevention, 669–670
research priority of, 126
screening and carrier detection, 671
sickle cell diseases. *See* sickle cell anemia
and related diseases
spectrum of inherited hemoglobin
disorders, 663–664
thalassemias. *See* thalassemias
- hepatitis B**
burden of, 396
cancer and, 569
injecting drug users and, 315, 909
occupational risk of health care workers
for, 1130, 1130f
sexual transmission of, 315
vaccine for, 121–122, 244, 315, 389, 396,
406, 1324, 1325
See also vaccine-preventable diseases
- hepatitis C**
hemoglobinopathies and, 670
injecting drug users and, 909
occupational risk of health care workers
for, 1130, 1130f
- herbal products, use of,** 1282–1283, 1283t
- heroin.** *See* drug dependence
- herpes simplex virus.** *See* sexually
transmitted infections (STIs)
- H5N1 influenza.** *See* avian influenza threat
- Hib disease prevention,** 167, 172, 244, 389,
396, 1324
See also vaccine-preventable diseases
burden of disease, 396
for children, 485–486, 491–492
- high blood pressure.** *See* cardiovascular
disease (CVD), *subheading:*
hypertension
- high-income countries**
See also specific countries
breast cancer screening in, 578
cancer diagnosis and treatment in, 559,
582–583
combination of high blood pressure,
cholesterol, and obesity in,
859–860, 863
morphine use for pain in, 984–985
neonatal deaths in, 531
smoking restrictions in, 876
- hip replacement surgery,** 973
- historical achievements in medicine,**
119–120
- HIV/AIDS,** 13–14, 331–369
See also specific countries and regions
action under uncertainty, 333–347
adolescents and, 1112
anemia in AIDS patients, 359–360
antiretroviral treatment for.
See antiretroviral drugs (ART)
blood safety practices as prevention
of, 346
blood screening for, 346, 348
blood transfusion and, 346–347
bloodborne transmission, 346–347
breastfeeding and, 334, 336, 375
burden of, 333, 334t
chemoprophylaxis to treat, 349, 354
circumcision as possible protection
against, 320, 322, 360b
community health and nutrition
programs and, 1070–1071
concentrated epidemic, 348–349
condom use for prevention, 167, 170,
176–177, 216, 345, 348b, 1080
low levels of use, 184
costs and cost-effectiveness of
interventions, 356t
based on mode of transmission,
344–345
prevention interventions, 336–347
school-based prevention programs,
1105
successful prevention programs,
336–347, 339–343t
development assistance in response to,
244, 245
diagnostics development for, 144, 351
discrimination against HIV positive
individuals, 109
drug resistance and, 358
drug therapy for, 1333
economic effects of, 8, 9
epidemic profiles to develop prevention
guidelines, 347–349
fungal infections and, 714
general interventions for transmission
of, 344–345
generalized high-level epidemic, 349
generalized low-level epidemic, 349
health challenge of, 4b, 7, 88
hemoglobinopathies and, 670
infected blood or blood products,
exposure to, 335
infection, determinants of, 333–336
infectivity, 334–335

HIV/AIDS (*Continued*)

injecting drug users and, 335, 346, 909, 913, 917, 920

interventions, 4b, 43, 344–345, 350–360, 360b

kidney disease and, 697

laboratory monitoring of immune function as guide for therapy, 358–360

leishmaniasis and, 453

life expectancy, effect on, 6, 106

low level epidemic, 347–348

malaria and, 418

monitoring of immune function to guide therapy, 358–360

monitoring toxicity, 359–360

mother-to-child transmission (MTCT), 332, 336, 339–343t, 345–346, 345b, 376

neurological problems in children with, 935b

nutrition programs and food security, 352–353

obstacles to control, 331–333

occupational risk of health care workers for, 1130, 1130f

opportunistic infections (OIs) and, 353–355, 353f, 1339

oral manifestations of, 730

pain control for. *See* palliation

peer-based intervention programs for, 344–345

perinatal transmission, 335–336

prescribed therapy, adherence to, 358

prevention and management, 13–14, 43, 167, 348b

development assistance for, 254

lack of access to, 331–332

low levels of participation, 184

strategies for, 332b

prevention-care synergy, 349–350, 350t

prophylaxis for opportunistic infections, 355

psychological support, 352

rape and, 758

referral hospitals and, 1239

research and development agenda, 114, 360–361, 360b

respiratory disease associated with, 485, 489

response to therapy, 359

rigorous evaluations, lack of, 332–333

school-age children and, 1092–1093, 1093f

cost-effectiveness of school-based prevention programs, 1105

second-line and subsequent therapies, 358

sex education and, 344, 344b

sexual transmission of, 334–335, 334t

interventions to prevent, 345

sexually transmitted infections and, 314, 345

skin diseases of, 707, 708, 709, 717

successful prevention programs, 332b, 336–347, 348b

background data for, 336, 337–338t

theory and practice, 347–349, 347t

symptom-based care, 352

TB and, 291, 292–293, 294, 301, 302, 304–305

universal precautions, 346

vertical transmission, 335–336

voluntary counseling and testing (VCT), 332, 336, 344, 347, 348, 349

women and, 195, 196

workplace health and, 221

HMN (Health Metrics Network), 1020b

home-based care, 1204, 1343–1344

homeopathy, 1282–1283, 1283t, 1285, 1286, 1288

homicide. *See* interpersonal violence

Honduras

cervical cancer screening in, 205

Chagas disease in, 438

community-based programs in, 1059, 1060b, 1067

interpersonal violence in, 766

respiratory diseases of children in, 492

Hong Kong

avian influenza in, 682b

drug dependence in, 916

influenza in, 684

hookworm, 467, 471, 480, 783–784

See also helminth infections

horizontal approach to health systems, 88, 99

management of health services and, 1346–1347

hormone replacement therapy, 967, 971, 972

Hospice Uganda, 990

hospitals

accreditation of, 1296

changes in hospital practice, 130–131

defined, 1262

disaster damage to, 1153, 1155–1156

district hospitals. *See* district hospitals

field hospitals for disaster relief, 1157

governance of, 1348

management structure of, 94, 1342–1343

outsourcing management of, 93b

referral hospitals. *See* referral hospitals

small hospitals in developing countries and DALYS averted, 1255b

surgery in. *See* surgery

households as producers and demanders of care, 186–188

HSV-1 and HSV-2, 315, 360b

See also sexually transmitted infections (STIs)

human capital approach. *See* value of a statistical life (VSL)

Human Genome Project, 108, 126

Human Hookworm Vaccine Initiative, 480

human papillomavirus and cancer, 569

human resources. *See* medical workers

human subjects research and ethics, 266, 269n1

See also informed consent of human research subjects

human T cell lymphotropic virus, 315

hurricanes, 1151

hygiene. *See* hand washing as intervention; sanitation improvements

hyperpigmentation, 718

hypertension, 15

See also cardiovascular disease (CVD)

hyperthyroidism, congenital, 945–946, 949

hypothyroidism, 627

hypoxemia diagnosis, 488

IAEA. *See* International Atomic Energy Agency

IAVI. *See* International AIDS Vaccine Initiative

The ICD-10 Classification of Mental and Behavioral Disorders (ICD-10) (WHO 1992), 606t

ICPD. *See* International Conference on Population and Development

IDSR (Integrated Disease Surveillance and Response), 1003–1004

IFF. *See* International Finance Facility (IFF) proposal

IHD. *See* ischemic heart disease

illicit opiate abuse. *See* drug dependence

ILO. *See* International Labour Organization (ILO) on occupational health risks

ILO–WHO Joint Committee on Occupational Health, 1131

IMCI. *See* integrated management of childhood illness

immunizations. *See* vaccine-preventable diseases; vaccines; *specific diseases*

imprisonment for dependent illicit opioid use, 911–912

improved health

See also health gains
lessons of experience, 165–179
value of, 158–160

incentive pay to medical providers, 4b,
94–95, 95b, 170, 1299, 1310–1311,
1313–1320
community workers, 1063

income levels and health gains, 6

**INDEPTH (International Network of Field
Sites with Continuous
Demographic Evaluation of
Populations and Their Health in
Developing Countries)**, 1021

India

ambulances in, 1268
arsenic contamination of water in, 821
asthma in, 688
Bhopal catastrophe, 819, 819b, 1133, 1149
breast cancer in, 578, 584
burn-related injuries in, 741
cardiovascular disease in, 658, 659,
861, 863t
cataract surgery in, 1258b
child survival in, 1068
combination of high blood pressure,
cholesterol, and obesity in, 853–854,
861, 863t
community-based programs in,
1064, 1066
dengue in, 452
dental treatment in, 729
development assistance for health to, 245
diabetes in, 597, 1333
diarrheal diseases in, 372, 377, 378
district hospitals in, 1217
drug addiction in, 908
emergency medical care in, 1273b
epilepsy in, 630
food fortification in, 558
food subsidies in, 216
hemoglobinopathies in, 664, 665,
668, 670
HIV/AIDS in, 254, 358
immunization services in, 404b
indoor air quality and energy programs
in, 190, 809, 809b
Integrated Child Development Services
Program, 556
Kaposi's sarcoma in, 730
kidney and urinary system diseases in,
695, 697, 700, 702, 703
leishmaniasis in, 452, 459, 461
leprosy in, 437, 445
lymphatic filariasis in, 436, 439, 440,
442, 443

malaria in, 414, 418
morphine use in, 990–991
National Cancer Registry program, 1009
neonatal deaths in, 531, 545, 545b
neurological disorders in, 628
occupational risks of silica dust in,
1137, 1138b
performance-based contracts with NGOs
in, 253
quality of care in, 1298
rotavirus vaccine in, 377
skin diseases in, 714, 715
smallpox eradication in, 1163, 1170
strokes in, 633
TB in, 253, 291
training for emergency medical
personnel, 1273b
vaccine-preventable diseases in, 404b, 406
vital events registration in, 1021
water pollution in, 821, 825b, 828
water supply in, 773–774
women in, 195

Indonesia

avian influenza in, 682b
community-based programs in, 1064
dengue in, 459
dental caries in, 725
diarrheal disease in, 1303
kidney and urinary system diseases
and, 697
leprosy in, 441
maternal deaths in, 533
mental disorders in, 621
neonatal deaths in, 533
polio in, 1170
rice subsidy in, 216
skin diseases in, 708, 715
smallpox in, 1163
TB in, 291, 295, 296
tsunami in, 1149

indoor air pollution, 190, 793–815
causes and burden of, 793–799
COPD and, 688, 690, 691–692, 804, 805
costs and cost-effectiveness of
interventions, 799–808, 801b, 802b
cost assumptions, 804
cost-benefit analysis, 807–808, 808t
cost-effectiveness analysis, 804–807,
806t, 812
effectiveness assumptions, 804–805
implementation period, 805
DALYs and deaths due to, 797, 798t
economic effects of fuel collection, 797
electrification in rural areas, 795,
803–804, 810
environmental consequences of, 797–798

fuel subsidy programs to control, 217
health impacts of, 795–796, 796t, 797t
interventions and policy, 799, 800–801t
kerosene and LPG as cleaner fuels, 803,
805, 810, 811b
lack of lighting and, 797
lessons learned, 808–811
levels of pollution and exposure, 795
MDGs on poverty reduction and,
799, 812
method used for determining attributable
disease burden, 796
research and development agenda,
811–812
solid fuel use, 797

infant care. See perinatal conditions

infant mortality. See child mortality rates

infectious and communicable diseases

See also *specific diseases*

burden of, 105
colonization efforts and control of, 120
control of
defined, 1164–1165
distinguished from eradication, 1165
cost-effective interventions for, 53
disasters and, 1151, 1154
elimination of, defined, 1165
eradication of, 1163–1176
See also *specific diseases*
certification process for, 1167
defined, 1164
distinguished from control, 1165
economic considerations, 1167–1169
frameworks for, 1165–1169
geographic and environmental factors,
1165–1166
interventions to block transmission,
1166–1167
laboratory containment and, 1166
local vs. international net benefits,
1167–1168
natural resistance to reinfection
and, 1166
operational considerations, 1166–1167
potential reservoirs and, 1166
private vs. social net benefits, 1167
scientific considerations, 1165–1166
short-term vs. long-term net
benefits, 1167
surveillance and, 1166
transmissibility and, 1166
vertical vs. horizontal programs,
1168–1169
extinction of, defined, 1165
gene therapy and, 127
kidney disease and, 697

- infectious and communicable diseases** (*Continued*)
 new diseases since 1970, 112b, 122
 partial control of, 121–122, 125
 research and development agenda, 106, 132
 skin diseases. *See* skin diseases
 water-related diseases, 775–776, 775t, 776t
- infective endocarditis**, 647
See also rheumatic heart disease
- INFECTOM (Information, Feedback, Contracting with Providers to Adhere to Practice Guidelines, and Ongoing Monitoring)**, 1303
- influenza and pneumonia**, 484–485, 681–684, 682–683b
See also respiratory diseases of adults
 diabetes and, 597
- influenza pandemic, possibility of**, 4b, 7, 106–107
See also avian influenza threat
- information, education, and communication campaigns**, 176, 178, 187, 475
 condom use, 1084
 rheumatoid arthritis, 967
- information, value of (VOI)**, 161–163, 162b
- information systems**, 1017–1030
 benefits of improved information, 1023–1024
 collection, management, and analysis systems, 1019–1022
 costs and cost-effectiveness of improved information, 1023–1027, 1024t, 1025t, 1027t
 data collection, 1019–1022
 direct expenditures for health information, 1018–1019
 dissemination and use of health information, 1023, 1297, 1305–1306
 district hospitals and, 1216
 electronic medical records (EMRs), 1300
 financing of, 1027–1028
 health service statistics, 1021–1022
 information and communication technologies (ICT), 1022
 Internet access, 1022
 lessons learned, 1028
 national census, 1020
 national health account (NHA) framework, 1022
 policy on information, 1019
 research and development agenda, 1028–1029
 resource-tracking subsystem, 1022
 sample surveys, 1020
 sources outside of health sector, 1019t
 strengthening of systems, 1023
 surveillance. *See* surveillance
 user fees to help support, 1019
 verbal autopsies, 1021
 vital events monitoring, 1021
- information technology, potential of**, 117
 genomics field, 130
- informed consent of human research subjects**, 266–267, 269
- inherited disorders of hemoglobin. *See* hemoglobinopathies**
- Initiative for Vaccine Research Department (WHO)**, 407
- Initiative on Public-Private Partnerships for Health**, 148
- injuries**, 16
See also interpersonal violence;
 unintentional injuries
 adolescents and, 1111
 alcohol use and, 890
 burden of, 107
 costs and cost-effectiveness of interventions, 48–49
 emergency care and, 1263
 occupational injuries. *See* occupational health
 prevention strategies, 48–49
 surveillance, 1007–1008
- Injury Surveillance Guidelines (WHO)**, 1007
- insecticide-treated nets (ITNs) for malaria prevention**, 217, 421, 423, 424t, 425, 556, 1041
- Institute of Medicine (IOM; U.S.)**
 on global action on drug resistance, 1043
 on quality of medical care, 17, 17b, 599, 1293, 1294–1295, 1295b
- insulin**, 593, 596, 1328
- insulin resistance syndrome**, 834b
- Integrated Disease Surveillance and Response (IDSR)**, 1003–1004
- integrated management and treatment of TB**, 295
- integrated management of childhood illness (IMCI)**, 1177–1191
 antimicrobial drug provision and, 1185b
 causes and burden of child mortality, 1177
 challenges when weak health systems, 99
 CHNPs and, 1056
 costs and cost-effectiveness of interventions, 50, 1180–1184, 1181f
 on diarrheal diseases, 376, 384
 district hospitals and, 1215
 drug resistance and, 1044
 equity issues and, 1184
 family and community practices and, 1178, 1180, 1185–1186
 future potential of, 1189–1190
 health systems and, 1178, 1187–1188
 health workers and, 1178, 1186
 interventions, 1178–1180
 lessons learned, 1184–1188
 management process, 1179f
 Multi-Country Evaluation of IMCI Effectiveness, Cost, and Impact (MCE), 1181–1184, 1183b
 newborn care and, 545b
 policy shift to, 1177–1178, 1187
 research and development agenda, 1188–1189
- integration of medical sciences in future**, 132–133
- intellectual property and drugs**, 150–152
- intentional injuries**
 costs and cost-effectiveness of interventions, 48
- Inter-Agency Coordinating Committee**, 172
- Inter-American Development Bank**, 1149
- International AIDS Vaccine Initiative (IAVI)**, 182, 244, 254, 255b
- International Atomic Energy Agency (IAEA)**
 African trypanosomiasis and, 460
- International Centre for Diarrheal Disease Research**, 374
- International Classification of Functioning, Disability, and Health (WHO)**, 937, 953, 957
- International Code of Marketing of Breastmilk Substitutes**, 539
- International Conference on Population and Development (ICPD)**, 499, 513, 1095
- International Council for the Control of Iodine Deficiency Disorders**, 559
- International Diabetes Federation**, 597
- International Dispensary Association**, 1326
- International Energy Agency**, 794, 810
- International Finance Facility (IFF) proposal**, 234, 250
- International Foundation of Dermatology**, 708
- International Labour Organization (ILO) on occupational health risks**, 1128, 1129, 1130, 1135, 1140
 ILO–WHO Joint Committee on Occupational Health, 1131
 WHO–ILO Joint Effort on Occupational Health and Safety in Africa, 1134
 WISE (Work Improvement in Small Enterprises), 1133

- International League against Epilepsy**, 631
- International Monetary Fund (IMF)**
 on AIDS impact on full income, 9
 criticisms of structural adjustment
 programs and fiscal ceilings of, 233
 Poverty Reduction Strategy Papers
 (PRSPs), 235–236
- International Network of Field Sites with
 Continuous Demographic
 Evaluation of Populations and
 Their Health in Developing
 Countries (INDEPTH)**, 1021
- International Partnership for
 Microbicides**, 244
- International Society of Nephrology**,
 700, 703
- International Strategy for Disaster
 Reduction (ISDR)**, 1147
- International Trachoma Initiative**, 182
- International Union against Tuberculosis
 and Lung Disease (IUATLD)**, 691
- International Zinc Nutrition Consultative
 Group**, 554, 565
- Internet access**, 1022
- interpersonal violence**
 adolescents and, 1111
 burden and causes of, 756–759
 collecting and managing data on, 765
 cost-effectiveness of interventions,
 764–765
 cost of, 760
 data on, 756–757
 cost-benefit data needed, 765
 deaths resulting from, 757, 757f, 757t, 758t
 in developing countries, 758
 economic impact of, 760–761
 effects on public finance, 761
 firearm registration, 765
 future challenges for, 766–767
 interventions, 761–764
 legislation and shelter for abused women,
 764–765
 parent training and home
 visitation, 765
 prevention
 implementation of, 765–766
 primary, 761, 763–764, 766
 secondary and tertiary, 764
 strategies, 761–764, 762–763t
 research and development agenda,
 765–766
 risk factors, 759, 759t, 760
 support services for victims, 766
 youth intervention, 765
- interventions**
See also specific diseases and conditions
 categories and pertinent policy
 instruments of, 59, 274b, 275
 child mortality and, 11–13
 community level of care.
See community-based programs and
 treatment
 cost-effectiveness of. *See* cost-effective
 interventions
 costs of
 amount of health (by service or
 intervention) US\$1 million
 will buy, 25t
 determination of, 280–281
 defined, 273–277
 distribution by cost-effectiveness ratio, 53f
 district hospitals. *See* district hospitals
 drugs. *See* drugs
 general primary care. *See* primary care
 for MDGs, 183–185, 184t
 packaging of, 49–50
 personal. *See* personal interventions
 population-based. *See* population-based
 interventions
 quality as determinant of
 cost-effectiveness, 50
 referral hospitals. *See* referral hospitals
- intrauterine devices**, 1080
- intussusception and rotavirus vaccine**, 376
- iodine deficiency**
 in children, 554, 558–559
 costs and cost-effectiveness of
 interventions, 561
 interventions, 558–559
 lessons learned, 563
 mental retardation and, 562
 during pregnancy, 936b
 salt iodination program to combat,
 168, 173
 in school-age children, 1094
- IOM.** *See* Institute of Medicine
- IQ.** *See* cognitive function
- Iran.** *See* Islamic Republic of Iran
- Ireland**
 development assistance for health
 from, 244
 fluoridation of water in, 725
- iron deficiency.** *See* anemia
- ischemic heart disease (IHD)**, 645–646
 burden of, 649–650, 1278n2
 cost-effectiveness of interventions,
 650–654, 655t, 656t, 658
 epidemiological transition and, 647, 648t
 linking costs and effectiveness
 in developing countries, 653–654,
 655t, 656t
 in high-income countries, 658
 long-term management of existing
 vascular disease, 651–652
 invasive interventions, 651
 nonpharmacological
 interventions, 652
 pharmacological interventions,
 651–652
 secondary prevention, 654
- ISDR (International Strategy for Disaster
 Reduction)**, 1147
- Islamic Republic of Iran**
 earthquake in, 1149
 hemoglobinopathies in, 669, 670
 Isfahan Healthy Heart Program in, 842
 kidney and urinary system diseases in,
 697, 698
- ITNs.** *See* insecticide-treated nets (ITNs)
 for malaria prevention
- IUATLD (International Union against
 Tuberculosis and Lung
 Disease)**, 691
- IUDs**, 1080
- ivermectin**
 distribution in Africa, 168, 172
 lymphatic filariasis and, 439
 onchocerciasis and, 109, 110, 168, 172,
 440–441, 444, 957
- Jamaica**
 community-based programs in, 1065,
 1066, 1067
 hemoglobinopathies in, 664, 668, 676
 quality of health care in, 1295–1296
 salt fluoridation in, 168, 173, 726
- Japan**
 cleft lip and palate in, 731
 dengue in, 452
 kidney and urinary system diseases
 in, 695
 strokes in, 633
 water pollution in, 829
- Japanese encephalitis**
 vaccine for, 406, 1325–1326
See also vaccine-preventable diseases
- Johns Hopkins School of Public Health on
 development of pneumococcal
 vaccines**, 493
- Joint Learning Initiative**, 26b
- Joint United Nations Programme on
 HIV/AIDS.** *See* United Nations
 Programme on HIV/AIDS
 (UNAIDS)
- justice and special concern for the worst
 off**, 262
- juvenile violence**, 760
See also interpersonal violence

- kangaroo mother care**, 540
- Kaposi's sarcoma**, 730
- Katayama Syndrome**, 468
- Kazakhstan**
cardiovascular disease in, 649, 649t
- Kenya**
African trypanosomiasis in, 458
drug dispensing in, 92b
fluorosis of teeth in, 731
helminth infections in, 475
HIV/AIDS in, 336
hospitals in, 1217, 1218, 1219t, 1343, 1345, 1348
IMCI program in, 1180
indoor air pollution in, 795, 802–803, 802b
interpersonal violence in, 757
malaria in, 418, 426, 1092
onchocerciasis in, 440
pain control for cancer in, 986b
road traffic injuries in, 749b
traditional medicine in, 1283, 1285, 1286
water supply in, 773
- Kenya Medical Research Institute–Wellcome Trust Collaborative Research Programme**, 92b
- kidney and urinary system diseases**, 695–706
acute renal failure, 698
benign prostatic hypertrophy, 698
burden of, 695–696, 696t
causes of diseases of, 696–698
diabetes and, 698
economic benefits of interventions, 700–702, 701t
future challenges for, 704
genetic diseases, 696
glomerulonephritis, 696–697
HIV/AIDS and, 697
hypertension and, 698
implementation of control strategies, 702–703
infections, stones, and obstructive uropathy, 697–698
interventions to delay CKD (chronic kidney disease), 699–700
prevention of kidney failure, 703
renal replacement therapy (RRT), 698, 703
research and development agenda, 703–704
risk factors for kidney disease, 699
scabies and, 710
schistosomiasis. *See* schistosomiasis
TB and, 697
teaching and research centers, establishment of, 703
- knee replacement surgery**, 973
- knowledge**
See also information systems
diffusion of, 5b, 103, 117, 187
types of, 110
- Koch, Robert**, 119
- Korea, Republic of**
drug prescribing and dispensing in, 1346
Industrial Safety and Health Act, 1140
universal coverage approach of, 237
urban life in, 841b
- Kuznets curve**, 749b
- Lancet on need for new health systems research specialty**, 99
- Lao People's Democratic Republic**
drug policy in, 1346
water pollution in, 829
- Latin America and Caribbean**
See also specific countries
abortions in, 1078
burn-related injuries in, 741
cardiovascular disease in, 650, 654, 655t, 656, 656t
Chagas disease in, 167, 436, 442, 446
contraceptive use in, 1076, 1080, 1086
dengue in, 452, 454–455, 459, 461
development assistance for health to, 245
diabetes in, 597
diarrheal diseases in, 373
disasters, impact in, 1152, 1152t
ecstasy (MDMA) use in, 924
excreta disposal in, 780
food subsidy programs in, 216
hurricanes in, 1151
indoor air pollution in, 803
interpersonal violence in, 757
leishmaniasis in, 453
lymphatic filariasis in, 440
malaria in, 414, 421
mental disorders in, 619, 622
neonatal deaths in, 533
occupational health risks in, 1128, 1135, 1136b
onchocerciasis in, 441, 957
performance-based contracts with NGOs in, 252
proposed guidelines for HIV/AIDS in, 348–349
referral hospitals in, 1239
road injuries in, 1111
salt fluoridation in, 726
sector adjustment loans to, 251
vaccine-preventable diseases in, 400, 402, 408
water supply in, 771, 772, 773, 774, 776
yellow fever in, 396–397
- LDDs**. *See* learning and developmental disabilities
- lead exposure**, 820
- learning and developmental disabilities (LDDs)**, 933–951
attention deficit hyperactivity disorder (ADHD), 935b
autism, 935b
burden of, 934–937
causes of, 934t
community-based rehabilitation and, 946–947
congenital hyperthyroidism, 945–946
costs and cost-effectiveness of interventions, 933
community-based rehabilitation, 937
food fortification, 940–941
neonatal screening, 943, 945–946
Down syndrome, 941–945, 944t
education and work and, 933
environmental exposures, 936b
fetal alcohol syndrome, 936b
impairment, disability, and participation levels of, 937
interventions, 933, 935–936b
in low- and middle-income countries, 938–948, 939t
lifelong duration, 933
neurological disabilities of childhood, 935b
prevalence, 933, 937–938
prevention levels, 937
research and development agenda, 948
unintended consequences of successful or partially successful interventions, 937
- Lebanon**
air pollution in, 828
hemoglobinopathies in, 670
- legislation**
cigarette and tobacco use warnings, 168, 876
drunk driving, 893
first public health act in UK, 120
food advertising and, 842
food manufacture and, 841
illicit opioid use, 911–912
occupational health, 1131–1132
road safety, 747, 893
smoking bans in public places, 875–876
- leishmaniasis**
burden of, 455–456
characteristics and transmission, 452–453
costs and cost-effectiveness of interventions, 46, 459

- economic impact of, 455
 HIV/AIDS and, 453
 management and control strategies of, 457–458, 461–462
 social impact of, 455–456
 vaccine development for, 462
- leprosy**
 burden of, 437
 characteristics and transmission, 435–436
 costs and cost-effectiveness of interventions, 444–445
 interventions and effectiveness of, 441
 patterns of skin diseases in community and, 709
 skin depigmentation in, 715
- leukemia**, 315
- levels of care**
 community level. *See* community-based programs and treatment
 district hospitals. *See* district hospitals
 general primary care. *See* primary care
 referral hospitals. *See* referral hospitals
- LF**. *See* lymphatic filariasis
- life expectancy, increases in**, 3, 4b, 6, 6t, 103
See also mortality rates
 valuing of, 157–163
 of women, 5, 5f, 197, 201–202
- lifelong medical management**, 4b, 27, 116
- lifestyle**
See also specific lifestyle choice (e.g., alcohol use, tobacco use)
 cancer and, 569, 833
 cardiovascular disease and, 647, 649, 652, 659, 833–836
 chronic diseases and, 833–836, 834t
 combination of high blood pressure, cholesterol, and obesity and, 856
 diabetes and, 593, 1333
 helminth infections and, 470
 neurological diseases and, 634
 taxation to discourage high-risk behaviors, 177
- liquid petroleum gas**, 217, 803, 805, 810, 811b
- Live for Life (Johnson & Johnson)**, 838b
- liver cancer**, 569, 570, 572, 573, 574
- local level**. *See* community-based programs and treatment
- Louisiana and free condom distribution program**, 216
- low birthweight**
 cardiovascular disease and, 121
 as cause of neonatal death, 534, 540
 diabetes and, 121
 malaria and, 418
- low-income countries**
See also specific countries
 burden of disease in, 31t
 cancer diagnosis and treatment in, 582–583
 causes of deaths in, 30t
 combination of high blood pressure, cholesterol, and obesity in, 860–863
 diagnostics development in, 144
 drug abuse, illicit, 916
 financing health in, 5b, 20–21, 27, 229–231, 234–236
See also financing
 fiscal policy for health in, 211–212
 morphine use for pain in, 985
 neonatal deaths in, 531, 547b
 new product development in, 142–143
 private spending on health in, 231
- LPG Rural Energy Challenge**, 810
- lung cancer**
 clinical epidemiology and, 120
 indoor air quality and, 795
 mortality rates and, 570
 occupational risk of, 1128, 1128t, 1129, 1130
 screening for, 574–575
 tobacco use and, 573, 871–872, 872f
 workers' risk for asbestos and smoking exposure, 1128, 1128t
- lymphadenitis**, 435
- lymphatic filariasis (LF)**
 burden of, 436
 characteristics and transmission, 434
 costs and cost-effectiveness of interventions, 45–46, 442–443, 443t
 interventions and effectiveness of, 439–440
 skin diseases and, 709
- macroeconomic consequences of aid**, 23–24
- Madagascar**
 breastfeeding programs in, 559, 561
 cervical cancer screening in, 576, 577t
 contracting for health care services in, 188
 influenza in, 684
 leprosy in, 437
 malaria in, 414
 oral health and education program in, 726
 sexually transmitted infections in, 324
 skin diseases in, 708
- major depressive disorders**, 610–611
See also mental disorders
 cost-effectiveness methods and results, 613–619, 614–618t
 epidemiology and burden, 610–611
 interventions, 611
- natural history and course, 610
 policy and service implications, 619–621
 public support for cost-effective intervention package, 621–622, 622t
- malaria**
 ACT and, 421, 424
 affordability and scaling up, 425
 anemia and, 417–418
 artemisinin to treat, 111, 1288
See also artemisinin combination therapy (ACT)
 benefit-cost ratios, 427
 burden of, 414–418, 414f, 415t
 causes and diagnosis of, 413–414
 cerebral malaria and congenital neurological disorders, 414, 935b
 chemoprophylaxis, 420
 child deaths due to. *See* child mortality rates
 children and, 417–418
 civil engineering and, 422
 costs and cost-effectiveness of interventions, 418–427, 422–427
 switching first-line drugs, 423–424, 424f, 424t
 deaths due to in low- and middle-income countries, 415–416, 416t
 development assistance and, 244
 diagnosis and treatment of, 418–420
 diagnostics for, 144
 drug resistance and, 122, 414, 423–425, 424t, 1036, 1046
 drug treatment of, 418–421
 economic benefits of control, 425–426
 economics of interventions for, 422–427
 emergency medical services and, 1262
 genomics and mosquitoes, 108
 health education on, 422
 HIV/AIDS and, 418
 home repellents and insecticide use for, 422
 indirect and comorbid risks, 417–418
 indoor residual spraying (IRS), 421, 423, 424t, 1163
 innovative approaches for, 427
 interventions, 45, 418–422
 combination or bundled interventions, 178
 oral antimalarial treatment, 1092
 IPT during pregnancy and infancy, 420, 423, 424t
 ITNs for prevention. *See* insecticide-treated nets (ITNs) for malaria prevention
 larviciding and fogging, 421–422
 low birthweight and, 418

- malaria** (*Continued*)
- macroeconomic impact of, 426
 - maternal conditions and, 417–418
 - mosquito repellents, 422
 - patient management, 427
 - policy research on, 427–428
 - prevention research for, 427
 - research and development agenda, 427–428
 - school-age children and, 1092, 1106
 - supervision and policy change, 420–421
 - vector control, 421–422
 - vertical approach to, 88
- Malawi**
- clinical officers in, 94
 - diarrheal disease treatment in, 1303
 - emergency medical transport in, 1268
 - HIV/AIDS in, 336
 - household fuel use in, 793, 794f
 - malaria in, 421, 426
 - maternal and perinatal mortality in, 1313
 - training of medical personnel in, 94, 1313
- Malaysia**
- anesthesia safety in, 1298
 - childbirth conditions in, 547b
 - dengue in, 452
 - epidemiological transition in, 125
 - Health Technology Assessment Unit in, 125
 - hospital management in, 1345
 - occupational health in, 1134
 - road traffic injuries in, 740, 744
 - skin diseases in, 715
- males.** *See* gender differences
- Mali**
- childhood immunization programs in, 1024
 - dental treatment in, 729
 - development assistance for health to, 245
 - diarrheal diseases in, 378
 - skin diseases in, 708
- malnutrition**
- See also* stunting, wasting, and micronutrient deficiency disorders
 - adolescents and, 1111
 - childhood illnesses and, 563, 1093
 - community-based interventions, 559, 561
 - See also* community health and nutrition programs (CHNPs)
 - conceptual framework for causes of, 1057f
 - diarrhea and, 372
 - human capital formation and, 562
 - learning and developmental disabilities and, 936b
 - leishmaniasis and, 453
 - maternal undernutrition, 510
 - micronutrient deficiency, 1094
 - productivity loss and, 562–563
 - research and development agenda, 564–565
 - school-age children and, 1093
 - short-term hunger of children, 1094
 - vitamin B₁₂ and dementia, 633
- malpractice**, 167, 1296
- management of health services**
- See also* integrated management of childhood illness (IMCI)
 - ambulatory care, 1343
 - capital charging and, 1345
 - in community and social care settings, 1343–1344
 - contracting for services. *See* outsourcing of health care services
 - drugs and, 1345–1346
 - hospitals, 1342–1343
 - human resources and. *See* medical workers
 - intellectual resources and, 1346
 - management, defined, 1340–1342
 - new public management, 92, 1341–1342
 - physical resources and, 1345
 - in primary care facilities, 1343
 - provider autonomy and, 1348
 - public vs. private provision, 1348
 - quality of care and, 1342
 - relationships and, 1346–1347
 - strategic management, 1339–1352
 - strategic purchasing, 1348–1349, 1349f
 - strengthening of, 1345
 - successful initiatives, 1344–1349
- Management Sciences for Health**, 1326
- Managing Drug Supply (Quick et al.)**, 1326
- manipulative medicine**, 1282
- See also* complementary and alternative medicine (CAM)
- marijuana.** *See* drug dependence
- mass campaigns**, 88, 176
- mass drug administration (MDA)**
- lymphatic filariasis and, 171, 439, 442, 443, 446
 - onchocerciasis and, 171–172, 444, 446
 - successful programs utilizing, 171–172
- massage**
- back pain and, 975
 - manipulative medicine and, 1282
- Maternal and Child Insurance Program (World Bank)**, 251
- maternal conditions**, 499–529
- See also* abortions; childbirth conditions
 - alcohol consumption and fetal alcohol syndrome, 936b
 - birth preparedness, 511
 - burden of, 508
 - causes and conceptual frameworks, 505
 - comparison of alternative intervention packages, 514–517, 515–516t, 518–519t
 - components of comprehensive safe motherhood strategy, 508–509, 509b
 - costs and cost-effectiveness of interventions, 46, 203, 513–522, 520t
 - cost-effectiveness ratios, 517, 520t, 521–522
 - model assumptions, 525, 525t, 526t
 - DALYs for, 508
 - defined, 500
 - diabetes and, 597
 - economic benefits of intervention, 522
 - epidemiology of, 499–508
 - fertility behavior change, 510
 - fetal alcohol syndrome, 936b
 - focus conditions and their risk factors, 501–504t
 - HIV/AIDS and, 43, 375
 - See also* breastfeeding
 - home-based care, 511
 - interventions, 508–513
 - iodine deficiency and, 936b
 - lessons learned, 522–524
 - malaria and, 417–418
 - treatment during pregnancy, 420
 - male involvement, 511
 - maternity leave from work, 221
 - MDGs on, 499
 - medical advances in, 123
 - nature and characteristics of, 500
 - neural tube defects during pregnancy, 939–940
 - nutritional interventions, 510
 - personal interventions, 510–513
 - policy considerations and approaches, 513
 - population-based interventions, 510
 - postpartum care, 512
 - primary-level care, 511–513, 515–516t
 - quality of evidence on, 509–510
 - research and development agenda, 126, 524
 - resource use and costs, 517
 - risks associated with, 1078–1079
 - secondary-level care, 513, 515–516t
 - successful programs for improving, 168
- maternal mortality**
- abortion and, 1078
 - causes and conceptual frameworks, 505
 - emergency care and, 1263, 1278n3

- family planning and, 1078–1079, 1084
 health challenge of, 4b, 203, 499
 levels, trends, and differentials, 505–508, 506t, 507f
 reducing in low-income countries, 547b
- Mauritius**
 combination of high blood pressure, cholesterol, and obesity in, 856
 food manufacture in, 841
 tax rate reduction on alcohol, 900
- MCE.** *See* Multi-Country Evaluation of IMCI Effectiveness, Cost, and Impact
- MDA.** *See* mass drug administration
- MDGs.** *See* Millennium Development Goals
- MDMA (ecstasy).** *See* drug dependence
- MDT.** *See* multidrug therapy
- measles**
See also vaccine-preventable diseases
 burden of, 395–396
 elimination programs, 98–99, 168, 170, 173, 1164
 predisposition for diarrheal diseases, 377
 vaccine for, 98–99, 121, 395–396, 1325
 vaccine gap and, 1326
- Mectizan.** *See* ivermectin
- Medicaid and Oregon Health Services Commission,** 263
- medical workers,** 1309–1322, 1310t
 advice for governments on, 1320
 brain drain of, 94, 95b
 development assistance for health, need to target, 245
 in district hospitals, 1223
 experience levels of, 5b
 health sector reform and, 1311
 IMCI programs and, 1178, 1186
 importance of, 94–96, 1344–1345
 incentive pay for, 4b, 94–95, 95b, 1299, 1310–1311
 incentives and motivation for, 1310–1311, 1313–1320, 1316–1317t
 context and external incentives, 1314–1315
 group incentives, 1318
 optimal combination of compensation and incentives, 1319–1320
 in practice, 1315
 sustainability and, 1318–1319
 typology of incentives, 1313–1314, 1314t
 MDGs, human resource needs to meet, 1310
 as needed resources, 1310, 1311t
 numbers and types of, 1312–1313
 occupational risk for HIV, hepatitis B, and hepatitis C, 1130, 1130f
 paramedical personnel, 1264–1265
 defined, 1262
 peer review of, 1296–1297, 1299
 performance-based professional recognition for, 1299–1300
 performance-based remuneration for, 1299, 1348
 primary care workers, 1200, 1201b
 remuneration of (generally), 1310, 1315–1317
 optimal combination of compensation and incentives, 1319–1320
 payment methods, 1317–1318
 research and development agenda, 1321
 safety and effectiveness of new health professions, 1313
 skills of, 1344, 1344t
 surgery and, 1256
 traditional healers, 1283, 1286–1287
 training. *See* training of medical personnel
 unionization of, 1315
 workforce planning to meet policy goals, 1311–1312
- medicinal plants, use of,** 1286
See also complementary and alternative medicine (CAM)
- medicine, history of,** 119–120
- Medicines for Malaria Venture (MMV),** 140, 142, 182, 244
- Mediterranean region**
 hemoglobinopathies in, 665, 670, 673, 674, 675
- melasma,** 718
- meningitis,** 292, 396, 486, 936b, 1334
See also vaccine-preventable diseases
- mental disorders,** 16, 605–625, 606t, 614–618t
See also specific disorders
 adolescents and, 1111
 amphetamines and, 922
 anxiety disorders, 611–613
 bipolar disorders, 608–610
 burden of, 107, 605, 606t, 1334
 cannabis and, 918
 cocaine use and, 920
 costs and cost-effectiveness of interventions, 47, 613–619, 621–622, 622t
 estimation of population-level costs, 613–619, 615–618t
 estimation of population-level effectiveness of treatments, 613, 614t
 interventions, 605–606, 1343
 effectiveness of, 614, 618
 major depressive disorders, 610–611
 mood disorders, 608–611
 panic disorders, 612–613
 policy and service implications, 619–621
 posttraumatic stress disorder (PTSD), 605, 610
 public support for cost-effective intervention package, 621–622, 622t
 schizoaffective disorder, 609
 schizophrenia. *See* schizophrenia and nonaffective psychoses (NAP)
 stigma of, 606–607, 641
 suicide, 607
- mental retardation**
See also learning and developmental disabilities (LDDs)
 Down syndrome, 941–945
 iodine deficiency and, 562
- Merck & Co. and ivermectin,** 110, 168, 172, 440, 444
- metabolic disorders, screening for,** 937
- metabolic syndrome,** 834b
- methadone.** *See* drug dependence
- Mexico**
 air pollution reduction in, 824b
 arsenic contamination of water in, 821
 cardiovascular disease in, 650
 combination of high blood pressure, cholesterol, and obesity in, 853–854
 dengue in, 455
 diarrheal diseases in, 374, 377
 drowning in, 741
 fall-related injuries in, 748–749
 food fortification in, 558
 HIV/AIDS treatment in, 13, 358
 kidney and urinary system diseases in, 703
 National Crusade for Quality in Health Care in, 1299
 respiratory diseases of adults in, 691
 school enrollment in, 1101
 skin diseases in, 708, 715
 social welfare program (originally PROGRESA) and health improvements in, 24, 167–168, 169, 175, 177, 217–218, 1101
 stomach cancer in, 573
 universal coverage approach of, 237
 VAT exemptions for medicines, physician services, and some foods, 220
 water supply in, 774
- micronutrient supplementation,** 1058–1059

Middle East and North Africa

See also specific countries

cardiovascular disease in, 650, 656t
contraceptive use in, 1076, 1080
development assistance for health to, 245
diabetes in, 592, 1333
ecstasy (MDMA) use in, 924
epilepsy in, 631
hemoglobinopathies in, 665, 668
leishmaniasis in, 453, 462
neurological diseases in, 631
proposed guidelines for HIV/AIDS in, 347–348
skin diseases in, 714
strokes in, 634
vaccine-preventable diseases in, 399, 400, 402, 408

middle-income countries

See also specific countries

burden of disease in, 31t
cancer in, 584
causes of deaths in, 30t
financing health in, 5b, 19–20, 27–28, 236–239

See also financing

midwives, 174, 511, 545

See also childbirth conditions

migration, effect of, 104b

brain drain of medical personnel, 94, 95b, 1309–1310

Millennium Development Goals (MDGs), 24, 181–194

contracting out of health care services, effect of, 188–189

cost of achieving, 190–191, 245
by countries, 190–191, 191b, 192t
globally, 190

development assistance and, 185, 192–193, 234, 244, 245–246

on diarrheal diseases, 384

effective interventions available for, 183–185, 184t

underuse of, 184–185

endorsement at UN Millennium Summit, 182

government and quality of policies, effect of, 185–190

government spending, mobilizing of, 192–193

health systems geared toward, 97

importance to all countries, 183

indoor air pollution and, 799, 812

on infant mortality, 7, 531, 534, 547–548

list of health-related goals, 182b

Maquette for Multisectoral Analysis, 191b

Marginal Budgeting for Bottlenecks

Model, 191b

on maternal and perinatal conditions, 499

MDG Needs Assessment Model, 191b

progress report (2004), 182–183

prospects for time remaining, 183

scaling up for use of interventions,

183–185

estimating cost of, 191b

stimuli external to health sector and, 183

strengthening of core public health

functions, 189–190

on TB, 290, 305

tracking progress and information needs

for, 1018

on vaccine-preventable diseases, 389

on water quality, 829

mind-body medicine, 1282, 1286,

1288–1289

See also complementary and alternative medicine (CAM)

mineral fortification. *See* salt

minimally invasive surgery, 130–131

ministry of health, 231–232, 238

miscarriages, 939

See also abortions

MMV. *See* Medicines for Malaria Venture

modeling, 281

molecular epidemiology, 107–109

monogenic diseases, research priority

of, 126

mood disorders, 608–611

See also mental disorders

bipolar disorders, 608–610

cost-effectiveness methods and results, 613–619, 614–618t

major depressive disorders, 610–611

policy and service implications, 619–621

public support for cost-effective

intervention package,

621–622, 622t

Morocco

contraceptive use in, 1083

respiratory diseases of adults in, 691

trachoma control program in, 168, 170, 174, 178

morphine use for pain. *See* palliation

mortality displacement, 819

mortality rates

See also specific diseases and conditions

causes of in low- and middle-income countries, 30t

in cost-effectiveness analysis, 260

lowering of, 9–10

surveillance and, 1009

mosquitoes

See also vector control

lymphatic filariasis and, 434

malaria and. *See* malaria

yellow fever and, 396, 1163

motor vehicle injuries. *See* traffic injuries

Mount St. Helens (U.S.), 1150

Mozambique

government reform and health care delivery in, 91

leprosy in, 437

neonatal deaths in, 531

skin diseases in, 708

Multi-Country AIDS Program in

Africa, 248

Multi-Country Evaluation of IMCI

Effectiveness, Cost, and Impact

(MCE), 1181–1184, 1183b, 1185,

1185b, 1187, 1195

multidrug therapy

See also polypill

leprosy and, 441, 442, 445

multisectoral determinants of health, 11b

musculoskeletal disorders, 963–980

aging and, 963

ankylosing spondylitis, 976

arthritis, types of, 965, 967

cost-effectiveness of interventions, 972, 973–975

disease-modifying antirheumatic drugs, 974–975

lessons learned, 976–977

primary interventions, 972

secondary interventions, 972–973

tertiary interventions, 973

back pain, 963, 966, 975–976

chiropractic manipulation and, 1288

occupational risks for,

1136–1137, 1137f

burden of, 963–965, 964t

research needs, 977

causes and epidemiology of, 965–966

combination of hypertension, cholesterol, and obesity and, 851

cost-effectiveness of interventions,

968–972, 969–970t

research needs, 978

interventions, 206

research needs, 978

lessons learned, 976–977

osteoporosis, 963, 965, 967–968, 970

lessons learned, 977

primary interventions, 970–971

secondary interventions, 971–972

physical activity and, 970–971

preventive strategies, 966

- research and development agenda, 977–978
- risk factors for, 966, 966t
- screening for, 971
- surgery for, 968
- symptomatic treatments for, 966–967, 967t
- women and, 201, 206
- Myanmar**
 - dengue in, 454
 - kidney and urinary system diseases and, 697
 - as opium producer, 908
 - oral precancer and cancer in, 730
- myocardial infarction.** *See* acute myocardial infarction (AMI)
- NAFTA (North American Free Trade Agreement),** 1141
- NAP.** *See* schizophrenia and nonaffective psychoses
- Narcotics Anonymous,** 911
- National Academy of Sciences (U.S.),** 9
- National Center for Complementary and Alternative Medicine (NCCAM),** 1289
- National Center for Policy Analysis (Harvard University) study of life-saving interventions,** 39b
- National Commission for the Protection of Human Subjects,** 266, 267
- National Crime Prevention Council,** 760
- National Evaluation of Pharmacotherapies for Opioid Dependence Project,** 913
- National Institute for Occupational Safety and Health (NIOSH; U.S.),** 1134
- National Institute of Allergy and Infectious Diseases,** 114, 115
- National Institutes of Health (U.S.)**
 - on complementary and alternative medicine, 1281–1282
 - on COPD, 684
 - on eradication of infectious diseases, 1164
 - research fund allocation assessments, 161
- national statistics office, role of,** 1018
- natural disasters,** 1147–1162
 - See also* disasters
- NCCAM (National Center for Complementary and Alternative Medicine),** 1289
- neonatal conditions.** *See* child mortality rates; childbirth conditions; perinatal conditions
- neoplasms.** *See* cancer
- Nepal**
 - arsenic contamination of water in, 821
 - leishmaniasis in, 452, 459
 - leprosy in, 437
 - maternal mortality in, 510
 - newborn care in, 535
 - oral health program in, 733–734
 - reproductive health in, 474
 - respiratory diseases of adults in, 691
 - respiratory diseases of children in, 492
 - sexually transmitted infections in, 323
 - TB in, 295
 - tobacco taxes in, 882
- Netherlands**
 - breast cancer in, 584
 - COPD and asthma in, 686
 - development assistance for health from, 244, 254
 - food manufacture to reduce fat content, 845
 - hospitals in, 1224–1225
 - transportation choices in, 840
 - universal coverage approach of, 237
- neural tube defects during pregnancy,** 939–940
- neurological disorders,** 627–662
 - Alzheimer's disease (AD) and other dementias, 627–629
 - burden of, 628, 629t, 632
 - in children with HIV/AIDS, 935b
 - costs and cost-effectiveness of interventions, 47
 - in developing countries, 635–640, 635t, 636t, 638t, 639t
 - epilepsy, 629–631
 - See also* epilepsy
 - learning disabilities and, 935–936b
 - See also* learning and developmental disabilities (LDDs)
 - malaria and. *See* malaria
 - Parkinson's disease, 632–633
 - See also* Parkinson's disease (PD)
 - recommendations, 640
 - research and development agenda, 640–641
 - stroke, 633–635
 - burden of disease, 634
 - cost-effectiveness of interventions in developing countries, 638t, 639t, 640
 - frequency of types, prevalence, incidence rates, mortality, and disability after stroke, 633
 - interventions, 634–635
 - recommendations, 640
 - risk factors, 633–634
- neuropsychiatric diseases**
 - research and development agenda, 109
 - technological advances and, 131
- new product development.** *See* research and development
- new public management,** 92, 1341–1342
- New Zealand**
 - capital charging and management of physical resources in, 1345
 - combination of high blood pressure, cholesterol, and obesity in, 855, 859
 - fluoridation of water in, 725
 - interpersonal violence in, 765
 - suicide prevention for youth in, 1121
 - universal coverage approach of, 237
- newborns.** *See* child mortality rates; perinatal conditions
 - disorders of. *See* congenital and developmental disorders
- NGOs.** *See* nongovernmental organizations
- Nicaragua**
 - community-based programs in, 1066, 1067
 - injury surveillance system of, 168
 - interpersonal violence in, 760, 766
 - kidney and urinary system diseases in, 702
 - occupational health risks in, 1136b
 - performance-based remuneration for health workers in, 1299
 - pesticide poisoning prevention measures in, 1139
- nicotine.** *See* tobacco use and control
- Niger**
 - doctor visits for sick children in, 89
 - IMCI program in, 1187
- Nigeria**
 - hemoglobinopathies in, 664
 - IMCI program in, 1180
 - insecticide-treated nets (ITNs) for malaria prevention in, 217
 - lymphatic filariasis in, 439
 - malaria in, 426
 - neonatal deaths in, 531
 - neurological disorders in, 628
 - polio in, 254b, 1168
 - refugee populations and surveillance, 1008
- nonaffective psychoses and schizophrenia.**
 - See* schizophrenia and nonaffective psychoses (NAP)
- noncommunicable diseases,** 15–16
 - See also* specific diseases and conditions
 - burden of, 105, 1331
 - cost-effective interventions for, 53
 - increase in, 4b, 6
 - research priorities for, 115–116, 132

- nonfilial lymphoderma**, 709
- nongovernmental organizations (NGOs)**
 contracting out of medical services to, 93–94, 96b, 188
 mental disorders and, 620–621
 performance-based contracts with, 252–253, 252b, 1299
 sanitation and, 782
- North American Free Trade Agreement (NAFTA)**, 1141
- nurses**
See also medical workers
 need for, 94
 as primary care providers, 620
- nutrition**
 adolescents and, 1116
 breastfeeding supplementation, 555, 557b
 combination of high blood pressure, cholesterol, and obesity and, 856
 community-based health and nutrition programs. *See* community health and nutrition programs (CHNPs)
 costs and cost-effectiveness of interventions, 46, 559–561, 560t, 844–846, 845t
 dental caries. *See* dental caries
 development assistance and, 248b
 diabetes and, 593
 diarrheal diseases and, 376
 diet contributing to CVD, diabetes, and related conditions, 27, 633–634, 649, 652, 659, 699, 700, 833–836
 food fortification, 218, 254, 558, 842, 940–941
 dental caries. *See* dental caries
 folic acid. *See* folic acid
 food manufacture and. *See* food manufacture
 food subsidies, 212–216, 555, 842
 genetically modified crops and, 131–132
 global school feeding campaign, 1098b
 HIV/AIDS and, 352–353
 improvements from agricultural productivity, 190, 220
 infants and, 555–556
 lifestyle and, 835–836
 micronutrient supplementation, 1058–1059
 pregnant women, 510
 sales tax exemptions on healthy foods and medicines, 220
 school programs. *See* school health programs
 supplementary feeding, 1059
 taxes on unhealthy foods, 219–220
- obesity**
 aggregate costs of, 846
 chronic diseases and, 833–835
 in combination with high blood pressure and cholesterol, 851–868
See also cardiovascular disease (CVD)
 diabetes and, 593
 food taxes to discourage, 219–220
 interventions to reduce, 857–858, 863
 low birthweight and, 121
 musculoskeletal disorders and, 966
 risk factor for cancer, 574
 in school-age children, 1094
 surveillance data on, 1009
- obsessive-compulsive disorders**, 612
See also anxiety disorders
- obstetric care.** *See* childbirth conditions; maternal conditions
- obstructive airways disease.** *See* chronic obstructive pulmonary disease (COPD) and asthma
- occupational health**, 1127–1145
 access to health care, 1133
 back pain risks, 1136–1137
 capacity building and, 1134–1135
 causes of conditions in developing world, 1127–1128
 company health and wellness programs, 838, 838b
 control of nonoccupational exposures, 1133
 costs and cost-effectiveness of interventions, 1135–1139
 disease and injury research, 1143
 economic aspects of intervention, 1135–1139
 fiscal policies to promote, 220–221
 global burden of disease from occupational health risks, 1128–1131
 hearing loss and, 958
 helminth infections and, 470
 implementation, 1139–1142
 implications for health system development, 1141–1142
 improving working conditions for, 1131–1133
 incidence rates of nonfatal injuries, 1139f
 individual interventions, 1133
 informal workforce and, 1127
 international interventions for, 1131
 interventions, 1131–1135
 research and development agenda, 1142
 lessons learned, 1139–1140
 migrant workforce and, 1127–1128
 preventive measures, 1135
 protective equipment research, 1143
 research and development agenda, 1142–1143
 risks posed by exposure to asbestos and smoking, 1128, 1128t
 silicosis risks, 1137, 1138b
 smoking bans, 876
 state or government interventions for, 1131–1132
 surveillance and reporting of, 1133, 1143
 technology and, 1143
 workplace-based interventions, 1132–1133
- occupational lung diseases**, 689–690, 689f,
 1128, 1128t
See also respiratory diseases of adults
 silicosis, 1137, 1138b
- OCP.** *See* Onchocerciasis Control Program
- OEPA.** *See* Onchocerciasis Elimination Program for the Americas
- Office of Human Research Protections (U.S.)**, 269n2
- onchocerciasis**
 burden of, 436–437
 characteristics and transmission, 434–435
 costs and cost-effectiveness of interventions, 45–46, 443–444
 interventions and effectiveness of, 440–441, 957
 skin diseases and, 709
 successful programs to control, 168, 171–172
- Onchocerciasis Control Program (OCP)**, 168, 169, 178, 437, 440, 443, 444, 957
- Onchocerciasis Elimination Program for the Americas (OEPA)**, 440, 441, 443
- Open Society Institute**, 987
- opportunistic infections (OIs) and HIV/AIDS**, 353–355, 353f, 1339
- oral and craniofacial diseases and disorders**, 723–736
 chronic gingivitis, 729–730
 chronic periodontitis, 729–730
 cleft lip and palate, 731
 common-risk-factor intervention programs, 731–732, 732t
 cost-effectiveness of oral health care, 733–734, 733f
 dental caries. *See* dental caries
 developmental disorders, 731
 fluorosis of teeth, 731
 HIV/AIDS and, 730
 noma (cancrum oris), 730–731
 oral precancer and cancer, 730
 periodontal diseases, 729–730
 research and future actions, 732

- oral precancer and cancer**, 572, 730
- oral rehydration therapy (ORT)**, 374, 378, 1059, 1180, 1303
cost-effectiveness of, 379, 383t
- Oregon Health Services Commission**, 263
- Organisation for Economic Co-operation and Development (OECD) on development assistance for health**, 243, 244
- orphan drug acts**, 147
- osteoarthritis**. *See* musculoskeletal disorders
- osteopathic medicine**, 1282, 1288
- osteoporosis**. *See* musculoskeletal disorders
- out-of-school children and youth**, 1098, 1121–1122
- outpatient treatment**
See also primary care
TB, quality of care and treatment of, 295
- outreach and referral programs**, 174, 1186, 1194–1195
- outsourcing of health care services**, 93–94, 93b, 96b, 1320, 1347–1348
quality of care, 188–189
- Pacific islands**. *See* East Asia and Pacific
- Packard Foundation**, 182
- PAHO**. *See* Pan American Health Organization
- pain control**. *See* palliation
- Pakistan**
diarrheal diseases in, 217, 372, 378
drug addiction in, 908
hemoglobinopathies in, 670
interpersonal violence in, 756
kidney and urinary system diseases in, 697, 702, 703
leprosy in, 444
neonatal deaths in, 531
polio in, 254b
refugee populations and surveillance, 1009
respiratory diseases of children in, 493
road traffic injuries in, 749b
TB in, 291
- PAL**. *See* Practical Approach to Lung Health
- palliation**, 981–993
adequacy of and barriers to pain control in developing countries, 984–985
burden of pain from cancer and AIDS, 981–982
cancer and, 572, 581–582, 983–984t, 1333
classification of pain, 982b
costs and cost-effectiveness of morphine and drugs, 987–989, 988t
defined, 59
effects of pain, 981
HIV/AIDS and, 351–353, 981–982
implementation of strategies to improve, 989–991
interventions for pain relief, 982–987
legal controls on opioid drugs, 986–987
measurement of pain, 981
morphine use, 984–985, 986f, 987b, 1333
pain in patients with cancer and AIDS, 982
research and development agenda, 991–992
resources available to countries for developing national palliative care programs, 991b
three-step analgesic ladder, 984, 984f
- Pan African Initiative**, 462
- Pan American Health Organization (PAHO)**
campaign to eliminate polio, 168
Chagas disease campaign. *See* Southern Cone Initiative on Chagas disease
injury surveillance system of, 1007
Regional Core Health Data Initiative of, 1019
revolving fund for drugs, 1327
Safe Water System Initiative of, 216
- Panama**
scabies in, 710
universal coverage approach of, 237
yellow fever in, 396–397
- paranoid disorder**, 47, 611, 612–613
- Pap smear**, 575
- Papua New Guinea**
lymphatic filariasis in, 439
malaria in, 413, 414
newborn survival rates in, 540
quality of health care in, 1293
skin diseases in, 715, 718
water supply in, 777
- Paraguay**
Chagas disease in, 438
out-of-school youth in, 1122
- paramedical personnel**, 1262, 1264–1265
- parasites**. *See* helminth infections
- Parkinson's disease (PD)**, 632–633
burden of, 632
costs and cost-effectiveness of interventions, 47, 637, 638t
interventions, 632–633
personal intervention, 632–633
prevalence, incidence rate, and mortality, 632
recommendations, 640
technological treatment of, 131
- Partnership for Child Development (PCD)**, 478, 1095
- Partnership in Statistics for Development in the 21st Century**, 1028
- Pasteur, Louis**, 119, 1163
- patent system and drugs**, 150–152
- pathophysiology**, 122–124
- PCD**. *See* Partnership for Child Development
- PD**. *See* Parkinson's disease
- pediculosis**, 708
- peer education programs**, 344–345, 1115
- peer review in medical profession**, 1296–1297, 1299
- pelvic inflammatory disease**, 312
See also sexually transmitted infections (STIs)
- penicillin**
See also antibiotics, indiscriminate use of development of, 122
resistance to, 122, 1033–1034
- penicillin prophylaxis for newborns with sickle cell anemia**, 670, 676–677
- performance-based professional recognition for providers**, 1299–1300
- performance-based remuneration for providers**, 1299, 1348
- perinatal conditions**, 499–529
breastfeeding. *See* breastfeeding
burden of, 508
Chagas disease and, 434
comparison of alternative intervention packages, 514–517, 518–519t
complementary feeding practices and, 376
costs and cost-effectiveness of interventions, 46, 513–522, 520t
cost-effectiveness ratios, 517, 521–522
model assumptions, 525, 525t, 526t
DALYs for, 508
defined, 500
economic benefits of intervention, 522
epidemiology of, 499–508
fetal alcohol syndrome, 936b
focus conditions and their risk factors, 501–504t
interventions, 508–513, 536–537t
lessons learned, 522–524
levels, trends, and differentials of deaths, 505–508
MDGs on, 499
policy considerations and approaches, 513
research and development agenda, 524
resource use and costs, 517
retinopathy, 954–955
sexually transmitted infections of mother and, 315
tetanus and, 394
transmission of HIV/AIDS, 335–336

- periodontal diseases**, 729–730
See also oral and craniofacial diseases and disorders
- personal interventions**
 Alzheimer's disease, 629
 “boutique medicine” resulting from genomics, 108
 combination of high blood pressure, cholesterol, and obesity, 856–860, 861t
 in developed countries, 859–860
 in developing countries, 860–863
 CVD, 48, 856–858
 defined, 59, 274b
 hearing loss, 959–960
 maternal conditions, 510–513
 Parkinson's disease, 632–633
 population-based interventions vs., 50
 stroke, 634–635
 summary of, 60–69t
 using measures other than \$/DALY averted, 78–82t
- pertussis**. *See* diphtheria, pertussis, tetanus
- Peru**
 collaborative improvement model in, 1298
 contracting for health care services in, 189
 household fuel use in, 793, 794f
 IMCI program in, 1181, 1186, 1187
 immunization in, 405b
 maternal and child mortality in, 1225b
 quality of health services in, 1225b
 sexually transmitted infections in, 323
 TB control program in, 168–169, 175
- pesticides**, 821, 822
- pharmaceuticals**. *See* drugs
- pharmacogenomics**, 129, 129t
- Philippine National Epidemic Surveillance System**, 1004, 1004t
- Philippines**
 childbirth in, 20, 21f
 community-based programs in, 1064, 1066
 diarrheal diseases in, 374, 378
 immunization in, 20, 21f
 kidney and urinary system diseases in, 697, 702
 quality of health care in, 1296
 surveillance in, 1004, 1004t
 universal coverage approach of, 237
 volcanic eruptions in, 1150
 water pollution in, 829
- phobias**, 612
See also anxiety disorders
- physical activity interventions**, 652, 835, 838, 841b, 842, 846, 847, 970, 972–973, 1112
- physicians**, 94
See also medical workers
- pigmentary skin disorders**, 708, 717–718
- PLACE (Priorities for Local AIDS Control Effort)**, 324–325, 326
- placebo controls and ethics**, 268
- Planet Health program**, 838b
- Planned Parenthood Association of South Africa**, 203
- pneumoconiosis**. *See* occupational lung diseases
- pneumonia and HIV/AIDS**, 354
- pneumonia and influenza**, 484–485, 681–684, 682–683b
See also respiratory diseases of adults; respiratory diseases of children
 drug resistance and, 1033–1034, 1045
 IMCI and, 1180
 improved quality of treatment for children with, 1303
- Poland**
 cardiovascular disease in, 649, 844b
 food price policies in, 219
 tobacco-related legislation in, 168
- policy instruments**
See also legislation
 defined, 59
 ensuring use of resources for greatest effect, 97–98
- polio**
 burden of, 395
 elimination, goal of, 121, 168, 172, 1164, 1170–1173
 costs of, 1171–1173, 1172t
 IDA credit buy-downs for, 253, 254b
 vaccine for, 172, 395, 406, 1164, 1171, 1325, 1326
See also vaccine-preventable diseases
- pollution**. *See* air and water pollution; environmental risk factors; indoor air pollution
- polypill**
 cost-effectiveness analysis of, 275, 598
 preventing CVD, 598, 860–861, 863t
- pooling**. *See* risk pooling
- population-based interventions**
 alcohol use and control, 896–899, 897t
 Alzheimer's disease, 628–629
 combination of high blood pressure, cholesterol, and obesity, 855–856, 859
 CVD and, 47–48
 defined, 59, 274b
 hearing loss, 959
 maternal conditions, 510
 personal interventions vs., 50
 research, 109
 summary of, 70–77t
 surgery, 1248–1249
 using measures other than \$/DALY averted, 83–85t
- population growth as concern**, 104b, 1075–1076, 1086
- posttraumatic stress disorder (PTSD)**, 605, 610, 621
See also anxiety disorders
- Poverty Reduction Strategy Papers (PRSPs)**, 235–236
- poverty reduction support credits (PRSCs)**, 248, 250–251
- Practical Approach to Lung Health (PAL)**, 295, 691
- pregnancy**. *See* abortions; family planning; maternal conditions; prenatal care programs
- prehospital care**, 1264–1271
- premature births**. *See* childbirth conditions; low birthweight
- prenatal care programs**
See also maternal conditions
 community health and nutrition programs, 1058
 costs and cost-effectiveness of, 203
 failure of women to participate in, 184
 medical advances in, 123
 routine prenatal care, 511–512, 514–517
- prescriptions**. *See* drugs
- prevention**
See also specific diseases and conditions
 prevention fatigue, 312
 primary. *See* primary prevention
 research and development in preventive medicine, 107–109
 secondary. *See* secondary prevention
- price increases to deter high-risk behaviors**. *See* specific behavior (e.g., tobacco use)
- primary care**, 1193–1209
 antiretroviral therapy for HIV/AIDS and, 1204
 community-oriented, 1202, 1204
 comparison of proposed basic packages of interventions, 1206–1207t
 comprehensive vs. selective care, 1193–1194, 1195t
 cost-effectiveness of interventions, 1199, 1199t
 defined, 1193
 district health system and, 1202–1203
 effectiveness of, 1196–1198, 1198b
 equity goals and, 1198
 expenditures for, 1199–1200, 1200t

- “goodness of fit” within health system, 1195–1196
- health effects and, 1197
- home-based care, 1204
- human resources for, 1200, 1201b
- management of health services and, 1343
- maternal and perinatal conditions and, 511–513, 515–516t
- nonhealth effects and, 1197–1198
- nurses and, 620
- outreach services of, 1194–1195
- outsourcing management of, 93–94, 93b
- priority setting for, 1202
- private sector resources for, 1200–1202
- public sector resources for, 1204
- relationships with local communities, 1203
- research and development agenda, 1203–1204
- scaling up, 1199–1203
- subsidies for, 217
- primary prevention**
 - cancer and, 572–574
 - CVD and, 47–48
 - research and development, 658
 - defined, 59
 - interpersonal violence and, 761, 763–764, 766
- Priorities for Local AIDS Control Effort (PLACE)**, 324–325, 326
- priorities for research**, 5b, 58, 103–118, 126
 - See also* research and development
- priority setting and cost-effectiveness.**
 - See* cost-effective interventions
- privacy and personal genetic information**, 109
- private foundations, role of**, 182, 253–255
 - See also* specific foundations
- private sector**
 - district hospitals and, 1217
 - new product development, 146–147
 - primary care and, 1200–1202
 - priority setting and, 38
 - quality of care and, 1297
 - referral hospitals and, 1240–1241
 - spending on health in low-income countries, 231
- producers**
 - subsidies for, 218
 - taxes on, 220
- product development priorities**, 139–155
 - See also* research and development
- Project Accept**, 360b
- PRSCs.** *See* poverty reduction support credits
- PRSPs (Poverty Reduction Strategy Papers)**, 235–236
- psychiatric disorders.** *See* mental disorders
- PTSD.** *See* posttraumatic stress disorder
- public health**
 - history of, 120–126
 - surveillance. *See* surveillance
- Public Health Schools without Walls**, 1002
- public knowledge.** *See* knowledge
- public-private partnerships for new product development**, 147–150, 149t
- pyoderma**, 708, 709, 710–713, 712–713t, 718, 719t
- quality-adjusted life years (QALYs)**, 28, 260, 261, 265
- quality of health care**, 1293–1307
 - administrative data and, 1300
 - assessment and assurance, 96–97
 - change of structural conditions and, 1296–1298
 - chart abstraction and, 1300
 - clinical vignettes and, 1301
 - collaborative improvement model and, 1298
 - cost-effectiveness of improved process, 1303–1304
 - definition and framework, 1293–1295, 1294f, 1295b
 - as determinant of cost-effectiveness, 50
 - in developing countries, 1295–1296
 - direct observation and recording of visits and, 1300
 - dissemination of information
 - on quality variation, 1305–1306
 - on technology, 1297
 - district hospitals and, 1223–1224, 1224f, 1225b
 - drugs and vaccines, 1327
 - economic benefits of, 1301–1302, 1302f
 - economic costs of, 1302–1303
 - electronic medical record (EMR) and, 1300
 - emergency medical services, 1272
 - high volume of care and, 1299
 - internal enabling environment and, 1298
 - interventions affecting provider practice and, 1298–1300
 - legal mandates and, 1296–1297
 - low use due to low quality, 89–90
 - management of health services and, 1342, 1344
 - measurement of, 1300–1301
 - national and local clinical guidelines, 1297
 - organizational change and, 1297
 - outcomes
 - comparative research on outcomes and process, 1305
 - defined, 1294
 - peer review and, 1296–1297, 1299
- Plan-Do-Study-Act cycle and, 1298
- policy interventions to improve, 1296–1300
- population-level considerations, 1295
- process
 - comparative research on outcomes and process, 1305
 - defined, 1294
- professional retraining for, 1297
- public-private provision of care and, 1297
- referral hospitals and, 1233
- research and development agenda, 1304
- social macroeconomic benefits of, 1301–1302
- standardized patients, use of, 1300–1301
- structure, defined, 1294
- TB and, 292–299
- total quality management and, 1298
- race**
 - See also* African Americans
 - dengue and, 454
 - sexually transmitted infections and, 316
- radiation therapy for cancer**, 581
- raloxifene**, 971, 972
- rape**, 758
 - See also* interpersonal violence
- referral hospitals**, 1229–1243
 - access and equity issues, 1239
 - advice and support to lower levels, 1233
 - appropriateness of utilization of, 1238–1239
 - clinical services of, 1231–1233
 - context of health system and, 1237
 - cost-effectiveness of, 1241–1242
 - current balance of care and, 1237–1239
 - defined, 1230, 1230t
 - determinants of appropriate balance of referral-level care, 1236–1237
 - education and training, 1233–1234, 1234t
 - efficiency of, 1240–1242
 - externalities and intangible benefits of, 1235–1236
 - functions and benefits of, 1230–1236, 1231–1232t
 - health expenditure, share of, 1237–1238
 - HIV/AIDS and, 1239
 - indirect contribution to health systems, 1235
 - negative impacts of, 1236
 - private vs. public hospitals, 1240–1241
 - quality assurance and quality improvement, 1233
 - research and development agenda, 1235
 - surgery and, 1249–1250
 - unit costs of care, 1238, 1238t

- referral programs.** *See* outreach and referral programs
- refugee populations and surveillance,** 1008–1009
- registration of births, deaths, marriages, etc.,** 533, 1021
- regulatory approach,** 91–92, 92b, 96, 97, 176–177, 1131–1132
- rehabilitation**
 defined, 59
 disasters, 1153–1154
 learning and developmental disabilities (LDDs), 937, 946–947
 leprosy and, 441
- religious customs**
 alternative medicine and, 630, 1281
 contraceptive use and, 1080
- reproductive health,** 499, 1078–1079
 adolescents and, 1112, 1113t, 1114–1116
 sexually transmitted infections and, 315, 316
- research and development,** 21–22, 107–109
See also knowledge; technological progress and health gains
 adolescents and, 1122–1123
 air pollution, 829–830
 alcohol use and control, 902–903
 alternative medicine, 1289
 “appropriate science” for developing world, 109–111
 “appropriate technology” for developing world, 111
 “best buys,” 113t
 cancer, 583–584, 1333
 chronic diseases and lifestyle changes, 846
 combination of high blood pressure, cholesterol, and obesity, 864–865
 community health and nutrition programs, 1071–1072
 contraceptives and family planning, 1087
 creation of global health architecture, 117–118
 CVD, 864–865
 definition of research, 103
 diabetes, 600
 diarrheal diseases, 383–384
 disaster relief, 1159–1160
 drug dependence, 916
 drug development, 5b, 141–143, 1335, 1336t
 drug resistance, 1046
 economic approaches to valuing, 157–163
 methods to assess value, 161–163
 economics of
 diagnostics, 144–146
 vaccine development, 143–144
 emergency medical services, 1272–1274
 ethics and, 114, 265–269
 expansion of global research capacity, 117
 freedom of scientific inquiry for, 118
 funding for, 135, 254
 gains in health linked to, 160–161
 genomics, 107–109
 global health agendas, 106–107, 115
 valuing of, 157–163
 global research collaboration, 111–112, 112b, 117
 health systems, 99–100, 116
 hearing loss, 960
 helminth infections, 479–480
 HIV/AIDS, 114, 360–361, 360b
 importance of, 135–136
 incentives needed for, 22
 indoor air pollution, 811–812
 infectious diseases, 106
 information systems, 1028–1029
 investment in, 116–117, 244
 learning and developmental disabilities, 948
 lifestyle changes and chronic diseases, 846
 malaria, 427–428
 malnutrition in childhood, 564–565
 maternal and perinatal conditions, 524
 medical workers, 1321
 molecular epidemiology, 107–109
 new product development, 139–155
 development cycles, 140
 development institutions, 140–141
 diagnostics, 144–146
 ethics and, 114, 265–269
 financing and institutional arrangements, 146–150, 254
 food fortification, 558
 patent law and, 150–152
 regulatory and liability issues for, 152–153
 vaccines, 143–144
 newborn health and, 524, 547
 noncommunicable diseases, 115–116
 nonexclusivity and, 103
 nonrivalry and, 103
 occupational health, 1142–1143
 palliation, 991–992
 patent law and, 150–152
 polypill to prevent CVD. *See* polypill
 population-based research, 109
 preventive medicine, 107–109
 primary care, 1203–1204
 priorities for research, 5b, 58, 103–118
 already in global health agenda, 115
 approaches to, 112–115
 biomedical research, 126
 emergency medical services, 1274
 inherent problems in setting, 112–113
 need to be in global health agenda, 115–116
 participants and decision makers, role in, 114–115
 product development, 139–155
 promising topics for global health agenda, 116
 shift of paradigm for, 117
 systematic and evidence-based approach to, 113–114
 push funding, 254
 quality of health care, 1304
 reciprocity in, 110–111
 recommendations for, 116–118
 referral hospitals, 1235
 respiratory diseases of children, 493–494
 rich country diseases vs. poor country diseases, 106, 157
 schistosomiasis, 479–480
 school health programs, 1105–1106
 shigella vaccine, 378, 383
 subsidies for, 218
 surgery, 1255–1257
 surveillance, 1012–1013
 TB, 303–304
 10:90 issue, 106, 157
 traditional medicine, 1289
 tropical diseases, 115, 445–446, 446t
 vaccines, 407–408, 1334–1335, 1334t
 water pollution, 829–830
 women’s conditions, 206–207
 zinc deficiency, 564
- respiratory diseases of adults,** 681–693
 acute diseases, 45, 681–684, 682–683b, 683t, 786
 avian influenza, 682b
 chronic respiratory diseases, 684–689, 685f, 687t
 cocaine use and, 920
 COPD (chronic obstructive pulmonary disease) and asthma, 684–689, 685f
See also chronic obstructive pulmonary disease (COPD) and asthma
 future research needs, 691–692
 general approach to lowering risk of, 690–691
 HIV/AIDS, 485, 489
 occupational lung diseases, 689–690, 689f
 pneumonia and influenza, 681–684, 682–683b, 683t
- respiratory diseases of children,** 483–497, 786
 acute ear infections, 484
 acute pharyngitis, 483–484

- air pollution and, 820
 bronchiolitis, 485
 case management of, 487–489, 490t, 492–493, 494
 causes and burden of, 483–485
 cost-effectiveness of interventions, 489–491, 490t, 491t
 HIV/AIDS and, 485, 489
 hypoxemia diagnosis, 488
 influenza, 485
 interventions, 485–489
 lessons learned on control strategies, 491–493
 lower respiratory tract infections (LRIs), 484–485
 newborns and resuscitation, 539–540, 539b, 545
 pneumonia, 484–485
 diagnosis of, 487
 intramuscular antibiotics for, 488
 oral treatment of, 488
 treatment guidelines for, 488–489
 research and development agenda, 493–494
 school-age children, 1093
 upper respiratory tract infections (URIs), 483–484
 vaccine strategies, 491–492
- retinopathy of prematurity**, 954–955
- rheumatic heart disease (RHD)**, 647
See also cardiovascular disease (CVD)
 burden of, 650
 cost-effectiveness of interventions, 653, 656, 657t, 658
 epidemiological transition and, 648t
 strokes and, 634
- rheumatoid arthritis**. *See* musculoskeletal disorders
- ricketts**, 965
- risk factors**
See also specific risks
 (e.g., *cholesterol levels, obesity*)
 behavioral risk factor surveillance system, defined, 998
 CVD and, 15, 851–868, 854t
 development of concept of, 120
 diabetes and, 593, 851
 drug resistance and, 1031–1036
 education about, 121
 genomics and, 108, 108b
 helminth infections and, 470
 lifelong medical management of, 4b
 multiple risks in combination, effect of, 109, 851–862
 musculoskeletal disorders and, 966, 966t
 TB and, 304
- risk pooling**, 226, 227–232, 236–238
- river blindness**. *See* onchocerciasis
- road traffic injuries**. *See* traffic injuries
- Rockefeller Foundation**
 funding commitment for disease control
 in developing countries, 147
 International AIDS Vaccine Initiative (IAVI) support from, 255b
 MDGs and, 182
 on sanitation and hygiene, 783
 stimulating growth of public-private partnerships, 147
 vaccine-preventable diseases and, 397
 on yellow fever eradication, 1163
- Roll Back Malaria Partnership**, 182, 234, 418, 419b
- Romania**
 cardiovascular disease in, 649, 649t
 pain control in, 987b
- Rotary International**, 254b, 1171
- rotavirus**, 371, 376–377
See also diarrheal diseases
- rubella**
See also vaccine-preventable diseases
 congenital rubella, 935b, 937
 vaccination, 406
 vaccine gap and, 1326
- Russian Federation**
 cardiovascular disease in, 649, 1298
 collaborative improvement model
 in, 1298
 interpersonal violence in, 766
 milk fluoridation in, 726
 sexually transmitted infections in, 318
- Rwanda**
 government reform and health care
 delivery in, 91
- SAFE (surgery, antibiotics, face washing, environmental change) strategy to combat trachoma**, 168, 170, 174, 178, 956
- Safe Motherhood Initiative**, 499, 1215
- Safe Routes to School program**, 840b
- Safe Water System Initiative**, 216
- St. John's wort**, 1283
- sales tax exemptions on healthy foods and medicines**, 220
- Salmonella**, 371
See also diarrheal diseases
- salt**
 fluoridation, 168, 173
 iodination, 168, 559
 reduction in food content of, 836, 845–846, 846t
- sanitation improvements**, 187, 189–190, 377
- See also* water supply
 disaster damage to, 1153
 effect on burden of diseases, 786–791, 1163
- epilepsy and, 631
- excreta disposal, 779–784
 calculation of burden of diseases, 788–789, 788t
 costs of promotion, 782
 diarrheal disease and, 384, 782–783, 782t
 direct health benefits, 782–784
 effect on burden of diseases, 786–791
 effect on other disease categories, 783–784
 hygiene promotion and, 786
 levels of service, technologies, and costs, 779–780, 780f
 policy implications, 781–782
 reduction in diarrheal disease, 786–791, 786t, 787f, 789t, 790t, 791t
 social benefits, 780, 780t
 water supply and, 783
 willingness to pay, 781
- helminth infections and, 470, 472
 promotion of hygiene, 784–786
 calculation of burden of diseases, 788–789, 788t
 costs of, 785
 effect on burden of diseases, 786–791
 effect on diarrheal diseases, 785
 effect on respiratory infections, 785–786
 evidence and, 784
 reduction in diarrheal disease, 786–791, 786t, 787f, 789t, 790t, 791t
 sustainability of, 784–785
 subsidy for, 217
- SARS (severe acute respiratory syndrome)**, 112b, 122, 682–683, 683t
 economic effect of, 1010
 surveillance and, 997, 1005
- Saudi Arabia**
 cardiovascular disease in, 650
 hemoglobinopathies in, 664
 kidney and urinary system diseases
 and, 697
 polio in, 1170
- scabies**, 708, 709–710, 711t, 719t
See also skin diseases
- Scandinavia**
See also specific countries
 alcohol use and control in, 893
 dental treatment in, 729

- schistosomiasis**
See also helminth infections
age-associated prevalence of, 470
burden of, 471
causes and characteristics of, 468
control programs, 479
cost-effective interventions for, 472, 474
epidemiology of, 468–470
kidney and urinary system diseases
and, 697
mass drug administration and, 444
research and development initiatives,
479–480
water supply and, 776, 779
- schizoaffective disorder**, 609
- schizophrenia and nonaffective psychoses (NAP)**, 605, 607–608
See also mental disorders
costs and cost-effectiveness of
interventions, 47, 613–619,
614–618t
epidemiology and burden, 608
genomics and, 131
interventions, 608
natural history and course, 607–608
public support for cost-effective
intervention package,
621–622, 622t
- school health programs**, 13, 1091–1108
acute respiratory infections and, 1093
burden of disease and, 1094–1095
cash-transfer programs to increase school
enrollment, 1101
cognitive improvements and, 1100
cost-effectiveness of interventions,
1098–1099, 1099t
dental caries and. *See* dental caries
designing effective programs,
1104–1105
development of programmatic approach,
1095–1097, 1096t
economic benefits of interventions,
1099–1101
FRESH framework. *See* Focusing
Resources on Effective School Health
global school feeding campaign, 1098b
for helminth infections, 473, 474–475,
476, 1092, 1094, 1098b
HIV/AIDS and, 1092–1093, 1093f, 1105
improved school attendance, benefits of,
1100–1101
infectious disease and, 1092–1093
insurance program, 187
interventions, 1095–1098, 1098b, 1099t
key stakeholders in implementation, 1104,
1105t
lessons learned, 1101–1105
on lifestyle necessary for health, 837–838
malaria and, 1092, 1106
malnutrition and, 1093–1094, 1106
out-of-school children and, 1098,
1121–1122
pattern of disease as age specific,
1092, 1092f
research and development agenda,
1105–1106
sanitation, 783–784
sectoral roles
in implementation, 1101–1104
policy and economic issues in
defining, 1101
targeting food aid, 1106
- Scientific Working Group on Malaria**, 427
- Scotland**
pain control for cancer in, 986b
transportation in, 840
- screening for diseases and conditions**
breast cancer, 577–579, 578t, 579t, 580t
cancer screening, 123, 573, 574–575, 582
cervical cancer, 205, 575–577, 577t
congenital hyperthyroidism, 945–946
diabetes, 594, 598
Down syndrome, 941, 942–945, 944t
liver cancer, 574
lung cancer, 574–575
metabolic disorders, 937
musculoskeletal disorders, 971
prenatal screening, 942–946, 944t, 948
sickle cell disease, 675–677
thalassemias, 673–675
- secondary prevention**
cancer, 572, 574–579
defined, 59
- secondhand smoke**, 875–876
- self-help programs for substance abusers**,
911, 913
- self-targeting**, 216
- Senegal**
contracting for health care services in,
188, 1297
HIV/AIDS in, 106, 358
mortality decline in, 10
skin diseases in, 708, 715
- sensory deficits**. *See* blindness; hearing loss
- sentinel surveillance**, 1002, 1021
- severe acute respiratory syndrome**.
See SARS
- sex distinguished from gender**, 196
- sexual health**, 1087
adolescents and, 1112, 1113t,
1114–1116
- sexually transmitted infections (STIs)**,
311–330
adolescents and, 1112
antibiotic use for, 314, 322
bacterial STIs and their sequelae, 314–315
behavioral risk factors
associated with acquisition and
transmission, 317
compensating behavior changes for,
317, 322
for exposure to infected sex partners,
316–317
burden of, 319–321
DALYs gained from prevention and
treatment, 319–320, 319t
impact of STIs on HIV, 320–321, 321t
circumcision as possible protection
against, 320, 322, 360b
coinfection with sexually transmitted
pathogens, 316
community-level interventions, 322–323
condom use for prevention, 312,
1080–1081
control strategies, 203, 323
scaling up of, 324–325
core groups and bridge populations,
313–314
costs and cost-effectiveness of interven-
tion, 323–324
determinants of costs, 323–324, 324t
demographic and social risk markers, 316
drug resistance and, 314, 1036
duration of infectiousness, 317, 322
effectiveness of interventions, 321–323
epidemiology and control, 313–314
epidemiology and management (since
1993), 312–313
gonorrhea, 314
group-level interventions, 322
HIV/AIDS and, 312, 314
See also HIV/AIDS
income and inequality, 318, 318t, 319f
individual-level interventions, 322
prevention of acquisition, 322
prevention of transmission, 322
research and development agenda,
325–326
societal determinants, 318
syndromic management, 313, 325
syphilis, 314
vaccines for, 322
viral STIs and their sequelae, 315
- shigella**, 371, 374, 378
See also diarrheal diseases
drug resistance and, 1034–1036, 1045
vaccine development needed for,
378, 383
- sick leave from work**, 221
- sickle cell anemia and related diseases**
See also hemoglobinopathies

- burden of, 667–669, 669t
 clinical features of, 664
 costs and cost-effectiveness of
 interventions, 674t, 675–677, 676t
 global distribution and frequency of,
 665–667, 665f, 666t, 667f
 interventions, 669–672, 677–678
 neonatal screening and prophylaxis,
 675–677
 population genetics and dynamics,
 664–665
- Sierra Leone**
 development assistance for health to, 253
 neonatal deaths in, 531
- Significant Caries (SiC) Index**, 724, 724t
- silicosis**. *See* occupational lung diseases
- Sindh Instate of Urology and Transplantation**, 703
- Singapore**
 Fit and Trim Program, 842
 hemoglobinopathies in, 670
 Kaposi's sarcoma in, 730
 National Healthy Lifestyle Program, 843b
 road traffic injuries in, 744
 transportation choices in, 839
- Single Convention on Narcotic Drugs (1961)**, 986
- skin diseases**, 707–721
See also leprosy
 acne, 708
 bacterial skin infections, 709, 710–713,
 712–713t
 Buruli ulcers, 709
 current status of current community
 control measures in dermatology, 720
 economic assessments and diseases in
 developing countries, 711–713t,
 716–717t, 718–720, 719t
 eczema or dermatitis, 708
 effective therapies, 709, 709t
 endemic treponematoses, 709
 filarial lymphoedema, 709
 fungal infections, 713–715
 HIV-related, 707, 708, 709, 717
 nonfilarial lymphoderma, 709
 onchocerciasis and, 709
 patterns at community level, 708–709
 pediculosis, 708
 pigmentary disorders of, 708, 717–718
 prevalence of, 708
 pyoderma, 708, 709, 710–713, 712–713t,
 718, 719t
 scabies, 708, 709–710, 711t, 719t
 Tinea capitis, 714–715, 716t, 718, 719t
 Tinea imbricata (Tokelau ringworm), 715,
 717t
 tropical ulcers, 709, 715, 717, 718
- sleeping sickness**. *See* African trypanosomiasis
- smallpox eradication**, 121, 165, 168, 172,
 1163, 1169–1170, 1169t, 1170t
- smoking**. *See* tobacco use and control
- smuggling of tobacco products**, 877
- soap subsidy**, 217
- social anxiety disorder**, 611, 612
See also anxiety disorders
- social epidemiology**
 research and development agenda, 109
- social marketing**
 adolescents and, 1116, 1122
 of contraceptives, 1081
- Social Marketing for Adolescent Sexual Health Project**, 1122
- social security reforms**, 237–238, 237t
- soda consumption and obesity**, 835, 836
- soil-transmitted helminth infections (STH infections)**. *See* helminth infections
- solidarity funds**, 228
- Somalia**
 African trypanosomiasis in, 458, 460
 refugee populations and
 surveillance, 1009
- somatic cell nuclear transfer**, 130
- South Africa**
 African trypanosomiasis in, 458, 460
 cardiovascular disease in, 650, 656
 cervical cancer screening in, 205
 combination of high blood pressure,
 cholesterol, and obesity in,
 853–854, 862t
 Community Health Intervention
 Programme, 842
 Coronary Risk Factor Study in, 843b
 dental treatment in, 729
 drunk-driving enforcement in, 901–902
 excreta disposal in, 782
 HIV/AIDS treatment in, 376
 hospitals in, 1218, 1231, 1296, 1347
 interpersonal violence in, 760, 761,
 765–766
 Kaposi's sarcoma in, 730
 kidney and urinary system diseases
 in, 703
 malaria in, 420
 outsourcing of health care services
 in, 93b
 Perinatal Education Programme
 in, 545
 Perinatal Problem Identification
 Programme in, 546b
 poisonings in, 747–748
 primary care in, 1201
 public view that public clinics dilute
 drugs, 98
- respiratory diseases of adults in, 691
 sales tax exemptions on healthy foods
 in, 220
 sexually transmitted infections in,
 323, 325
 tobacco-related legislation in, 168
- South America**. *See* Latin America and Caribbean
- South Asia**
See also specific countries
 alcohol consumption in, 898
 breastfeeding in, 539
 cardiovascular disease in, 649, 650, 652,
 654, 655t, 656t
 cost-effective interventions for, 50, 51t
 neglected low-cost opportunities and
 high-cost interventions in, 54–57t
 dengue in, 454, 455, 457
 development assistance for health
 to, 245
 diet in, 836
 epilepsy in, 631
 food manufacture in, 845
 hygiene promotion in, 784–785
 leishmaniasis in, 455
 malaria in, 414, 420
 maternal and perinatal conditions in,
 520t, 521t
 mental disorders in, 614, 618, 619, 622
 neonatal deaths in, 531
 neurological diseases in, 628, 631
 oral cancer in, 572
 performance-based contracts with NGOs
 in, 253
 proposed guidelines for HIV/AIDS in,
 348–349
 road traffic injuries in, 746
 strokes in, 634, 640
 syphilis in, 314
 tobacco use and control in, 880
 vaccine-preventable diseases in, 397, 400,
 402, 408
 vital events registration in, 1021
 women in, 195
- Southeast Asia**
See also specific countries
 avian influenza in, 682b
 ecstasy (MDMA) use in, 924
 hemoglobinopathies in, 665, 666
 mental disorders in, 620–621
 rheumatic heart disease in, 647
 strokes in, 633
- Southern Cone Initiative on Chagas disease**, 167, 170, 177, 438
- Spain**
 drug-related deaths in, 909
 malaria in, 421

- Special Programme for Research and Training in Tropical Diseases (WHO)**, 114, 115, 145, 148t, 423, 446
- spina bifida**, 939–940
- Sri Lanka**
- hemoglobinopathies in, 675
 - malaria in, 414, 418, 421
 - neonatal death reduction in, 533, 547b
 - prenatal care and childbirth in, 168, 169, 174
 - primary care in, 1202
 - water supply in, 774
- STATCAP**, 1028
- statistics, use of**, 121, 1021–1022
- See also* information systems
- stem cell therapy**, 130
- sterilization**, 1080, 1082
- stewardship**, 91–92, 1122, 1346, 1348
- STH (soil-transmitted helminth) infections**. *See* helminth infections
- stillbirths**. *See* child mortality
- stomach cancer**, 569, 570, 573, 574
- stones and obstructive uropathy of kidneys**, 697–698
- See also* kidney and urinary system diseases
- Stop TB Partnership**, 182, 289
- stoves, use of**. *See* indoor air pollution
- strategic management of clinical services**, 1339–1352
- strategic purchasing**, 1348–1349, 1349f
- Strategies for Enhancing Access to Medicines Project**, 92b
- stroke**, 633–635
- See also* cardiovascular disease (CVD); neurological disorders
 - acute management and secondary prevention of, 48
 - burden of, 634
 - cost-effectiveness of interventions in developing countries, 637, 639t, 640
 - frequency of types, prevalence, incidence rates, mortality, and disability after stroke, 633
 - interventions, 634–635, 635
 - ischemic heart disease (IHD) and, 646
 - personal interventions, 634–635
 - recommendations, 640
 - risk factors, 633–634
- stunting, wasting, and micronutrient deficiency disorders**, 551–567
- adolescents and, 1111
 - causes and burden of, 551–554, 552t
 - community-based health interventions, 1068
 - costs and cost-effectiveness of interventions, 559–561, 560t
 - DALYs lost due to in children under age five, 552, 553t
 - deaths due to in children under age five, 552, 552t
 - economic benefits of interventions, 562–563
 - interventions, 555–559
 - iodine deficiency, 554, 558–559
 - iron deficiency, 553–554, 558
 - lessons learned, 563–564
 - research and development agenda, 564–565
 - school-age children and, 1093, 1093f
 - vitamin A deficiency, 553, 556–558
 - zinc deficiency, 554, 559
- Sub-Saharan Africa**
- See also specific countries*
 - African trypanosomiasis control in, 454, 456
 - breastfeeding in, 539
 - cardiovascular disease in, 647, 649, 650, 654, 655t, 656t
 - contraceptive use in, 1076, 1080
 - cost-effective interventions for, 50, 52t
 - neglected low-cost opportunities and high-cost interventions in, 54–57t
 - diabetes in, 1333
 - diarrheal diseases in, 373
 - drug treatment in, 1346
 - epilepsy in, 631
 - guinea worm eradication in, 167, 169, 176
 - hemoglobinopathies in, 664, 665, 678
 - HIV/AIDS in, 106, 1070–1071
 - hospital-acquired diseases in, 1224
 - hospitals in, 1221b
 - indoor air pollution in, 803
 - influenza in, 684
 - interpersonal violence in, 757
 - iron deficiency in, 553–554
 - leishmaniasis in, 455
 - malaria in, 413, 414, 415, 417–418, 421, 423, 426, 935b
 - maternal and perinatal conditions in, 520t, 521t, 522
 - measles in, 396
 - mental disorders in, 614, 618, 619, 621–622
 - neonatal deaths in, 531, 533
 - neurological diseases in, 631
 - noma (Cancrum Oris) in, 730–731
 - poisonings in, 747–748
 - proposed guidelines for HIV/AIDS in, 349
 - provider autonomy in, 1348
 - school health programs in, 1101
 - skin diseases in, 707, 709
 - smallpox in, 1163
 - strokes in, 634
 - syphilis in, 314
 - TB in, 302
 - tobacco use and control in, 880
 - tsetse flies in, 454
 - vaccine-preventable diseases in, 395, 397, 399, 400, 402, 408
 - vaccines and drugs, access to, 1346
 - zinc deficiency in, 554
- subsidies for health and health-related products**, 212–218, 212t, 213–214t
- consumer subsidies, 212–218
 - diet, 843
 - food subsidies for young children, 555
 - producer subsidies, 218
- substance abuse**. *See* alcohol use and control; drug dependence
- Sudan**
- African trypanosomiasis in, 456, 460
 - guinea worm eradication in, 169
 - leishmaniasis in, 453, 459
 - polio in, 1170–1171
 - refugee populations and surveillance, 1009
- suicide**, 16, 607, 758
- See also* interpersonal violence
 - adolescents and, 1111, 1121
 - costs and cost-effectiveness of interventions, 48
- sulfadoxine-pyrimethamine**, 45, 92
- resistance to, 1032, 1036
- sulfonamides**, 122
- surgery**, 1245–1259
- burden of surgical conditions, 1245–1248, 1247t
 - by condition and region, 1248t
 - methods of, 1246
 - for cancer, 580–581, 584
 - for cardiovascular disease, 651, 654, 658, 857–858
 - cataract surgery, 956
 - causes of surgical conditions, 1245–1248
 - community clinics and, 1249, 1253–1255, 1253t, 1254t, 1256f
 - coordinated model system for, 1251
 - costs and cost-effectiveness of interventions, 49–50, 1251–1255, 1256, 1257b
 - cost assumptions, 1253t
 - method for estimating costs and DALYs, 1252
 - at district hospitals, 5b, 27, 1249, 1253–1255, 1253t, 1254t, 1256f

- for epilepsy, 631, 637
- for hearing improvement, 959
- high volume of care and quality of, 1299
- hip replacement surgery, 973
- human resources and, 1256
- interventions, 1248–1251
- for kidney disease, 701–702
- knee replacement surgery, 973
- minimally invasive, 130–131
- for musculoskeletal disorders, 968
- for Parkinson's disease, 632–633, 637
- population-based interventions, 1248–1249
- research and development agenda, 1255–1257
- resource requirements for services and level of care, 1250–1251t
- SAFE strategy to combat trachoma. *See* SAFE (surgery, antibiotics, face washing, environmental change) strategy to combat trachoma
- single-shot surgical services, successful programs involving, 174
- at tertiary hospitals, 1249–1250
- surveillance**, 997–1015
 - active surveillance, defined, 998, 1021
 - analysis and dissemination of surveillance data, 999–1000
 - avian influenza and, 1005–1006
 - as basis for evidence-based decisions, 1001
 - behavioral risk factor surveillance system, defined, 998
 - biologic terrorism and, 998, 1008
 - categorical surveillance, defined, 998
 - chronic disease and, 1009–1010
 - disaster situations and, 1008, 1154
 - drug resistance and, 1042–1043
 - Ebola and, 1006
 - economics of, 1010–1011, 1010t
 - emergency surveillance, 1008
 - environmental public health surveillance, 1006–1007, 1006f
 - eradication of infectious diseases and, 1166
 - establishing and maintaining system for, 999, 1000b
 - field epidemiologists providing evidence, 1001–1002
 - future of, 1011
 - global surveillance networks, 1011–1012, 1012f
 - health information and management system, defined, 998
 - indicator, defined, 997
 - informal networks as elements of, 1004–1005
 - injury surveillance, 1007–1008
 - Integrated Disease Surveillance and Response (IDSR), 1003–1004
 - integrated surveillance, defined, 998
 - laboratory-based surveillance, 1002–1003, 1003f
 - objectives of, 998–999, 999b
 - occupational health, 1133, 1143
 - as part of national public health systems, 1000
 - passive surveillance, defined, 998, 1021
 - population-based surveys used in, 1002
 - principles and uses of, 999, 999t, 1021
 - refugee populations and, 1008–1009
 - research agenda for, 1012–1013
 - routine health information system, defined, 998
 - SARS and, 1005
 - sentinel surveillance, 1002, 1021
 - strategies for, 1002–1005
 - syndromic surveillance, defined, 998, 1008
 - as tool to improve public health, 1001–1002
 - training for, 117
- SWaps (finance instruments)**, 234–235
- Sweden**
 - development assistance for health from, 244
 - diabetes and lifestyle changes in, 593
 - fluoridation programs in, 729
 - oral health programs in, 729, 733
 - oral precancer and cancer in, 730
- Switzerland**
 - iodine fortification program in, 554
 - salt fluoridation in, 725–726
- synovial fluid replacement**, 973
- syphilis**. *See* sexually transmitted infections (STIs)
- T. vaginalis***, 315
- tacit knowledge**, 110
- Taiwan**
 - arsenic contamination of water in, 821
 - strokes in, 633
 - universal coverage approach of, 237
- tamoxifen**, 574, 580
- Tanzania**
 - adolescents in, 1116
 - African trypanosomiasis in, 458
 - community-based programs in, 1066, 1068
 - deworming programs in, 478
 - DOTS development in, 111
 - drug shops, regulation in, 92b
 - HIV/AIDS in, 320, 331, 352
 - hospitals in, 1218
 - IMCI program in, 1181–1183, 1183b, 1184, 1184f, 1185b, 1186, 1187
 - kidney and urinary system diseases in, 702
 - leprosy in, 437
 - lymphatic filariasis in, 440
 - malaria in, 421, 425
 - malnutrition in, 1068
 - management of health care in, 1345, 1348
 - mental disorders in, 620
 - Multi-Country Evaluation of IMCI Effectiveness, Cost, and Impact (MCE) in, 1181–1183, 1183b
 - oral health and education program in, 726
 - primary care in, 1343, 1348
 - regulation of health care in, 1296
 - road traffic injuries in, 749b
 - sexually transmitted infections in, 320, 322
 - skin diseases in, 708, 720
 - strokes in, 633
 - training of medical staff on acute respiratory infections of children in, 1297
 - vital events registration in, 1021
 - water supply in, 773
- Tanzania Essential Health Intervention Program (TEHIP)**, 1024, 1026–1027, 1026b, 1202, 1208n2
- targeting of interventions**. *See* specific diseases and conditions
- taxation**
 - on alcohol, 218, 893, 895t
 - consumer taxes, 218–220, 219b
 - discouraging high-risk behaviors by, 177, 213–215t
 - on drugs, 1327
 - as method of revenue collection, 227, 229
 - producer taxes, 220
 - promoting health policies, 213–215t, 218–220
 - sales tax exemptions on healthy foods and medicines, 220
 - on tobacco, 177, 218, 874–875, 875f, 879f, 882
 - on unhealthy foods, 219–220
- TDR**. *See* Special Programme for Research and Training in Tropical Diseases

- technological progress and health gains**, 10, 119–137
See also genomics
 “appropriate technology” for developing world, 111
 array technology, 128
 community health and nutrition programs and, 1063
 cost-effective interventions and, 53
 in developing countries, 133
 dissemination of information on, 1297
 high-technology hospital practice, 125, 1223, 1226
 history of 20th century for science, technology, and medicine, 120–126
 immunization technologies, 1335
 information and communication technologies (ICT), 1022
 newborn care, 547
 occupational health and, 1143
 potential of information technology, 117
 product development priorities, 139–155
 vaccine technologies, 1334
- teeth.** *See* dental caries; oral and craniofacial diseases and disorders
- TEHIP.** *See* Tanzania Essential Health Intervention Program
- television watching**, 835, 838b
- terrorism**, 104b
 attacks as disasters, 1161n1
 biological, 107, 998, 1008
- tertiary hospitals.** *See* referral hospitals
- tetanus.** *See* diphtheria, pertussis, tetanus
- Thailand**
 avian influenza in, 682b, 1005–1006
 child mortality in, 1068
 community-based programs in, 1059f, 1065, 1066, 1067
 condom program in, 167, 170, 176
 dengue in, 452, 455, 457, 459, 461
 development assistance and health policy, 248b
 drug dependence in, 916
 epilepsy in, 630
 fall-related injuries in, 748–749
 hemoglobinopathies in, 668, 670, 673, 674–675
 HIV/AIDS in, 13, 106, 167, 348b, 352
 incentive pay to doctors in, 95, 95b
 Kaposi’s sarcoma in, 730
 kidney and urinary system diseases in, 697, 702, 703
 medical workers in, 1315
 milk fluoridation in, 726
 nutrition investment in, 248b
 occupational health in, 1132
 oral and craniofacial diseases and disorders in, 723
 road traffic injuries in, 744
 sexual risk behaviors in, 312
 sexually transmitted infections in, 323
 skin diseases in, 708
 tobacco taxes in, 882
 vaccine-preventable diseases in, 406
 water pollution in, 829
- Thalassemia International Federation**, 678
- thalassemias**, 127f
See also hemoglobinopathies
 bone marrow transplantation, 675
 burden of, 667–669
 clinical features of, 664
 control and treatment, 669–672
 cost and effectiveness of diagnosis and management, 673–675, 674t, 675t
 global distribution and frequency of, 665–667, 666f, 666t, 667f
 options for control and management of, 677
 population genetics and dynamics, 664–665
 screening and counseling, 673–675
- Tinea capitis**, 714–715, 716t, 718, 719t
See also skin diseases
- Tinea imbricata (Tokelau ringworm)**, 715, 717t
See also skin diseases
- tobacco-related deaths**, 15f, 120, 869, 870–871, 871t, 872f, 878–880, 879t, 882
- tobacco use and control**, 869–885
 adolescents and, 1111, 1116
 advertising restrictions, 876
 bans on smoking in public places, 875–876
 cancer and, 573, 833, 871–872
 cardiovascular disease and, 647, 652, 659, 833
 cessation, 870, 872–873, 873f, 876–877
 chronic diseases and, 833
 cleft lip and palate and, 731
 comprehensive control programs, 881
 COPD and, 688, 690, 691–692
 costs and cost-effectiveness of interventions, 49, 877–880, 878t, 880t, 881t
 deaths. *See* tobacco-related deaths
 diabetes and, 597
 health consequences of smoking, 870–873, 871t
 interventions
 government interventions, 873–874
 reducing demand for tobacco, 874–877
 reducing noncommunicable disease, 4b, 27
 reducing supply of tobacco, 877
 kidney disease and, 699, 700
 musculoskeletal disorders and, 966
 nicotine addiction, 873–874
 nicotine replacement therapies, 876–877, 878
 oral precancer and cancer and, 730
 periodontal disease and, 729
 price increases and, 878, 879, 882, 1116
 respiratory diseases of adults, 685
 smoking trends, 869–870, 870t
 smuggling of tobacco products, 877
 strokes and, 633, 634
 taxation to discourage use, 177, 218, 874–875, 875f, 879f, 882
 vision loss and, 954
 warnings about, 168, 876
 workers’ risk for asbestos and smoking exposure, 1128, 1128t
- Togo, malaria in**, 421
- total quality management in health care**, 1298
- tourism**
 dengue and, 455
 leishmaniasis and, 453
 malaria and, 426
 tax rate reduction on alcohol in Mauritius and, 900
- trachoma**
 control program, 168, 170, 174, 178, 956–957
 sanitation, prevention by, 784
 water supply and, 779
- Trade-Related Aspects of Intellectual Property Rights.** *See* TRIPS (Agreement on Trade-Related Aspects of Intellectual Property Rights)
- traditional medicine.** *See* complementary and alternative medicine (CAM)
- traffic injuries**, 16
 adolescents and, 1111
 alcohol consumption as cause of, 893, 894t
 bicycle helmet legislation and enforcement, 747
 burden of, 107
 causes of, 739, 739t
 costs and cost-effectiveness of interventions, 48
 economic burden of, 737, 739
 implementation of prevention and control strategies, 748–749, 749b
 interventions, 742–744, 742t

- motorcycle helmet legislation and enforcement, 747
 - risk factors for, 739–740
 - safer roads and, 743–744
 - speed and safety regulations, 745–746, 746t
 - speed bumps, 746–747, 747t
 - training of medical personnel**
 - alternative medicine and, 1286, 1287
 - changes needed in medical education for
 - global perspective, 134–135
 - for childbirth and newborn care, 545
 - community workers, 1063
 - continuing skill development, 1312, 1344
 - dissemination and use of health information for, 1023
 - district hospitals' role in, 1215–1216
 - epidemiologists, 1002
 - for hospital emergency workers,
 - 1271, 1273b
 - nurses, 94
 - for occupational health, 1134–1135, 1142
 - professional retraining to improve quality of care, 1297
 - for surgery, 1256–1257
 - for surveillance purposes, 117
 - traditional healers, 1286
 - transplant surgery**, 130, 131
 - transportation**
 - See also* traffic injuries
 - automobile use, 839, 843
 - costs of unreliable systems, 187
 - for emergency medical services, 1264, 1267–1271
 - See also* ambulances
 - intersectoral action for improvements in, 189
 - policy and environmental design,
 - 839–840
 - walking and bicycle use, 839–840, 840b, 843–844
 - trauma care.** *See* emergency medical services
 - Trichomonas vaginalis***, 315
 - Trinidad and Tobago**
 - health service agency reform in, 93, 1318–1319
 - TRIPS (Agreement on Trade-Related Aspects of Intellectual Property Rights)**, 150–152, 351, 1324
 - tropical diseases**, 433–466
 - See also specific types*
 - burden of, 436–438, 454–456
 - characteristics and transmission, 433–436, 451–454, 454t
 - costs and cost-effectiveness of
 - interventions, 442–445, 445t, 459–460
 - DALY estimates for, 437–438, 438t
 - interventions and effectiveness of, 45–46, 438–442, 460–463
 - kidney disease and, 697
 - management and control strategies of,
 - 457–458, 463t
 - research needs and priorities, 115,
 - 445–446, 446t
 - skin diseases, 709
 - See also* skin diseases
 - tropical ulcers**, 709, 715, 717, 718
 - See also* skin diseases
 - tsetse flies**, 453, 456, 458, 462, 464
 - tsunamis**, 1150
 - tubal ligation**, 1080
 - tuberculosis (TB)**, 289–309
 - alternative approaches to diagnosis and treatment, 294–295
 - burden and trends, 291–292
 - averted and avertable burden, 302, 302f, 303f
 - children and, 293
 - complementary strategies, 304
 - cost-effectiveness of interventions,
 - 40–43, 295–297, 296t, 297t, 301–303, 301b
 - managing endemic TB, 297–299, 298f
 - managing TB outbreaks, 299–301, 300f
 - cost per case prevented, 297–299
 - cost per death prevented and DALY gained, 299
 - deaths due to in low- and middle-income countries, 290–291
 - cost per death prevented and DALY gained, 299
 - development assistance and, 244
 - diagnostics development for, 144, 145, 145t
 - DOTS strategy for treatment. *See* directly observed therapy short course (DOTS)
 - drug resistance and, 294, 304–305, 1036, 1045–1046
 - drugs for, 304, 1326
 - economic benefits of interventions,
 - 302–303
 - HIV/AIDS and, 291, 292–293, 294, 301, 302, 304–305
 - impact and targets, 304
 - infection, disease, and death, 290–291
 - integrated management of, 295
 - interventions, 292–294
 - kidney and urinary system diseases and, 697
 - latent infection, treatment of, 292–293
 - MDGs and, 290, 305
 - outpatient and community-based treatment, 295
 - private sector treatment, 295
 - quality of care and treatment of, 27, 292–299
 - research and development agenda,
 - 303–304
 - risk factors, 304
 - service delivery, 304
 - silicosis and, 689
 - successful programs in controlling, 94–95, 168–169, 174, 175
 - targeting poor in allocation of health resources to fight, 5b
 - tobacco use and, 289, 304
 - vaccination, 292, 304
 - See also* vaccine-preventable diseases
- Turkey**
 - ambulances in, 1268
 - condom program in, 216
 - epilepsy in, 630
 - kidney and urinary system diseases in,
 - 698, 702, 703
 - leishmaniasis in, 459
 - mental disorders in, 621
 - universal coverage approach of, 237
- typhoid**, 775t, 776t, 777, 778
- Uganda**
 - African trypanosomiasis in, 454, 456, 460
 - Ebola in, 1006
 - government reform and health care
 - delivery in, 91, 247, 1315
 - HIV/AIDS in, 13, 106, 320, 348b, 354, 358
 - Hospice Uganda, 990
 - IMCI program in, 1181, 1185b, 1186, 1187
 - interpersonal violence in, 756, 757, 763
 - malaria in, 418, 421
 - medical workers in, 94, 1312
 - primary care and removal of fees for
 - health services in, 97b
 - road traffic injuries in, 749b
 - sexually transmitted infections in,
 - 312, 320
 - training of medical personnel in, 94
 - water supply in, 773
- U.K. National Institute for Clinical Excellence**, 1297
- UNAIDS.** *See* United Nations Programme on HIV/AIDS
- UNESCO (United Nations Education, Scientific, and Cultural Organization)**, 1095
- UNICEF.** *See* United Nations Children's Fund

- unintentional injuries, 737–753**
 - burden of, 737, 738f, 738t
 - burn-related injuries
 - indoor fires and, 797–799
 - interventions, 743t, 744–745
 - risk factors for, 741
 - causes of, 739–741, 739t
 - costs, cost-effectiveness, and economic
 - benefits of interventions, 745–748
 - driving injuries. *See* traffic injuries
 - drowning
 - interventions, 743t, 745
 - risk factors for, 741
 - economic burden of, 737, 739
 - fall-related injuries
 - interventions, 743t, 744, 748–749
 - risk factors for, 740–741
 - future challenges for, 750
 - implementation of prevention and
 - control strategies, 748–749, 749b
 - interventions, 742–743t, 742–745
 - occupational injuries, 1130, 1143
 - See also* occupational health
 - poisonings
 - childproof paraffin containers, 747–748
 - interventions, 743t, 744
 - risk factors for, 740
 - research and development agenda, 749–750
- United Kingdom**
 - air pollution causing deaths in, 819
 - alternative medicine in, 1285
 - capital charging and management of
 - physical resources in, 1345
 - cigarette smoking in, 872–873, 873f, 875, 876, 881
 - class differences in morbidity and
 - mortality, 124
 - COPD and asthma in, 686
 - dental treatment in, 729
 - development assistance for health
 - from, 244
 - epilepsy in, 630
 - fluoridation programs in, 725, 726
 - Health and Safety Executive, 1135
 - hemoglobinopathies in, 668
 - heroin use in, 908, 911
 - high-technology hospital practice in, 125
 - homeopathic products, use in, 1282
 - hospital throughput in, 125, 130
 - hospitals in, 1224
 - International Finance Facility (IFF)
 - proposal by, 234
 - London tax on cars driven into, 839
 - milk fluoridation in, 726
 - neonatal deaths in, 533
 - organizational structure of health systems
 - in, 92
 - Public Health Act (1848), 120
 - skin diseases in, 714
 - strokes in, 633
 - universal coverage approach of, 237
- United Nations**
 - development assistance for health
 - from, 244
 - International Conference on Population
 - and Development (1994), 196
 - Millennium Development Goals. *See* Millennium Development Goals (MDGs)
 - Millennium Summit (2001), 182
- United Nations Children’s Fund (UNICEF)**
 - Alma Ata Declaration. *See* Alma Ata Declaration on Primary Health Care (1978)
 - Child-Friendly Schools framework of, 1095–1096
 - on development assistance for health, 243
 - on diarrheal diseases, 374, 378
 - on drug procurement, 1326
 - guinea worm control program, 167
 - IMCI program. *See* integrated management of childhood illness (IMCI)
 - “marginal budgeting for bottlenecks” tool
 - of, 541
 - on nutrition and child survival, 1057, 1057f, 1070
 - on soldiers under age of 18, 1111
 - on vaccine management by
 - countries, 1329
 - on vaccine-preventable diseases, 394
 - vaccines from, 1327
 - on water supply, 773–774
- United Nations Development Programme,** 247, 811, 1095
- United Nations Education, Scientific, and Cultural Organization (UNESCO),** 1095
- United Nations Foundation,** 254b
- United Nations Industrial Development Organization,** 825b, 1328
- United Nations Population Fund,** 243, 1095
- United Nations Programme on HIV/AIDS (UNAIDS),** 182, 244, 245, 332, 333, 335, 347, 989
- United States**
 - air pollution in, 828, 829t
 - alternative medicine in, 1282, 1283, 1287
 - arsenic contamination of water in, 821
 - cardiovascular disease in, 647, 650, 656, 658
 - cigarette smoking in, 875, 876, 881
 - cleft lip and palate in, 731
 - cocaine use in, 920
 - combination of high blood pressure,
 - cholesterol, and obesity in, 859
 - COPD and asthma in, 686
 - dengue in, 455
 - development assistance for health from, 244, 254
 - diabetes in, 593, 598
 - diarrheal diseases in, 377
 - drug development and approval
 - process, 153
 - See also* U.S. Food and Drug Administration
 - ecstasy (MDMA) use in, 924
 - failure of “war on cancer” in, 112
 - fluoridation programs in, 725, 726, 729
 - food fortification in, 558, 842
 - hemoglobinopathies in, 664, 670, 675, 676
 - heroin use in, 908
 - HIV/AIDS in, 354
 - homeopathic products, use in, 1282
 - illicit drug use in, 908, 911
 - interpersonal violence in, 764, 765, 766
 - iodine fortification program in, 554
 - kidney and urinary system diseases in, 695–696, 698–699, 701, 702
 - occupational lung diseases in, 690
 - Occupational Safety and Health Act (1970), 1134
 - oral and craniofacial diseases and
 - disorders in, 723
 - oral health programs in, 726, 729, 733
 - periodontal disease in, 730
 - preterm birth in, 947
 - primary care in, 1197
 - sexual risk behaviors in, 312
 - smallpox eradication efforts of, 1170, 1170t
- urbanization**
 - air pollution and, 819–820
 - lifestyle and, 840, 841b
- urinary system diseases.** *See* kidney and urinary system diseases
- Uruguay**
 - Chagas disease in, 436, 438, 442
- U.S. Agency for International Development,** 1297
- U.S. Agency of Healthcare Research and Quality,** 1297

- U.S. Centers for Disease Control and Prevention**
on cost of drug resistance, 1037
on drinking water quality, 216
free software for information from, 1022
guinea worm control program, 167
on measles elimination, 1164
surveillance systems of, 1000
training of epidemiologists, 1002
on violence, 755, 760
- U.S. Department of Health and Human Services**, 346
- U.S. Environmental Protection Agency**, 828
- U.S. Food and Drug Administration**,
141–142, 152–153, 268, 841,
1287, 1327
- U.S. President's Emergency Plan for AIDS Relief**, 332, 1333
- U.S. Public Health Service Panel on cost-effectiveness**, 262
- user fees**, 19, 97b, 187, 227, 1330
- Vaccine Fund**, 397, 491, 492
- vaccine-preventable diseases**, 389–411
See also vaccines; *specific diseases and conditions*
burden of, 394, 397
DALYs lost from, 397, 399t
deaths averted and avertable burden, 398t
causes and epidemiology of, 389–397,
390–393t
Expanded Program on Immunization. *See*
Expanded Program on
Immunization (EPI)
financial sustainability of immunization
programs, 406–407
inequities in access to vaccines (vaccine
gap), 1326
influenza, 684, 690, 692
research and development agenda,
407–408, 1334–1335, 1334t
respiratory diseases of children, 485–487
- vaccines**, 1323–1337
See also vaccine-preventable diseases;
specific diseases
childhood diseases, 44–45
respiratory diseases, 485–487, 491–492
community health and nutrition
programs, 1059
cost-effectiveness analysis of, 44,
276–277b
costs and cost-effectiveness of programs
existing programs, 397–400, 400t
improving programs, 407
increasing coverage for traditional EPI,
401–402, 401f, 401t, 404b, 405b
new antigens, 402–406, 403t
distribution and storage, 1328–1329
economics of discovery and development,
143–144
financing of, 1331, 1332t
future challenges for, 1331–1334
immunization technologies, 1335
inequities in access to (vaccine gap), 1326
management of, 1329
policies on, 1324
procurement of, 1327
quality assurance of, 1327
research and development agenda,
407–408, 1334–1335, 1334t
selection of, 1325–1326
successful programs of, 172–173
WHO prequalification process for,
1327–1328
- value of a statistical life (VSL)**, 8, 9, 280
- value of information (VOI)**, 161–163, 162b
- valvulitis**, 647
See also rheumatic heart disease
- vasectomy**, 1080
- vector control**
African trypanosomiasis and, 458,
462–463
Chagas disease and, 438, 442
dengue and, 457, 461
leishmaniasis and, 458, 462
lymphatic filariasis and, 439–440
malaria and, 421–422
onchocerciasis and, 440
- Venezuela**
Chagas disease in, 438
dengue in, 455
food fortification in, 558
- verbal autopsies**, 1021
- vertical approach to health systems**, 88, 174
development assistance and, 234
management of health services and,
1346–1347
primary care and, 1194
- Viagra**, 1327
- Vietnam**
avian influenza in, 682–683b
cervical cancer screening in, 205
cholera vaccine in, 377
contraception, access to, 1086
dengue in, 452, 454, 457
diarrheal diseases in, 377
health care reform in, 247
malaria in, 418, 420, 421, 425
sexually transmitted infections in, 323
silicosis prevention measures in, 1139
TB in, 295
traditional medicine in, 1285
- Vigisus project in Brazil**, 1021
- violence**
See also interpersonal violence
adolescents and, 1111
costs and cost-effectiveness of
interventions, 48
- Violence against Women Act (U.S. 1994)**, 764
- viruses, control of**, 122
See also specific type of virus
- vision loss**. *See* blindness
- vital events registration**, 1021
neonatal death information from, 533
- vitamin A deficiency**
blindness due to, 553
childhood illness and mortality associated
with, 553
costs and cost-effectiveness of
interventions, 561
diarrheal diseases and, 376
IMCI and, 1180
interventions, 556–558
lessons learned, 563, 565
mass drug administration and, 444
pregnant women and, 510
school-age children and, 1094
- vitamin B₁₂ deficiency**, 627
- vitamin D supplementation**, 967, 971–972
- VOI**. *See* value of information
- volcanic eruptions**, 1150
- voluntary counseling and testing (VCT)**
for HIV/AIDS, 332, 336, 344, 347, 348, 349
- volunteer community-based programs**, 1064
- VSL**. *See* value of a statistical life
- war**
burden of injuries from, 107
costs and cost-effectiveness of
interventions, 48
soldiers under age of 18, 1111
- Warmi Project in Bolivia**, 535
- wasting**. *See* stunting, wasting, and
micronutrient deficiency disorders
- water supply**, 771–779
calculation of burden of diseases,
788–789, 788t
classification and burden of water-related
diseases, 775–776, 775t, 776t
conditions for health effect, 777–778
dental health. *See* dental caries
diarrheal disease and, 377, 776, 777, 777t,
786–791, 786t, 787f, 788–791, 789t,
790t, 791t

- water supply** (*Continued*)
- direct health effects, 775–779, 775t
 - disaster damage to, 1153, 1156
 - effect on other disease categories, 778–779, 778t
 - epidemiological questions and problems, 776–777
 - excreta disposal and, 384, 783
 - helminth infections and, 470
 - hygiene promotion and, 786
 - levels of services and costs, 771–773, 772f
 - pollution. *See* air and water pollution
 - purification subsidy programs, 216
 - quality of, 216, 771, 774
 - quantity of, 772
 - reasonable access to, 187, 772
 - time-saving benefit, 773–775
- WaterAid**, 782
- weak health systems, challenge of**, 99, 1340
- weight**. *See* low birthweight; obesity
- Weil, Andrew**, 1287
- Wellcome Trust**, 134
- WERC (Village Education Resource Center)**, 782
- West Africa**
- lymphatic filariasis in, 436
 - onchocerciasis in, 172, 178, 435, 437, 440, 443
 - yellow fever in, 396–397
- Western Pacific**
- diarrheal diseases in, 373
 - neonatal deaths in, 533
 - rheumatic heart disease in, 647
- What Works Working Group**, 117, 165
- WHO**. *See* World Health Organization
- WHO Alliance for the Global Elimination of Trachoma**, 957
- WHO Global Network of Collaborating Centers in Occupational Health**, 1134, 1140
- WHO Global Strategy for Containment of Antimicrobial Resistance**, 1043
- WHO-ILO Joint Effort on Occupational Health and Safety in Africa**, 1134
- WHO Priority Medicines Project**, 1335
- WHO-UNICEF Effective Cold Store Management Initiative**, 1329
- willingness-to-pay valuation**, 280
- women**
- See also* gender differences
 - abortions. *See* abortions
 - African trypanosomiasis and, 456
 - burden of disease and, 196, 197–199, 199t, 200t
 - conditions specific to women, 199–201, 201t
 - cancer and, 203, 205, 570
 - community health and nutrition programs for, 1058
 - contraception. *See* contraception
 - cost-effectiveness of interventions, 203–206, 204–205t
 - conditions affecting women disproportionately, 205–206
 - conditions specific to women, 203–205
 - death in childbirth. *See* maternal mortality
 - depression and, 107, 196, 201, 202, 206
 - discrimination against as issue, 104b
 - gender-based conditions, 202–203
 - helminth infections and, 474
 - HIV/AIDS and, 195, 196
 - indoor air pollution and, 797, 803
 - inequity in health services for. *See* gender differences
 - leishmaniasis and, 455
 - life expectancy of, 5, 5f, 197, 201–202
 - malaria and, 413, 414, 417, 418, 422
 - milestones and influential works in international women’s health (1980–2003), 208–209t
 - pregnancy. *See* maternal conditions; prenatal care programs
 - research priorities for conditions creating excess burden for, 206–207
 - risks associated with unwanted pregnancies, 1077–1078, 1078t
 - sexually transmitted infections and, 315
 - underutilization of health services by, 197
 - vision impairment and, 955
- workers’ health**. *See* occupational health
- workplace violence**, 760
- See also* interpersonal violence
- World Bank**
- approach to ensure resources go to where most needed, 97
 - Child Development projects, 1064, 1068
 - development assistance for health from, 244, 245, 247
 - on development assistance for health needs, 245, 246
 - on drug procurement, 1326
 - on economic growth for 2000–15, 183
 - on excreta disposal, 779, 782
 - International Development Association (IDA) grants and credits, 243, 244, 254b
 - on kidney and urinary system diseases, 702, 703, 704
 - on local production of drugs, 1328
 - Maternal and Child Insurance Program, 251
 - on MDGs financial requirements, 190
 - on pain control, 1333
 - polio eradication efforts and, 254b
 - Poverty Reduction Strategy Papers (PRSPs), 235–236
 - sector adjustment loans from, 251
 - on skin diseases, 709
 - on surveillance, 1000
 - on user fees, 227
 - on water supply, 773
- World Bank Development Indicators**, 379
- World Conference on Education for All (1990)**, 1095
- World Development Report 1993: Investing in Health (World Bank)**, 13–14, 28, 251, 271, 1026b, 1180, 1194, 1197
- World Development Report 2004: Making Services Work for Poor People (World Bank)**, 171, 179n2
- World Food Program**, 352
- World Health Organization (WHO)**
- See also* names of programs starting with “WHO”
 - Ad Hoc Committee on Research Relating to Future Intervention Options, 106, 111, 113, 114
 - on adolescent burden of disease, 1110
 - on African trypanosomiasis, 451, 453, 454, 456, 458, 459, 462
 - on air pollution, 817
 - on alcohol-use disorders, 902
 - Alma Ata Declaration. *See* Alma Ata Declaration on Primary Health Care (1978)
 - on antimicrobial supplements in animal feed, 1041
 - on artemisinin derivatives, 1046
 - on asthma, 688
 - on blindness in childhood, 957
 - burden of disease estimates of, 279
 - on cancer, 572
 - on cardiovascular disease, 650
 - on cataract surgery, 1258b
 - on Chagas disease, 436, 438
 - Choosing Interventions That Are Cost-Effective initiative of, 860
 - Commission on Macroeconomics and Health. *See* Commission on Macroeconomics and Health
 - on contraceptive use, 1080
 - on COPD, 684
 - on cost-effective analyses, 261
 - on data collection, 1020
 - on defluoridation of water, 731
 - on dengue, 451, 452, 454, 455, 457, 461
 - on development assistance for health, 243
 - on diabetes, 592
 - on diarrheal diseases, 375, 378
 - on diphtheria, 394

- on drug accessibility, 1323, 1333, 1345–1346
- drug approval process and, 153, 1327–1328
- on drug research priorities, 1335
- on epilepsy, 631
- on eradication of infectious diseases, 1174
- Expanded Program on Immunization. *See* Expanded Program on Immunization (EPI)
- Framework Convention on Tobacco Control, 573, 882
- on gender differences, 196
- Global Health Initiative of, 1095
- guidelines for national drug policies, 1324–1325
- guinea worm control program, 167
- on hearing loss from excessive noise, 959
- on helminth infections, 470, 471, 474b
- on hemoglobinopathies, 665, 672
- on HIV/AIDS, 332, 346, 355, 1333
- on homeopathy, 1286, 1287
- human reproduction and tropical disease research programs, 106
- ILO-WHO Joint Committee on Occupational Health, 1131
- IMCI program. *See* integrated management of childhood illness (IMCI)
- on influenza, 684
- on interpersonal violence, 755, 756, 766
- on kidney and urinary system diseases, 697, 702, 703, 704
- on leishmaniasis, 451, 454, 455
- on leprosy, 437, 444
- on lymphatic filariasis, 436, 439
- on malaria, 88, 414–415, 1046, 1163
- on measles, 395
- on mental disorders, 613, 619–620, 1343
- Model List of Essential Drugs of, 1324–1325
- on mortality by risk factors, 11b
- mother-baby package of interventions of, 514
- multidrug therapy developed by, 441
- on musculoskeletal disorders, 963
- on neonatal deaths, 531–532, 539
- on neurological disorders, 627
- on newborn care, 535–536
- on occupational health risks, 1128, 1129, 1130, 1140
- on onchocerciasis, 437
- on oral and craniofacial diseases and disorders, 723–724
- oral health and education program of, 726, 731–732, 734
- on oral rehydration therapy, 378
- on palliative care and pain relief, 989–991, 990b
- on polio eradication, 121, 1164, 1171
- prequalification of drugs and vaccines by, 1327–1328
- Project Focus: Ensuring Immunization Safety, 1132
- Regional Office in Africa and integrated disease population surveillance, 1178
- on respiratory diseases of adults, 691
- on respiratory diseases of children, 488–489, 493–494
- on salt intake, 836
- on sexually transmitted infections, 319
- on skin diseases, 707
- smallpox eradication efforts of, 168, 1163–1164
- on sugar intake, 836
- on surveillance, 1000, 1007, 1009, 1011, 1042
- on syphilis, 314
- on TB, 36b, 289
- “3 x 5” program of, 1333
- training of epidemiologists, 1002
- on *Trichomonas vaginalis*, 315
- on unintentional injuries, 737, 741, 742
- on user fees, 1330
- on vaccine-preventable diseases, 394, 401, 1324
- on vaccines, 1324, 1325t, 1327
- on violence, 765, 766
- on water pollution, 829
- WHO-ILO Joint Effort on Occupational Health and Safety in Africa, 1134
- on yellow fever, 397
- World Health Organization-International Union against Tuberculosis and Lung Disease (WHO-IUATLD) Global Project**, 1043
- World Health Report 2000**, 1313
- World Health Report 2002: Reducing Risks, Promoting Healthy Life**, 121, 132, 788, 820, 1148, 1194, 1246
- World Medical Association**. *See* Declaration of Helsinki
- World Report on Violence and Health (2002)**, 765, 766
- World Summit for Children (1990)**, 558, 559
- World Trade Organization (WTO)**
 - Agreement on Agriculture, 220
 - Agreement on Technical Barriers to Trade, 220
 - TRIPS and, 150–152
- worms**. *See* guinea worm eradication; helminth infections
- years of life lost**, 28
- yellow fever**
 - control of, 1163
 - vaccine for, 121, 396–397, 1324, 1325
 - See also* vaccine-preventable diseases
- Yemen**
 - onchocerciasis in, 436, 957
 - polio in, 1170
- young adults**. *See* adolescents and young adults
- youth violence**, 763–764, 765
- Yugoslavia, malaria in**, 421
- Zambia**
 - African trypanosomiasis in, 458, 460
 - dental treatment in, 729
 - health service agency reform in, 93, 1315, 1318
 - hospitals in, 1343
 - IMCI program in, 1187
 - Kaposi’s sarcoma in, 730
 - malaria in, 421
 - primary care in, 1343
 - quality of health care in, 1344
 - sexually transmitted infections in, 323
- Zanzibar**
 - African trypanosomiasis in, 458, 460
- Zimbabwe**
 - African trypanosomiasis in, 458, 460
 - cervical cancer screening in, 205, 576, 577t
 - community-based programs in, 1066, 1067
 - contracting for health care services in, 189, 1347–1348
 - excreta disposal in, 782
 - hygiene promotion in, 785
 - infant mortality in, 1068
 - Kaposi’s sarcoma in, 730
 - malnutrition in, 1068
 - oral health and education program in, 726
 - primary health care nurses in, 1313
 - quality of health care in, 1297
 - regulation of health care in, 1296
 - road traffic injuries in, 749b
 - sexually transmitted infections in, 318
 - taxes on alcohol in, 218
 - traditional medicine in, 1283, 1284
- zinc deficiency**
 - costs and cost-effectiveness of interventions, 561, 565
 - diarrheal disease and, 378
 - human capital formation and, 562
 - IMCI and, 1180
 - mortality and, 554
 - research on, 564

