Index

A

A to Z Guide: Sex and Gender Influences on Health, 14
abdominal aortic aneurysm, 95
abdominal fat, 145–146
acetaminophen, 252
ACRWH, See Advisory Committee on Research on Women's Health
ADHD, 261
Administrative Supplements for Research on Sex/Gender Differences program, 8, 9–10, 106, 121, 140, 213, 216, 247, 255, 293
adolescent idiopathic scoliosis, 147
adolescents
  alcohol use and, 117, 121
  asthma in, 135
  cannabis use, 225
  cerebral perfusion and, 260
  contraception for, 170
  diabetes in, 204
  drug use/abuse in, 229
  HIV/AIDS and, 274, 294
  Internet obesity prevention programs, 292
  pregnancy in, 170, 271–272, 292
  risk-taking, 229–230
  sexual activity, risk reduction, 294–295
  sexual behavior, high-risk, 229–230
  stress in, 320–321
Advancing Novel Science in Women’s Health Research Program (ANSWHR), 11, 155–156, 199
Advisory Committee on Research on Women’s Health (ACRWH), viiii, 1
Africa, human health and heredity in, 329
  See also specific countries
African-American women
  AIDS in, 294
  criminal justice and health disparities, 270
  diabetes and heart disease risk, 204
  fibroids in, 250
  HIV/STI intervention for drug-involved, 233
  obesity in, 202, 291
  obesity prevention in girls, 272
  preeclampsia in, 290
  preterm birth in, 273
  spirituality, and coping with type 2 diabetes, 294
  stroke literacy and intent to call 9-1-1, 285
African Organization for Research and Training in Cancer (AORTIC), 81
Age-Related Eye Disease Study (AREDS), 91
age-related macular degeneration, 91
Agency for Healthcare Research and Quality (AHRQ), 19
aging, 106–115, 289–290, 318–319
  balance confidence and, 290
  cognition and, 106, 107, 109–111, 112–113
  fragility fractures and, 144
  mental health and, 261–262
  NIH research budget for, 61
  reproductive, 1–6
  sex and gender differences, 113–114
Agricultural Health Study (AHS), 244
AIDS, 123–124, 267, 294
  AIDS Clinical Trials Group (ACTG), 129, 139
  Centers for AIDS Research (CFAR), 130
  nevirapine-resistant mutations, 72
  See also HIV/AIDS
AIDS International Training and Research Program (AITRP), 300, 302–303
air pollution
  household, 245, 249, 303
  prenatal exposure to, 242
  alcohol, 116–122
    adolescents and, 117, 121
    binge drinking, 315
cancer and, 120
college drinkers, 118
effects on IBS, 289
fetal alcohol spectrum disorders (FASD), 118
pregnancy and, 118, 121, 315
sex/gender differences, 116–118, 121
stress and, 117
violence and, 118
young women, use in, 119–120
alcohol abuse, 116–122
prevention and treatment, 119–120
alcoholism, 116–122
twin study, 120
allergies, 122–143
Alzheimer’s disease, 106, 111, 175, 179
menopausal hormone therapy and, 109–110
monkey model of, 318–319
perimenopause and, 113
tamoxifen and, 110–111
animal models, 4, 7, 310, 324–325
Anita B. Roberts Lecture Series, 32
ANSWHR (Advancing Novel Science in Women’s Health Research), 11, 155–156, 199
antagonistic co-evolution of males and females, 254
antioxidants, 170
antibiotics
during pregnancy, 171–172, 317
in early life, 206–207
for UTIs, 212
antidepressants, 262, 263
antiepileptic drugs, 278, 280, 282
aspirin, 70, 79, 279
asthma, 97, 104, 135–136, 247
infant and childhood, 135–136
autoimmunity, 138
autoimmunity, 138
behavior, 106, 319–321
behavioral health, 261
behavioral studies, budget for, 62
bevacizumab, 77–78
biliary pain, 210
Bill & Melinda Gates Foundation, 57
binge drinking, 315
bioengineering, 158–166
See also imaging technologies
biomaterial-based breast cancer vaccine, 162
biomedical careers, women in, 19–35
See also career development; ORWH
biomedical career development activities
BIRCWH program, 8, 19–25, 156, 176, 246
annual meetings, 25
current awardees, 20–21

B
B-cell activation factor (BAFF), 196
behavior, 106, 313–321
behavioral health, 261
behavioral studies, budget for, 62
bevacizumab, 77–78
biliary pain, 210
Bill & Melinda Gates Foundation, 57
binge drinking, 315
bioengineering, 158–166
See also imaging technologies
biomaterial-based breast cancer vaccine, 162
biomedical careers, women in, 19–35
See also career development; ORWH
biomedical career development activities
BIRCWH program, 8, 19–25, 156, 176, 246
annual meetings, 25
current awardees, 20–21
directory of scholars, 25
K12 program, 19
ORWH support for, 19–20, 34
outcomes to date, 22–23
research highlights and topics, 23–25
statistics on awardees, 22–23
Web site, 25
birth. See childbirth
birth cohorts, 216
birth defects, 121–122, 179
bisphenol A (BPA), 242, 244, 317
bisphosphonates, 192–193
Black women. See African-American women
bladder disorders/health, 12–13, 217
blood disorders, 98
blood pressure, 166, 292
blood vessels, 16–17, 282
body fat, 312
bone biology, 144, 146, 191–193
bone cells, 146, 192
bone diseases, 64
bone formation, 146, 192
bone health, 108, 113, 146, 154, 192
bone mass, 192
bone mineral density (BMD), 144, 146, 173, 192, 289, 308–309
bone quality, 155
bone strength, 144, 145–146
botanical supplements, 308, 309
Bowel Control Awareness Campaign, 214
BPA. See bisphenol A
brachytherapy, 162
brachyury, 73
Brady, Kathleen, 222
brain, 300
  basal forebrain cholinergic neuron system, 175
BRAIN Initiative, 12, 283
Brain program, 303, 305
gut microbiota and, 267
hormones and, 146
innovative neurotechnologies (BRAIN Initiative), 12, 283
newborn brain injury, 174–175
prefrontal cortex, 259, 260
sex differences in, 175, 257–260
brain cancer, 72
BRAIN Initiative, 12, 283
Brain program, 303, 305
BRCA genes, 70, 78, 79, 209
breast cancer, 70, 72–75, 159–162
  alcohol and, 120
  biomaterial-based vaccine, 162
  brachyury and, 73
  BRCA genes, 70, 78, 79, 209
  CD44 as prognostic marker, 73
  CYP2D6 genotype in, 253–254
digital breast tomosynthesis (DBT), 159
double mastectomy vs. lumpectomy, 74
entinostat and, 74
environment and, 243, 247–248
EZH2 and triple-negative breast cancers, 73
GATA3 transcription factor, 72–73
health disparities in, 85–86, 288
imaging and treatment, 159–162
Latinas/Hispanics and, 85–86
literacy, 288
minorities and, 85
mortality rates, 70, 71
NIH research budget for, 60
NOS2 and, 73
obesity and, 75, 86
PALB2 gene, 70, 72
premenopausal, estrogens and, 75
prevention, 74–75, 243
risk factors, 75
screening, 73–74
Sister Study, 245
sun exposure and, 244
triple-negative (TNBC), 73
tumor margins, rapid imaging of, 161–162
unemployment after chemotherapy, 74
yoga and, 74
breast cancer treatment, 74, 208–209
chemotherapy, cognition and, 110–111
chemotherapy, unemployment after, 74
drug delivery systems, 159, 160, 161
NEET proteins, 252
PARP1 inhibitor, 209
radiofrequency ablation, with robotic haptic feedback, 161
sponge compound and, 254–255
symptom clusters and, 288
tamoxifen, 110–111, 253–254
thermally targeted drug delivery, 160
breast milk, 127, 291
breastfeeding, 179, 290
brown fat, 192
budget (NIH, for women’s health research), 59–67
calculation of, 59–60
by disease, condition, and special initiatives, 60–66
by sex, 67
Building Interdisciplinary Research Careers in Women’s Health. See BIRCWH
bupropion, 231
Burkitt lymphoma, 75
burning mouth syndrome (BMS), 188
buspirone, 231

c
C. elegans, 254
C-reactive protein (CRP), 293
cancer, 70–88
alcohol use and, 120
fertility preservation for female patients, 164–165
genes and, 70
global cancer research, centers, and programs, 83–84
incidence rates, 70–71, 72
low-cost technologies for low- and middle-income countries, 83
mortality rates, 70–71
Native Americans and, 274
NIH research budget for, 60
See also specific types of cancer
cancer, 225, 232–233
capacity building, 267, 300, 302
carboplatin, 79
cardiac annuncator, 164
cardiology, BIRCWH research in, 24
cardiovascular disease (CVD), 93, 94–97, 99–102
cognitive decline and, 110
cardiovascular research, sex bias in, 102
cardiovascular research, sex bias in, 102
career development, 19–35, 295–296
Anita B. Roberts Lecture Series, 32
BIRCWH program, 19–25, 156, 176
Committee on Research and Evidence to Promote Women in Scientific Careers, 30
Committee on Women of Color in Biomedical Careers (WOC), 29–30
continuing education, 33
Eunice Kennedy Shriver National Institute of Child Health and Human Development, 176
Fogarty International Center Global Health Program for Fellows and Scholars, 32
Foundation for Advanced Education in the Sciences High School Summer Student Program, 33
Intramural Program on Research on Women’s Health (IPRWH), 31
National Institute of Diabetes and Digestive and Kidney Diseases Travel Awards, 32
<table>
<thead>
<tr>
<th>Term</th>
<th>Page(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Institute of Nursing Research</td>
<td>295–297</td>
</tr>
<tr>
<td>National Institute on Aging</td>
<td>114–115</td>
</tr>
<tr>
<td>NIH Women in Science Web site</td>
<td>29</td>
</tr>
<tr>
<td>NIH Working Group on Women in Biomedical Careers</td>
<td>28–31, 34</td>
</tr>
<tr>
<td>Office of Intramural Training and Education (OITE)</td>
<td>32</td>
</tr>
<tr>
<td>Office of Research Infrastructure Programs (ORIP) programs</td>
<td>321–322</td>
</tr>
<tr>
<td>online courses: Science of Sex and Gender in Human Health</td>
<td>33, 34</td>
</tr>
<tr>
<td>ORWH career development activities</td>
<td>19–35</td>
</tr>
<tr>
<td>ORWH support of NIH Strategic Plan for Women’s Health Research</td>
<td>34</td>
</tr>
<tr>
<td>Reentry into Biomedical Research Careers</td>
<td>28, 34, 283</td>
</tr>
<tr>
<td>for veterinarians, in laboratory animal medicine</td>
<td>321–322</td>
</tr>
<tr>
<td>Women of Color Research Network (WoCRn)</td>
<td>29, 34, 115</td>
</tr>
<tr>
<td>Women’s Reproductive Health Research (WRHR) program</td>
<td>26–27, 34</td>
</tr>
<tr>
<td>Working Group initiatives for NIH employees</td>
<td>30–31</td>
</tr>
<tr>
<td>workplace culture, impact of</td>
<td>283</td>
</tr>
<tr>
<td>Carroll, Marilyn</td>
<td>223</td>
</tr>
<tr>
<td>cataracts</td>
<td>90–91</td>
</tr>
<tr>
<td>CBT. See cognitive behavior therapy</td>
<td></td>
</tr>
<tr>
<td>CD4+ T cells</td>
<td>313</td>
</tr>
<tr>
<td>cediranib</td>
<td>79</td>
</tr>
<tr>
<td>cell-cell communication systems, surrogates for</td>
<td>162–163</td>
</tr>
<tr>
<td>cell phone-based protocols</td>
<td>164</td>
</tr>
<tr>
<td>Cellular Signatures, Library of (LINCS)</td>
<td>330</td>
</tr>
<tr>
<td>Center for Point-of-Care (POC) Tests for Sexually Transmitted Diseases</td>
<td>162</td>
</tr>
<tr>
<td>Centers for AIDS Research (CFAR)</td>
<td>130</td>
</tr>
<tr>
<td>cerebrovascular events/disease. See stroke</td>
<td></td>
</tr>
<tr>
<td>Cerenkov imaging</td>
<td>161</td>
</tr>
<tr>
<td>cervical cancer</td>
<td>70–71, 75–78, 83</td>
</tr>
<tr>
<td>bevacizumab with chemotherapy</td>
<td>77–78</td>
</tr>
<tr>
<td>biopsies, multiple vs. single</td>
<td>76–77</td>
</tr>
<tr>
<td>HPV types and</td>
<td>76</td>
</tr>
<tr>
<td>HPV vaccines</td>
<td>77</td>
</tr>
<tr>
<td>national meeting in Costa Rica</td>
<td>84–85</td>
</tr>
<tr>
<td>Pap tests in older women</td>
<td>76</td>
</tr>
<tr>
<td>prevention</td>
<td>77, 85</td>
</tr>
<tr>
<td>screening</td>
<td>75–77, 82, 85</td>
</tr>
<tr>
<td>treatment</td>
<td>77–78</td>
</tr>
<tr>
<td>cervical cerclage</td>
<td>173</td>
</tr>
<tr>
<td>cervical mucus</td>
<td>163</td>
</tr>
<tr>
<td>cesarean delivery</td>
<td>172</td>
</tr>
<tr>
<td>CFS. See chronic fatigue syndrome</td>
<td></td>
</tr>
<tr>
<td>chaetoglobosin</td>
<td>253</td>
</tr>
<tr>
<td>Chagas disease</td>
<td>132</td>
</tr>
<tr>
<td>CHD. See coronary heart disease</td>
<td></td>
</tr>
<tr>
<td>chemotherapy</td>
<td></td>
</tr>
<tr>
<td>for breast cancer</td>
<td>74, 110–111</td>
</tr>
<tr>
<td>cognition and</td>
<td>110–111</td>
</tr>
<tr>
<td>during pregnancy</td>
<td>242–243</td>
</tr>
<tr>
<td>nanoparticle delivery</td>
<td>74, 160</td>
</tr>
<tr>
<td>tamoxifen</td>
<td>110–111, 253–254</td>
</tr>
<tr>
<td>unemployment after</td>
<td>74</td>
</tr>
<tr>
<td>child care</td>
<td>30, 31</td>
</tr>
<tr>
<td>child health</td>
<td></td>
</tr>
<tr>
<td>oral health</td>
<td>194</td>
</tr>
<tr>
<td>urinary tract infections and</td>
<td>212</td>
</tr>
<tr>
<td>child sexual abuse</td>
<td>108</td>
</tr>
<tr>
<td>childbirth</td>
<td>290–291</td>
</tr>
<tr>
<td>birth defects</td>
<td>121–122, 179</td>
</tr>
<tr>
<td>chronic pain following</td>
<td>252–253</td>
</tr>
<tr>
<td>low birthweight</td>
<td>174, 291</td>
</tr>
<tr>
<td>preterm</td>
<td>173, 263, 273, 317</td>
</tr>
<tr>
<td>stillbirths</td>
<td>164, 178</td>
</tr>
<tr>
<td>childhood abuse</td>
<td>229</td>
</tr>
<tr>
<td>childhood pneumonia, cell phone-based protocols</td>
<td>164</td>
</tr>
<tr>
<td>children, environmental health and disease</td>
<td>247</td>
</tr>
<tr>
<td>chorioamnionitis</td>
<td>317</td>
</tr>
<tr>
<td>chronic conditions</td>
<td>288–289</td>
</tr>
<tr>
<td>chronic fatigue syndrome (CFS)</td>
<td>122, 199, 281</td>
</tr>
<tr>
<td>Chronic, Non-Communicable Diseases and Disorders Across the Lifespan</td>
<td>299, 301, 305</td>
</tr>
</tbody>
</table>
chronic pain, 16, 151–152, 188, 277–278
chronic overlapping pain conditions, 188, 199, 284
chronic pelvic pain, 12–13, 211, 215
following childbirth, 252–253
migraines, 279–280
sleep disturbances and, 16
cisplatin, 253
claudins, 113
Clayton, Janine, v, 4, 7
cleft lip/palate, 198
clinical research
coding categories, 41
definition of, 40
enrolling pregnant women in, 56–57
inclusion of women and minorities as subjects, 4–5, 37–57
monitoring adherence to NIH inclusion policy, 37–57
peer review, 38
Summary Report of NIH Inclusion Data, 40–55
See also inclusion of women and minorities; phase III clinical trials
Clinical Research, Inclusion, and You (seminar), 55–56
Clinical Trials Network (CTN), 235
cocaine, 223, 226, 231
prenatal, 228–229
cofunded research initiatives, 8, 12–14
cognition, 106, 260, 261
aging and, 106, 107, 109–111, 112–113
breast cancer chemotherapy and, 110–111
cognitive aging, 106, 112–113
hormone therapy and, 109–110, 112–113
hypogonadism and, 259
KEEPS-Cog study, 106, 110
menopause and, 261–262, 309
tamoxifen and, 110–111
cognitive aging, 106, 112–113
cognitive behavior therapy (CBT), 151
cognitive decline, 110–111, 303
cognitive disorders and dementia, 303
cognitive health, 106, 109–110
Collins, Francis, 7, 222
colorectal cancer, 60, 70, 71
Committee on Research and Evidence to Promote Women in Scientific Careers, 30
Committee on Women of Color in Biomedical Careers (WOC), 29–30
communication disorders, 183–187
complementary and integrative health, 307–310
conferences and workshops, 14–17
See also specific Institutes
congenital adrenal hyperplasia (CAH), 169
Congressional Caucus for Women's Issues, 1
contraception, 167, 170, 178, 314–316
female contraceptive development, 177
nonhormonal contraceptive, 315–316
nonsurgical permanent contraception, 315
oral contraceptives, 174, 224
ovary-based contraceptives, 315
polidocanol foam (PF), 315
Sperm Acrosomal SLLP1 Binding (SAS1B), 316
Contraceptive Choice Project, 170
cookstoves, 245, 303, 304
Coordinating Committee on Research on Women's Health (CCRWH), 1, 7, 59
corneal endothelial dystrophy, 89
coronary artery disease (CAD), 101
coronary heart disease (CHD), 95, 101, 103
craniofacial anomalies, 197–198
craniosynostosis, 198
criminal history, effects on women's health, 271
criminal justice system
African-American women and, 270
health disparities and, 270
interventions for women and girls in, 230
re-entry needs of women, 261
teens in, HIV/AIDS and, 274
Crohn's disease, 137
cryopreservation, 316
CVD. See cardiovascular disease
CYP2D6 genotype, 253–254
cystic fibrosis, 98
cytomegalovirus (CMV), 184

D
dapivirine, 126
deafness, 183–187
Deepwater Horizon Gulf Oil Spill (2010), 249
depression, 258, 262
  aging and, 107, 108
  antidepressants, 262, 263
  cognitive decline and, 111
  intensive lifestyle intervention and, 205
  major depressive disorder (MDD), 108
  maternity leave benefits and, 111
  perimenopausal, 108
  postpartum, 172, 258
  recurrence, menopause and, 262
  STOP-PD (psychotic depression) trial, 266
  treatment, 262, 263
diabetes, 202, 203–205, 218
  bone strength in, 145
  care, 216
  gestational, 178, 202, 204–205, 208, 271
  intensive lifestyle intervention, 203–204, 205
  Korean immigrants with, 294
  Look AHEAD trial, 205
  metformin for, 203
  mobile app in Spanish/English, 271
  obesity and, 312
  pesticides and, 244
  prevention, 203–204, 216
  risk of, 203–204
  sex and gender differences in, 13
  spirituality in coping with, 294
  TODAY study, 204, 215
  type 2, 203–204, 294
  in youth, 204
Diabetes Prevention Program (DPP), 13, 203–204, 217–218
Diabetes Prevention Program Outcomes Study (DPPOS), 13, 203, 215, 217–218
diet, 292, 319
dietary supplements, 20, 307–308, 309
digestive conditions and diseases, 202, 209–210, 220
digital breast tomosynthesis (DBT), 159
disinhibition, 226–227
disorders or differences of sex development (DSD), 169, 179
dissemination activities, 14–17
Division of Program Coordination, Planning, and Strategic Initiatives (DPCPSI), 1
DNA methylation, 241, 242, 278
Down syndrome, 175, 179
DPP (Diabetes Prevention Program), 13, 203–204, 217–218
DPP Outcomes Study (DPPOS), 13, 203, 215, 217–218
DREAM program (NIMHD), 274
drinking. See alcohol entries
drug abuse, 221–239
  disinhibition in, 226–227
  health disparities and, 232–233
  treatment, gender issues in, 225–227
drug addictions
  genetic variants and, 231–232
  HIV/STI intervention, 233
  treatment medications for, 230–232
drug delivery systems, 74, 150, 159, 161
  thermally targeted, 160
drug use in pregnancy, 172, 227, 228–229
dry-eye, 89–90
dry mouth, 195
dura mater, 279–280
dynorphin, 228
E

eating disorders, 266
elastin-like polypeptide nanoparticles (ELPs), 160
ELITE trial, 113
embryo quality, 179
emergency care, 284
emotional feeding, 319
emotions, 261
endocrine disease, imaging of, 163
endocrine disruptors, 242, 244, 248
endocrinology, 24, 62, 208–209, 219
endoglin, 290
endometrial cancer, 78
endometriosis, 170
endoxifen, 253–254
entinostat, 74
environment, 240–251
  Deepwater Horizon Gulf Oil Spill, 249
  factors in reproductive disorders, 254
  health effects of, 65
  toxins, prenatal or perinatal exposure, 318
epigenetic determinants, 273
epilepsy, 277, 278, 280
Escherichia coli, uropathogenic (UPEC), 211
ESTAMPA, 82
estradiol, 189, 280, 316
estrogen receptors (ER), 146
estrogen replacement. See hormone therapy
estrogenic effects of off-the-shelf hair and skin care products, 243
estrogens, 259, 316
  botanical, 309
  breast cancer risk, 75
  environmental, 65
  gene expression in uterus and, 242
  measuring exposure and metabolism, 85
  neuroprotection from MS, 281
  See also menopausal hormone therapy
ethnicity. See race/ethnicity

Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD), 19, 26, 39, 57, 167–182
BIRCWH awardees, 20–21
branches of, 167–168
career development for women in science, 176
Contraceptive Discovery and Development Branch (CDDDB), 167
Fertility and Infertility (FI) Branch, 167
funding initiatives, workshops, and conferences, 177–180
Gynecological Health and Disease Branch (GHDB), 167
health disparities, 180–181
Health Equity Seminar Series, 180
inclusion, 176–177
Maternal and Pediatric Infectious Disease Branch (MPIDB), 167–168
NIH Strategic Plan, 168–169
Obstetric and Pediatric Pharmacology and Therapeutics Branch (OPPTB), 168
Pregnancy and Perinatology Branch (PPB), 168
research accomplishments in women’s health, 170–174
research advances in sex and gender influences on health and disease, 174–176
Subcommittee on Inclusion Governance and, 39
exercise, benefits of, 108
extracellular matrix, 162–163
eye disorders, 64, 89–93

F
Family Check-Up (FCU) intervention, 229–230
family planning, 302
fatigue. See chronic fatigue syndrome
fecal incontinence, 217, 220
fertility, 167, 314–316
  binge drinking and, 315
  contraception and, 315–316
cryopreservation, 316
infertility and, 164–165, 167, 170, 178
preservation in cancer patients, 164–165
fetal alcohol spectrum disorders (FASD), 118
fetal cells, role in stroke recovery, 280
fetal MRI, 163
fetal neurological assessment, 164
fetal ventriculomegaly, 163
fetus, maternal undernutrition and, 318
fibroids, 173, 180, 250
fibromyalgia, 151–152
FOAs (funding opportunity announcements), 7–8
focal dermal hypoplasia (FDH), 312
Fogarty International Center, 32, 299–307
accomplishments and activities, 245, 300–304
AIDS International Training and Research Program (AITRP), 300, 302–303
Brain program, 303, 305
Chronic, Non-Communicable Diseases and Disorders Across the Lifespan, 299, 301, 305
funding initiatives, workshops, and conferences, 305–306
Global Brain and Nervous System Disorders Research Across the Lifespan, 300, 303
Global Health Program for Fellows and Scholars, 299, 301–302, 305
health disparities, 306
HIV Research Training Program, 303, 305
household air pollution, 303
inclusion, 305
International Research Scientist Development Award, 299, 300–301
International Tobacco and Health Research and Capacity Building Program, 300, 302
Medical Education Partnership Initiative (MEPI), 304
Mobile Health (mHealth) program, 299, 301
NIH Strategic Plan, 304
preventing mother-to-child transmission of HIV (PMTCT), 300, 303–304, 306
STEM efforts, 305
Trauma and Injury Research Training Program, 299, 300, 306
Fonds de Recherche du Québec (FRQ), 31
Food and Drug Administration (FDA), 9, 33, 76, 90
foodborne pathogens, 132
fractures/fracture risk, 145–146, 289
Fragile Families Study, 271
fragile X, 179, 207
Framingham Heart Study, 100
free fatty acid (FFA) flux, 175
funding opportunity announcements (FOAs), 7–8
Fusion Inhibitor, 313–314

G

gallbladder, 210
gamete quality, 179
gastric bypass surgery, 205–206
gender
antagonistic co-evolution of males and females, 254
inclusion of both sexes in clinical research, 4–5, 10, 37–57
See also sex; sex and gender factors; sex/gender differences
genetics, BIRCWH research topics, 24
genistein, 308, 309
genital herpes, 134, 295
genital ulcers, 133–134
genotype-tissue expression (GTEx), 329
gestational diabetes, 178, 202, 204–205, 208
mobile app in Spanish for women with prior, 271
Ghana, 301
glaucoma, 91–92
Global Brain and Nervous System Disorders Research Across the Lifespan, 300
Global Grand Challenges (NIMH), 264
Global Health Program for Fellows and Scholars, 299, 301–302, 305
Global Health program (NIH Common Fund), 329
Global Research Hubs (NIMH), 264
GlobalTracks newsletter, 266
gonadotropin-releasing hormone (GnRH), 314–315
Graves’ disease. See thyroid eye disease
guanfacine, 223, 231
gut microbes, 149, 267, 309
gynecologic health, 167
gynecology, BIRCWH research topics, 24

H

H3Africa, 329
HAPO study, 208
headache. See migraines
health disparities, 269–276
in cancer, 85–86, 288
cardiometabolic and heart disease, 103–104
in criminal justice system, 270
Deepwater Horizon Gulf Spill and, 249
Eunice Kennedy Shriver National Institute of Child Health and Human Development, 180–181
Fogarty International Center, 306
Get in the GROOVE!, 323
Health Equity Seminar Series (NICHD), 180
in Korean immigrants with diabetes, 294
National Cancer Institute, 85–86
National Heart, Lung, and Blood Institute, 103–104
National Institute of Allergy and Infectious Diseases, 140–141
National Institute of Biomedical Imaging and Bioengineering, 166
National Institute of Dental and Craniofacial Research, 193–194, 200
National Institute of Diabetes and Digestive and Kidney Diseases, 217–218
National Institute of Environmental Health Sciences, 249
National Institute of Mental Health, 257, 267–268
National Institute of Nursing Research, 293, 294
National Institute on Aging, 114
National Institute on Drug Abuse, 232–233
National Institute on Minority Health and Health Disparities, 274, 276
Native Americans, 274
Office for Research on Disparities and Global Mental Health, 257, 263
Office of Research Infrastructure Programs, 323
oral health, 193–194, 273
hearing, 186
heart disease, 93
heart transplantation, 293
The Heart Truth, 99–100
hepatic glutathione (GSH), 252
hepatitis E virus (HEV), 134
heroin, 226
herpes simplex virus, 133–134, 315
High Risk, High Reward program, 329–330
high school summer student program, 33
hip fractures, 145
Hispanic Community Health Study, 100, 103
Hispanic women, 270–271, 292
AIDS in, 294
breast cancer and, 85–86
mobile app for diabetes in Spanish, 271
Project SAFE in Spanish (C-SEGURA), 270–271
HIV (human immunodeficiency virus), 123–130
cognition and, 261
estimating incidence of, 128
family planning and, 302
life expectancies, 124–125, 129
menstrual cycle phase and, 314
natural history of, 124
oral health and, 197
osteoporosis and, 130
President’s Emergency Plan for AIDS Relief (PEPFAR), 300
prevention, 125–129, 140, 267, 274
prevention, intimate partner violence and, 259
Research Training Program (Fogarty Center), 303, 305
risk factors for women in the U.S., 128–129
risk perception in college women, 295
superinfection, 124
treatment in criminal justice settings, 230
vaccines and vaccination, 128, 273, 313
vaginal transmission, preventing, 313, 314
Women’s Interagency HIV Study (WIHS), 123, 124, 139
adolescent girls and, 274, 294
antiretroviral therapy (ARV), 122, 123, 129–130, 133–134
ASPIRE Trial, 126
control of virus replication, 312–313
epidemiologic research, 124–125
Fusion Inhibitor and, 313–314
genetic loci, 312–313
genital ulcers and, 133–134
IeDEA, 125, 139
intravaginal ring (IVR), 126
Native Americans and, 267
prevention, 125–129, 140, 274, 313–314
risk of neonatal vaccination, 313
therapeutics research, 129–130
topical microbicides, 125–127, 139
UNAIDS, 123
vitamin D and, 130
VOICE trials, 125–126
homeless women, 119
hormone therapy
bone density and, 173
menopausal, 109–110, 112–113, 262
risks of, 100
See also sex hormones
hot flashes, 289, 309
nonhormonal treatment for (MsFLASH), 109, 112, 114
household air pollution, 245, 249, 303
HPV (human papillomavirus), 70, 71, 76, 81–82, 133
cancers associated with, 70, 71, 76
cervical cancer and, 76
oral infection, 195
oropharyngeal cancer and, 78, 81
tests for, 75, 76, 84, 85
HPV vaccines, 70, 77, 78, 82
human development. See Eunice Kennedy Shriver
National Institute of Child Health and Human Development (NICHD)
human immunodeficiency virus. See HIV
human papillomavirus. See HPV
Human Placenta Project, 168, 180
hypertension
idiopathic intracranial hypertension (IIH), 92
pregnancy-related, 110
hypogonadism, 259

I

IBS. See irritable bowel syndrome
idiopathic intracranial hypertension (IIH), 92
IeDEA (International Epidemiologic Databases to Evaluate AIDS), 125, 139
imaging technologies, 158–166
breast cancer, 159–162
Cerenkov-specific contrast agents, 161
digital breast tomosynthesis (DBT), 159
digital specimen tomosynthesis, 161
early disease detection and, 159
magnetic resonance elastography, 160
MRI, 159–160, 161
near-infrared light imaging with ultrasound guidance, 160–161
neuroimaging, 260
proton-electron double-resonance imaging, 161
rapid imaging of breast tumor margins, 161–162
robotic haptic feedback, 161
steroid-based contrast agents for MRI, 163
for temporomandibular joint, 190–191
ultrasound, 160–161, 163–164
volumetric imaging, 161
whole-breast MRI at 3.0T, 159–160
immune disorders, NIH research budget for, 63
immune function, 319–320
immune-mediated diseases, 135–138
immunization. See vaccines
immunology, 135–138, 267
IMPAACT trial, 127
inclusion of women and minorities as subjects in clinical research, 4–5, 10, 37–57
adherence to NIH policy on, 37–57
business processes and procedures, 39
Clinical Research, Inclusion, and You (seminar), 55–56
communication and outreach concerning, 38, 55
data for monitoring, 37, 39
historical perspective, 37
inclusion enrollment data, 38, 40–55
inclusion monitoring activities of NIH, 38
inclusion of pregnant women, 56–57
Inclusion Policy Officer (NIH), 39
interpreting NIH inclusion data, 40–41
key trends, summary, 41
monitoring adherence to NIH policy on, 37–57
NIH coding categories, 41
NIH efforts to re-engineer, 39
NIH policy on, 37
NIH Revitalization Act, 37
NIH Task Force on, 39
NIH Workshop on Enrollment and Retention of Participants in Clinical Trials, 55
ORWH activities related to, 55–57
peer review and, 38
phase III clinical trials, 37, 38, 39, 45–47, 53–54
population data analysis, 38
staff training in inclusion policy, 83
Summary Report of NIH Inclusion Data, 40–55
Women’s Health: NIH Increased Efforts to Include Women in Research (report, 2000), 37
See also specific Institutes and Centers
inclusion of women and minorities: data on, 40–55
acceptability of inclusion plans, 42
coding categories, 41
enrollment of minorities in clinical research, 41, 48–50, 53–54
enrollment of minorities in phase III clinical trials, 41, 50–54
enrollment of women in clinical research, 41, 44, 53–54
enrollment of women in phase III clinical trials, 41, 45–47, 53–54
interpretation of inclusion data, 40–41
NIH funding life cycle and, 40
portfolio composition, 40
race/ethnicity: aggregate enrollment, 48–54
race/ethnicity: enrollment in clinical research, 48–50, 53–54
race/ethnicity: enrollment in phase III clinical trials, 50–54
sex/gender: aggregate enrollment, 43–47, 53–54
sex/gender: trends in clinical research, 43–45, 53–54
sex/gender: trends in phase III clinical trials, 45–47, 53–54
summary of trends, 41, 55
incontinence
  fecal, 217, 220
  urinary, 12, 289–290
India, intimate partner violence in, 301
infectious diseases, 122–143
  BIRCWH research topics, 24
  maternal and pediatric, 167–168
  NIH research budget for, 63
infertility, 164–165, 167, 170, 178, 315
  mitochondrial replacement therapy and, 315
  See also fertility
inflammation, 155, 272
influenza, 132–133
during pregnancy, 172
vaccination during pregnancy, 133, 240
infrastructure. See Office of Research Infrastructure Programs
institutes and Centers, NIH, 69–330
insulin-like growth factor-I, 72
intensive lifestyle intervention (ILI), 203–204, 205
Interdisciplinary Symposium, 15, 17
International Research Scientist Development Award (IRSDA), 299, 300–301
International Tobacco and Health Research and Capacity Building Program (TOBAC), 300, 302
intimate partner violence (IPV), 229, 259, 301
alcohol and, 118
in India, 301
research symposium, 15
Intramural Program on Research on Women’s Health (IPRWH), 31
irritable bowel syndrome (IBS), 202, 209–210, 289

J
Jackson Heart Study, 100, 103
joint replacement, total, 154

K
“Keep the Thread” Program, 31, 34
KEEPS (Kronos Early Estrogen Prevention Study), 96
    KEEPS-Cog, 106, 110
kidney diseases, 64, 202–221
Kronos Early Estrogen Prevention Study. See KEEPS

L
L. reuteri 6475, 309
laboratory animal medicine, 321–322
language associated with women’s health research, 7
Latina women
drug use, 232–233
physical activity, 292
See also Hispanic women
LGBTI (lesbian/gay/bisexual/transgender/intersex) research, 169–170, 262
Library of Integrated Network-Based Cellular Signatures (LINCS), 330
life-limiting conditions, 288–289
LIFE-Moms, 208, 213, 217–218
lifestyle interventions
    for cardiovascular disease, 205
    for diabetes, 203–204, 205
    for pregnant women (LIFE-Moms), 208, 213
LINCS, 330
Listeria monocytogenes, 132
Loan Repayment Program (NIMHD), 274–275
Look AHEAD trial, 205
low- and middle-income countries, 83, 129, 245, 264
low birthweight infants, 174, 291
lower urinary tract symptoms, prevention of, 12
lung cancer, 60, 70, 78
lung diseases, 93, 97–98
lupus (systemic lupus erythematosus), 137, 144, 150–151, 152–153
malaria and, 131
STOP Lupus, 155
Twitter chat on, 156
videos of patients, 153
lymphangioleiomyomatosis (LAM), 93, 97–98

M
macular degeneration, 91
magnetic resonance elastography, 160
magnetic resonance imaging. See MRI
major depressive disorder (MDD), 108
malaria, 75, 131
Malawi, 301, 302
mammalian target of rapamycin complex 1 (mTORC1), 97
MAPP, 12–13, 211, 215
maraviroc, 126
maternal infectious disease, 167–168
maternal oral health, 194
maternal undernutrition, 318
matrix metalloproteinase (MMP), 192
McKee, Sherry, 223
MeCP2 isoforms, 281
meetings, conferences, and workshops, 14–17
memory, 106
menarche, 181
menopausal hormone therapy, 109–110, 112–113, 262
   ELITE trial, 113
   window of opportunity for, 109–110
menopause, 106, 109–110, 289–290, 319
   antidepressant responses, 262
   cognition and, 261–262, 309
   complementary and botanical approaches, 308–309
   depression and, 262
   fat intake and stroke, 279
   fracture risk and, 289
   nonhormonal treatment for symptoms of (MsFLASH), 109, 112, 114
   predictors of cardiovascular disease in, 96
   SWAN study, 107–109, 112
menstrual cycle, HIV susceptibility and, 314
mental health, 119, 256–269
   aging and, 261–262
   global research and capacity building, 267
   NIH research budget for, 63
   pregnancy and postpartum period, 262–263
   severe mental illness, 267
   Women’s Mental Health Program, 257
   Women’s Mental Health Team, 257
mentoring, 19, 29–30, 34
metabolic conditions, 207, 213
metabolic syndrome, 111, 308
metabolism, 62, 312
metabolomics, 330
metformin, 203
methotrexate, 148
mHealth, 299, 301
Mobile Health, 299, 301
Mobile Laboratory Coalition, 324
MOMDADDOS, 246–247
MONEAD study, 280
monkeys, 311–312
MOON study, 148
morphine, 227–228
MRI (magnetic resonance imaging), 159–161
   fetal and newborn, 163
microbiome, 138, 206–207, 267, 293
migraines, 185, 199–200, 279–280, 280, 284
military
   Army STARRS study, 266
   health of women in, 179
minorities, 269–276
   adolescent pregnancy, reducing, 271–272
   Committee on Women of Color in Biomedical Careers (WOC), 29–30
   criminal history/criminal justice system and, 270–271
   diversity in health-related research, 283
   enrollment data for clinical research, 41, 48–50, 53–54
   enrollment data for phase III clinical trials, 41, 50–54
   Healthy Aging in Neighborhoods of Diversity, 114
   inclusion as subjects in clinical research, 37–57
   Project SAFE (Sexual Awareness for Everyone), 270–271
   racial/ethnic categories (NIH), 37, 40
   sexual and gender minorities, health of, 169–170, 176
   stereotype threats, 253
   telemedicine and, 272
   Women of Color Health Data Book, 30, 56
   Women of Color Research Network (WoCRn), 29, 34, 115
   See also health disparities; inclusion of women and minorities; race/ethnicity
mission statement, vii, 1–2, 7
mitochondrial replacement therapy, 315
Mobile Health, 299, 301
Mobile Laboratory Coalition, 324
MOMDADDOS, 246–247
MONEAD study, 280
monkeys, 311–312
MOON study, 148
morphine, 227–228
MRI (magnetic resonance imaging), 159–161
   fetal and newborn, 163
robotic haptic feedback system and, 161
steroid-based contrast agents, 163
whole-breast, 159–160
MS. See multiple sclerosis
MsFLASH Network, 109, 112, 114
mucosal immunology, 136
mucus, 163
Multidimensional Treatment Foster Care (MTFC), 230
multiple sclerosis (MS), 137–138, 277, 278, 281
CombiRx trial, 278
DNA methylation and, 278
estrogen and, 281
musculoskeletal diseases, 64, 144–158
myalgic encephalomyelitis/chronic fatigue syndrome (ME/CFS), 199, 281
mycobacterial infections, 134–135
Mycoplasma genitalium, 134
myopia, 92
MyPregnancy Initiative, 168–169

nanoparticle delivery systems, 74, 159, 160, 161
National Cancer Institute (NCI), 20, 70–88
accomplishments and activities, 72–80
funding initiatives, workshops, and conferences, 80–85
global initiatives, 81–85
health disparities, 85–86
STEM efforts, 80
Web site, 71
Women's Health Officer, 71
National Center for Complementary and Integrative Health (NCCIH), 307–310
botanical dietary supplements, 308
dietary supplements, 307–308
menopause, 308–309
metabolic syndrome, 308
NIH Strategic Plan, 309
reproductive health, 308

National Eye Institute (NEI), 89–93
accomplishments and highlights, 89–92
corneal diseases, 89
extraocular diseases, 89–90
initiatives, 92–93
lens, 90–91
myopia, 92
optic neuropathies, 91–92
retinal diseases, 91
National Heart, Lung, and Blood Institute (NHLBI), 93–105
abdominal aortic aneurysm, 95
blood disorders, 98
education/outreach activities, 99–100
funding initiatives, workshops, and conferences, 102
health disparities, 103–104
The Heart Truth, 99–100
inclusion, 100
lung diseases, 97–98
menopausal predictors of cardiovascular disease, 96
obesity, 95
preeclampsia, 94
sex- and age-dependent drug responses, 96–97
sex-dependent differences in heart cells, 94–95
sleep disorders, 98–99
STEM efforts, 101–102
Women's Health Initiative (WHI), 100–101, 102
Women's Ischemia Syndrome Evaluation (WISE), 96
National Institute of Allergy and Infectious Diseases (NIAID), 20, 56, 122–143
Centers for AIDS Research (CFAR), 130
conferences and publications, 140
health disparities, 140–141
HIV/AIDS, 123–130
immunology and immune-mediated diseases, 135–136
inclusion activities, 122, 139
infectious diseases other than HIV/AIDS, 130–135
NIH Strategic Plan, 138–139
research initiatives, 139–140
STEM efforts, 139
Trans-NIAID Women’s Health Research Work Group, 138–139
National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS), 144–158
adolescent idiopathic scoliosis, 147
anterior cruciate ligament injuries, 147–148
autoimmune and rheumatic diseases, 154
bone biology, 146, 154
fibromyalgia, 151–152
funding initiatives, workshops, and conferences, 154–156
health disparities, 156
inclusion, 153
information dissemination, 153
lupus, 150–151, 152–153, 156
NIH Strategic Plan, 152
osteoarthritis (OA), 147–148, 154, 155
osteoporosis and fracture risk, 145–146
rheumatoid arthritis (RA), 144, 148–150, 152
scleroderma, 151
skin health, 152
National Institute of Biomedical Imaging and Bioengineering (NIBIB), 158–166
breast cancer, 159–162
funding initiatives, workshops, and conferences, 165–166
health disparities, 166
inclusion, 165
NIH Strategic Plan, 165
other cancers, 162
reproductive health, 162–165
STEM efforts, 165
See also imaging technologies
National Institute of Child Health and Human Development. See Eunice Kennedy Shriver
National Institute of Child Health and Human Development (NICHD)
National Institute of Dental and Craniofacial Research (NIDCR), 20, 187–201
autoimmune diseases and Sjögren’s syndrome, 187, 195–197
conferences and workshops, 200
craniofacial anomalies, 197–198
health disparities, 193–194, 200
HIV linked to oral health, 197
initiatives (FOAs), 199–200
maternal health and child oral health, 194
mineralized tissue studies, 191–193
NIH Strategic Plan, 198–199
oral HPV infection, 195
pain research, 188–189
periodontal health, 194
salivary hypofunction (dry mouth), 195
temporomandibular joint and muscle disorders, 187, 189–191
National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), 9, 32, 202–221
diabetes, 203–205, 218
digestive diseases, 209–210, 220
endocrinology, 208–209, 219
funding initiatives, workshops, and conferences, 215–217
health disparities, 217–218
Healthy Pregnancy Program, 207–208, 219
inclusion, 214
information and education initiatives, 214–215
NIH Strategic Plan, 213
obesity, 205–207, 218–219
program announcements, 216
Program Director for Women’s Urologic Health, 214
sex differences in metabolic and other conditions, 207, 213, 219
STEM efforts, 214
urologic health, 210–212, 213, 220
National Institute of Environmental Health Sciences (NIEHS), 20, 240–251
accomplishments and activities, 240–244
BIRCWH awardee, 20
endocrine disruptors, 242, 244
funding initiatives, workshops, and conferences, 247–249
health disparities, 249
household air pollution and cookstove research, 245, 249
inclusion, 246
National Toxicology Program, 242–243, 244–245
prenatal exposures, 228–229, 242, 243–244
Sister Study, 245
STEM efforts, 246–247
Women’s Health and Environment Across the Entire Lifespan, 246
National Institute of General Medical Sciences (NIGMS), 251–256
accomplishments and activities, 252–255
NIH Strategic Plan, 252–255
National Institute of Mental Health (NIMH), 20, 256–269
accomplishments and activities, 257–268
alliances and partnerships, 263–265
clinical trials that analyzed data by sex, 266
communication and social networking, 265
educational outreach efforts, 265
funding initiatives, workshops, and conferences, 266–267
Global Grand Challenges, 264
Global Research Hubs, 264
health disparities, 257, 267–268
inclusion efforts, 266
ORDGMH and, 257, 263
outreach to advocacy groups, 264–265
risk factors, etiology, course of illness, and therapeutics, 260–263
sex differences in brain and behavior, 257–260
sex differences in neuroimaging, 260
STEM efforts, 265–266
Women’s Mental Health Program, 257
Women’s Mental Health Team, 257
National Institute of Neurological Disorders and Stroke (NINDS), 20, 277–287
chronic fatigue syndrome, 281
chronic pain, 277–278, 279–280
epilepsy, 277, 278, 280
funded projects, 279–282, 285
funding initiatives, workshops, and conferences, 283–284
inclusion, 282–283
mission, 277
multiple sclerosis (MS), 277, 278, 281
NIH Strategic Plan, 282
research findings, 277–279
Rett syndrome, 277, 278–279, 281
STEM efforts, 283
stroke, 277, 279, 280–281
National Institute of Nursing Research (NINR), 287–299
accomplishments and activities, 288–292
aging and menopause, 289–290
chronic and life-limiting conditions, 288–289
health disparities, 293, 294
HIV/AIDS and sexual health, 294–295
inclusion, 293
initiatives, 293
NIH Strategic Plan, 296–297
obesity, physical activity, and disease prevention, 291–292
pregnancy, childbirth, and perinatal health, 290–291
STEM efforts, 295–296
women’s health and, 288, 293–294
National Institute on Aging (NIA), 106–115
Alzheimer’s disease, 106, 111
behavioral and social research, 106, 111
career development, 114
cognitive health and decline, 106, 109–111
communication and education initiatives, 114
health disparities, 114
menopausal hormone therapy, 109–110, 112–113
menopausal transition, 109–110
ovarian aging, 109, 113
reproductive health and menopause, 106
research initiatives, 112–113
sex and gender analyses, 113–114
SWAN study, 106, 107–109, 112
WHIMS (Women’s Health Initiative Memory Study), 106, 112
WHISCA (Women’s Health Initiative Study of Cognitive Aging), 106
women’s aging and health, 107–109
Women’s Health Liaison, 107
National Institute on Alcohol Abuse and Alcoholism (NIAAA), 116–122
cancer and alcohol use, 120
initiatives, workshops, and program announcements, 121–122
pregnancy, 118
prevention and treatment, 119–120
sex/gender differences, 116–118, 121
violence and alcohol use, 118
National Institute on Deafness and Other Communication Disorders (NIDCD), 183–187
balance disorders, 185–186
cytomegalovirus, 184
otosclerosis, 184–185
voice disorders, 183–184
National Institute on Drug Abuse (NIDA), 10, 20, 221–239
BIRCWH awardees, 20, 21
cannabis—sex differences, 225
clinical studies, sex differences and treatment strategies, 225–227
Clinical Trials Network (CTN), 235
health disparities, 232–233
interventions for women and girls in the criminal justice system, 230
leadership, 222
opioid use and receptors, 227–228
prenatal drug exposure, 228–229
preventing high-risk sexual behavior in youth, 229–230
publications, 236–237
SCOR program, 222–223
staff presentations, symposia, workshops, roundtables, and panels, 235–236
STEM efforts, 233–235
treatment medications for drug addictions, 230–232
Women and Sex/Gender Differences Research Program, 222
National Institute on Minority Health and Health Disparities (NIMHD), 269–276
accomplishments and activities, 270–272
DREAM program, 274
funding initiatives, workshops, and conferences, 275–276
health disparities, 274, 276
inclusion, 274
Loan Repayment Program, 274–275
mission, 269
NIH Strategic Plan, 272–273
STEM efforts, 274–275
National Institutes of Health. See NIH
National Pain Strategy, 12
National Primate Research Centers (NPRCs), 311–312
National Toxicology Program, 242–243, 244–245
National Women’s Health Week, 15–16
Native Americans, 103, 194
AIDS and, 267
cancer and, 274
health disparities, 274
home-visiting intervention, 232
interventions for health promotion and disease prevention, 267
Native Hawaiian/Pacific Islander women, 290
NCI. See National Cancer Institute
NEET proteins, 252
NEI. See National Eye Institute
NEIGHBOR consortium, 91–92
neonatal ICU, 291
neonatal MRI, 163
neonates, 163, 177, 179
risk of HIV vaccination, 313
neuroimaging, 260
neuroimmunology, 267
neurologic research, 64, 300, 303
neurology, BIRCWH research topics, 24
neuropathic pain, 188
neuropeptide systems, 258
neurotechnology, BRAIN Initiative, 12, 283
neutrophil cell death (NETosis), 150–151
nevirapine (NVP), 72
newborn brain injury, 174–175
NHLBI. See National Heart, Lung, and Blood Institute
NIAID. See National Institute of Allergy and Infectious Diseases
NIAMS. See National Institute of Arthritis and Musculoskeletal and Skin Diseases
NIBIB. See National Institute of Biomedical Imaging and Bioengineering
NICHHD. See Eunice Kennedy Shriver National Institute of Child Health and Human Development
nicotine, 223–225, 231
patch, 231
NIDA. See National Institute on Drug Abuse
NIDCR. See National Institute of Dental and Craniofacial Research
NIDDK. See National Institute of Diabetes and Digestive and Kidney Diseases
NIEHS. See National Institute of Environmental Health Sciences
NIGMS. See National Institute of General Medical Sciences
NIH
Back-Up Child Care Program, 30
budget for women’s health research, 59–67
Common Fund, 328–330
data reporting, changes in, 37
Distinguished Women Scientists at NIH, 32
funding life cycle, 40
inclusion of women and minorities as subjects in clinical research, 4–5, 10, 37–57
Intramural Program on Research on Women’s Health (IPRWH), 31
“Keep the Thread” Program, 31, 34
Office of Dietary Supplements, 20
ORWH cofunded research, 8, 10, 12–14
policy on inclusion of women and minorities as research subjects, 37
research coding categories, 41
scientific agenda for women’s health research, 2
sex as a biological variable (SABV) in research studies, 4–5, 7, 10, 12, 14
staff training in inclusion policy, 38
Strategic Plan for Women’s Health Research, 2–5, 7, 34
summary report of NIH inclusion data, 40–55
Updates on Women in Science, 29
Women in Science Web site, 29
Working Group initiatives for NIH employees, 30–31
Working Group on Women in Biomedical Careers, 28–31, 34
Workshop on Enrollment and Retention of Participants in Clinical Trials, 55
NIH Common Fund, 328–330
genotype-tissue expression (GTEx), 329
H3 Africa, 329
High Risk, High Reward, 329–330
Library of Integrated Network-Based Cellular Signatures (LINCS), 330
metabolomics, 330
NIH Institutes and Centers (ICs), 69–330
See also specific Institutes and Centers by name
NIH Reform Act (2006), 1, 60
NIH Revitalization Act (1993), 1, 37
NIMH. See National Institute of Mental Health
NIMHD. See National Institute on Minority Health and Health Disparities
NINDS. See National Institute of Neurological Disorders and Stroke
nitric oxide synthetase (NOS), 73, 91, 94
non-communicable diseases, 299, 301, 305
Northwest Child Care Center, 31
NOS. See nitric oxide synthetase
Nurses’ Health Study (NHS), 260
obesity, 103–104, 205–207, 216, 217, 291–292
breast cancer risk and, 75, 86
diabetes and, 312
fracture risk and, 289
genetic loci and, 241
genistein and, 309
heart disease and, 95
hot flashes and, 289
Look AHEAD trial, 205
physical activity and, 291–292
in pregnant women, 292, 293, 316–317
prepregnancy, 293
prevention of, 272, 292
race/ethnicity and, 202, 291
references on, 218–219
stress and, 321
treatment, 205–206
weight gain in teen pregnancy and, 292
weight loss, race/ethnicity and, 103–104
weight-loss surgery, 205–206
weight management approach, 206
OBSSR. See Office of Behavioral and Social Sciences Research
obstetric pharmacology, 167, 177, 178, 263
obstetrics, 24, 168
Office for Research on Disparities and Global Mental Health (ORDGMH), 257, 263
Office of Behavioral and Social Sciences Research (OBSSR), 10
Office of Intramural Training and Education (OITE), 32
Office of Research Infrastructure Programs (ORIP), 310–328
accomplishments and activities, 312–322
aging and menopause, 318–319
behavior, 319–321
career development, 321–322
diet, 319
disease, 312–314
funding initiatives, workshops, and conferences, 323–325
health disparities, 323
HIV/AIDS, 312–314
mission, 310
National Primate Research Centers (NPRCs), 311–312
NIH Strategic Plan, 311–312
reproductive health, 314–318
stem cells and regenerative medicine, 321
STEM efforts, 322
Office of Research on Women’s Health. See ORWH
Office of Strategic Coordination, 328–330
OITE. See Office of Intramural Training and Education
olaparib, 79
omalizumab, 155
OMB (Office of Management and Budget), 37
oncology, BIRCWH research topics, 25
ontogeny, 177
opioid drugs, 227–228
central injection of, 189, 198–199
in pregnancy, 172, 227
opioid receptors, 227–228, 232
OPPERA study, 187, 189–190
optic neuritis, 92
optic neuropathies, 91–92
oral contraceptives
for smoking cessation, 224
vulvodynia and, 174
oral health, 64, 193–194, 197
oral health disparities, 274, 293–294
Oral HIV/AIDS Research Alliance (OHARA), 197
orexin, 222
organization of this report, ix
ORIP. See Office of Research Infrastructure Programs
orofacial pain, 187, 189–190, 199
oropharyngeal cancer, 78
ORWH (Office of Research on Women’s Health)
activities related to NIH inclusion policy and reporting, 55–57
budget (NIH), reporting of, 59
career development activities, 19–35
Clinical Research, Inclusion, and You (seminar), 55–56
coop eration and partnership with NIH, 1–2, 7, 9, 34
driving the NIH research agenda, 7–8
mission/mission statement, vii, 1–2, 7, 19
programs to advance women's health research, 9–11
research budget, use of, 7–8
research meetings, conferences, and workshops, 14–17
social networking activities, 14
Web site, 14
ORWH biomedical career development activities, 19–35
BIRCWH program, 19–25, 34
Committee on Women of Color in Biomedical Careers (WOC), 29–30
NIH Intramural Program on Research on Women’s Health (IPRWH), 31
NIH Women in Science Web site, 29
NIH Working Group on Women in Biomedical Careers, 28–31, 34
Reentry into Biomedical Research Careers program, 28, 34
Women of Color Research Network (WoCRn), 29, 34
Women’s Reproductive Health Research Career Development Program, 26–27
ORWH research, 7–17
administrative supplemental funding, 10
Advancing Novel Science in Women’s Health Research Program (R21), 11
budget, use of, 7–8
cofunded research, 8, 10, 12–14
dissemination activities, 14–17
driving the NIH research agenda, 7–8
funding for meritorious research just missing IC pay line, 10–11
funding for research, 7, 19, 20, 26
funding opportunity announcements (FOAs), 7–8
historical perspective, 1–5
identifying topics of interest, 7
inclusion efforts, 8
NIH Strategic Plan and, 2–5, 7
R56 Program, 11
Research Enhancement Awards Program (REAP), 10–11
research mission, 7
SCOR on Sex Differences (P50), 9–10
shifting focus of, 7
targeted research topics, 7–8, 12–14
osteoarthritis (OA), 147–148, 154
biomarkers for, 14
inflammation and, 155
post-traumatic, 147–148
sex/gender differences in, 175
Osteoarthritis Initiative (OAI), 14
osteocalcin, 146
osteonecrosis of the jaw (ONJ), 191, 192–193, 199
osteoporosis, 130, 144, 145–146, 191–192, 308–309
periodontal disease and, 194
premenopausal, 145
probiotics and, 309
Osteoporosis and Related Bone Diseases National Resource Center, 144
osteoporotic fractures, 144
otosclerosis, 184–185
ovarian aging, 109
ovarian cancer, 70, 71, 79–80, 113, 162
treatment, 253
ovaries
gamete and embryo quality, 179
primary ovarian insufficiency, 173, 179, 207
removal of, 80
oxytocin, 222, 258–259
P2X4 receptors, 117
PAHs, 242
pain, 188–189, 283–284

annual NIH symposium on, 16
central injection of opioids, 189, 198–199
chronic, 12, 16, 151–152, 252–253, 277–278, 279–280
chronic overlapping pain conditions, 188, 199, 284
chronic pelvic pain, 12–13, 211, 215
during pregnancy, 172
education, 12
estradiol and, 189
fibromyalgia, 151–152
following childbirth, 252–253
gallbladder, 210
health disparities, 156
management and pain drugs, 12, 189, 198–199
National Pain Strategy, 12
neuropathic, 188
NIH Pain Consortium, 12, 16, 200, 284
orofacial, 187, 189–190
perception, racial disparities in, 284–285
research at NIH, 12
in rheumatoid arthritis, 149
sex differences in peripheral pain receptors, 278
Trans-NIH Sleep/Pain Workshop, 16
PALB2 gene, 70, 72
Pap smear, 76
PARP1 inhibitor therapy, 209
patient-oriented research, 40
PBDE levels, 241
PCOS. See polycystic ovary syndrome
pediatric infectious disease, 167–168
pediatric pharmacology, 168, 177, 178
pediatrics, BIRCWH research topics, 25
peer review, 38
pelvic organ prolapse (POP), 171
pelvic pain, chronic, 12–13, 211, 215
perinatal period, 168, 290–291, 317–318
periodontal health, 194
peripheral nerve injury, hypersensitivity and, 252–253
personalized medicine, 324
pesticides, 244
pharmacology
developmental, role of ontogeny, 177
obstetric and pediatric, 168, 177, 178
phase III clinical trials
enrollment data for minorities in, 41, 50–54
enrollment data for women in, 41, 45, 46–47, 53–54
inclusion of women and minorities in, 37, 38, 39
phthalates, 244
physical activity, 72, 108, 291–292
placenta, 168, 177, 180, 216–217
Plasmodium falciparum, 75, 131
PLUS Consortium, 215
PMI 5011, 308
pneumonia, 164
POI. See primary ovarian insufficiency
point-of-care (POC)
tests for STDs, 162
ultrasound for maternal health, 163–164
polidocanol foam (PF), 315
polycystic ovary syndrome (PCOS), 170, 316
postpartum depression, 172, 258, 263, 291
postpartum mental health, 262–263
postpartum problems, 291
posttraumatic stress disorder. See PTSD
precision disease modeling, 323
Precision Medicine Initiative, 221–222
preclinical research, inclusion of both sexes in, iv, 7, 10
preeclampsia, 94, 171, 180, 181, 273, 290
prefrontal cortex, 259, 260
alcohol use and, 118, 121, 315
antibiotic use and, 171–172, 317
antidepressant use and, 263
antiepileptic drug clearance and seizure in, 278
cesarean delivery for first-time mothers, 172
chemotherapy during, 242–243
chorioamnionitis, 317
diet and weight change during, 178
drug use in, 227–229
environmental factors and, 242
gestational diabetes, 178, 202, 204–205, 208, 271
HAPO study, 208
Healthy Pregnancy Program, 207–208, 219
Human Placenta Project, 168, 180
hypertension during, long-term effects, 110
inclusion of pregnant women in clinical research, 56–57
inflammation and pregnancy outcomes, 272
influenza during, 172
influenza vaccination and, 133, 240
LIFE-Moms, 208, 213, 217–218
lifestyle interventions, 208
malaria associated with, 131
maternal and child health, 169
maternal undernutrition, 318
maternity leave benefits, 111
mental health during, 262–263
MyPregnancy Initiative, 168–169
obesity/weight and, 292, 293, 316–317
“omics” approach to health and outcomes, 177
opioids and, 172, 227
PBDE levels and, 241
placenta, 168, 177, 180, 216–217
pregnancy-related diseases, targets and treatments, 177
prenatal drug exposures, 228–229, 317, 318
preterm births, 173, 263, 273, 317
Program in Perinatal Research and Obstetrics (PPRO), 168
PTSD and, 263, 290
schistosomiasis and, 131–132
smoking and, 228, 242
teen/adolescent, 170, 271–272
The 37 Percent (meeting), 179
unwanted, 179, 180
uterine vascular remodeling, 317
vaccines during, 57, 133, 240
variations in length of, 241
vessel clots following, 282
prenatal exposures, 228–229, 242, 243–244, 317, 318
androgen exposure, 316
prenatal health, 317–318
President’s Emergency Plan for AIDS Relief (PEPFAR), 300, 303
preterm births, 173, 263, 273, 317
preventing mother-to-child transmission of HIV (PMTCT), 300, 303–304, 306
primary open angle glaucoma (POAG), 91
primary ovarian insufficiency (POI), 173, 179, 207
primate research, 311–312
probiotics, 309
progesterone, 136–137
vaginal, 173
Project SAFE (Sexual Awareness for Everyone), 270–271
computer-delivered version (C-SAFE), 270–271
in Spanish (C-SEGURA), 270–271
prolactin, 188
prolapse. See pelvic organ prolapse
PROMISE Study, 127–128, 130
prostaglandin E2 (PGE2), 315
proton-electron double-resonance imaging, 161
psychology, BIRCWH research topics, 25
psychotic depression, 266
PTSD (posttraumatic stress disorder), 223–224, 260, 291
during pregnancy, 263, 290
puberty, 260, 261
pulmonary diseases, 25, 61
Québec, Fonds de Recherche du (FRQ), 31

R56 Program, 11
RA. See rheumatoid arthritis
race/ethnicity
 aggregate enrollment in research studies, 48–54
 asthma risk and, 104
 diabetes and heart disease risk, 204
 disparities in pain perception, 284–285
 enrollment in clinical research, 48–50, 53–54
 enrollment in phase III clinical trials, 50–54
 Health of Women of Color (symposium), 17
 obesity and, 202, 291
 post-stroke cognitive decline in Mexican-Americans, 285
 racial and ethnic categories, 40
 sleep disturbance and, 108–109
 standards for data classification and reporting, 37
 stereotype threats, 253
 substance abuse treatment and, 232
 See also health disparities; inclusion of women and minorities; minorities
 REAP (Research Enhancement Awards Program), 10–11
 Reasons for Geographic and Racial Differences in Stroke (REGARDS), 285
 Red Dress symbol, 99
 Reentry into Biomedical Research Careers program, 28, 34
 REGARDS (Reasons for Geographic and Racial Differences in Stroke), 285
 regenerative medicine, 321
 reproductive health, 106, 162–165, 167, 308, 314–318
 environmental and genetic factors, 254
 fertility and contraception, 314–316
 NIH research budget for, 61
 Reproductive Scientist Development Program, 176
 research
 careers in. See career development dissemination activities, 14–17
 ORWH, 7–17
 on women’s health. See women’s health research
 See also specific NIH Institutes and Centers
 Research Enhancement Awards Program (REAP), 10–11
 retinal diseases, 91
 Rett syndrome, 277, 278–279, 281
 rheumatic diseases in children and adults, 155
 rheumatoid arthritis (RA), 144, 148–150, 152
 age and prescribing, 148–149
 genetic variants, 149–150
 methotrexate, 148
 sleep and, 149
 rheumatology, BIRCWH research topics, 25
 RNA splicing regulation, 255
 RNase 7, 212
 robotic haptic feedback system, 161
 Roux-en-Y gastric bypass (RYGB), 206
 rural women, 292
 SABV. See sex as a biological variable
 salivary hypofunction (dry mouth), 195
 SAS1B, 316
 schistosomiasis, 131–132
 Science Education Partnership Awards (SEPA), 310, 322, 323, 324
 Science of Sex and Gender in Human Health (online courses), 33, 34
 science, technology, engineering, and mathematics. See STEM
 scleroderma, 138, 151
 SCOR (Specialized Centers of Research) on Sex Differences, 8, 9–10, 222–223
 seizures. See epilepsy
 self-harm, 261
antibiotic exposure in early life and, 206–207
in asthma, 97, 104
in brain and behavior, 257–260
in cannabis use/effects, 225
in CVD risk, 207
in cystic fibrosis, 98
developmental origins of, 174–175
in diabetes, 13
in disinhibition, 226–227
in drug responses, 96–97
in drug use/abuse, 9, 223–228
in dura mater and migraine, 279–280
fragile X and, 207
in free fatty acid flux, 175
in heart cells, 94–95
in hypertension, 175–176
in IBS treatment, 209
in kidney/urologic diseases, 9
meetings and workshops on, 15–17
in metabolic conditions, 207, 213
in neuroimaging, 260
in neuropeptide systems, 258
in noradrenergic sensitivity, 9
online guide to, 14
ORWH programs on, 9–11
in osteoarthritis, 175
in peripheral pain receptors, 278
in quality of life after stroke, 279
in response to opioid drugs, 198–199
SCOR program on, 8, 9–10, 106, 222–223
in smoking and nicotine, 9–10, 223–225
treatment strategies and, 225–227
sex hormones, 132–133, 189, 207
behavioral effects of, 320
sexual abuse, childhood, long-term effects of, 108
sexual and gender minority populations (formerly LGBTI), 169–170, 176, 262
sexually transmitted diseases (STDs), 162–163, 259, 295
Center for Point-of-Care Tests for, 162
cervical mucus, 163
hormone influences on vaginal epithelium, 318
interventions for Hispanic women, 270–271
point-of-care (POC) tests for, 162
prevention of transmission, 318
Project SAFE (Sexual Awareness for Everyone), 270–271
Sfswap, 255
sickle cell disease (SCD), 98
SIDS, 178
sildenafil, 96–97
sirolimus, 98
Sister Study, 245
Sjögren’s syndrome (SS), 187, 195–197
genetics, 197
International Collaborative Clinical Alliance (SICCA), 187, 195–196
Registry, 90
skin cancer, 152
skin diseases, 144–158, 312
skin health, 152
SLE (systemic lupus erythematosus). See lupus
sleep, nighttime breastfeeding and, 290
sleep apnea, 98–99
sleep disorders, 98–99
chronic pain and, 16
RA pain and, 149
SWAN Sleep Study, 108–109, 112
Sleep/Pain Workshop, 16
small blood vessels, 16–17
smoking, 223–225
breast cancer risk, 75
cessation, 223, 224–225
during pregnancy, 228, 242
prenatal exposure, 228
reduced nicotine content cigarettes, 231
social networking, 14, 265
spasmodic dysphonia (SD), 183–184
Specialized Centers of Research. See SCOR
The Spelman Project, 179
Sperm Acrosomal SLLP1 Binding (SAS1B), 316
sphincter of Oddi dysfunction (SOD), 210
sponge compound, 254–255
STDs. See sexually transmitted diseases
stem cells, 321
STEM (science, technology, engineering, and mathematics) efforts
Fogarty International Center, 305
National Cancer Institute, 80
National Heart, Lung, and Blood Institute, 101–102
National Institute of Allergy and Infectious Diseases, 139
National Institute of Biomedical Imaging and Bioengineering, 165
National Institute of Diabetes and Digestive and Kidney Diseases, 214
National Institute of Environmental Health Sciences, 246–247
National Institute of Mental Health, 265–266
National Institute of Neurological Disorders and Stroke, 283
National Institute of Nursing Research, 295–296
National Institute on Drug Abuse, 233–235
National Institute on Minority Health and Health Disparities, 274–275
Office of Research Infrastructure Programs, 322
STEM games, 323–324
stereotype threats, 253
stillbirths, 164, 178
STOP Lupus, 155
STOP-PD, 266
Strategic Plan for Women’s Health Research (NIH), 2–5, 7
ORWH support of, 34
shifting focus for, 7
See also specific Institutes and Centers
stress, 247, 258, 259, 293, 319–321
in adolescence, 320–321
chronic, 319–320
hormones and, 320
obesity and, 321
stroke, 95, 100, 101, 103, 277, 279, 280–281
emergency care for, 284
fat intake and, 279
fetal cells, role in recovery, 280
literacy and intent to call 9-1-1, 285
post-stroke cognitive decline, 285
quality of life (QOL) after, 279
Reasons for Geographic and Racial Differences in (REGARDS), 285
risk factors, 95, 280–281
Studying Sex to Strengthen Science (Web site), 14
substance abuse
NIH research budget for, 62
prevention and treatment, 119
sudden infant death syndrome (SIDS), 178
suicide, 230
SWAN (Study of Women’s Health Across the Nation), 106, 107–109, 112
SWAN Sleep Study, 108–109, 112
systemic lupus erythematosus (SLE). See lupus
systemic sclerosis, 138

T

T cells, regulatory (Tregs), 136–137
tamoxifen, cognition and, 110–111
targeted research topics, 7–8, 12–14
TCDD, 318
teens. See adolescents
teeth, 191–193
telemedicine, 272
temporomandibular joint, 166, 199, 200
imaging of, 190–191
reconstruction of, 191
temporomandibular joint disorder (TMD), 187, 189–191, 199
diagnostic criteria for, 190
 genetic factors and, 16
 sex hormones and, 189, 198
tenofovir, 129–130
tenure track investigators program, 246
testosterone, influenza vaccination and, 132–133
TETRAD, 155
TGFβ inducible early gene (TIEG), 192
thermally targeted drug delivery, 160
thyroid eye disease, 90
thyroid hormone, 146
TOBAC program, 300, 302
tobacco
cessation, budget for, 62
gender-sensitive treatment, 9–10
See also smoking
TODAY study, 204, 215
tomography
combined with MRI, 159
digital breast tomosynthesis (DBT), 159
topical microbicides, 125–127
toxicology, 65
Trans-NIAID Women’s Health Research Work Group, 138–139
transwomen of color, 272
trauma, childhood
long-term effects of, 108
metabolic syndrome and, 111
trauma research training, 299, 300, 306
trimethoprim and sulfamethoxazole (TMP/SMZ), 212
Trypanosoma cruzi, 132
tuberculosis (TB), 134, 177
Turner syndrome, 16

U

ultrasound, 160–161, 163–164
unemployment, after chemotherapy, 74
urinary incontinence, 12, 289–290
urinary tract infections (UTIs), 9, 12, 210–212
urologic diseases/health, 12–13, 64, 210–212, 213, 220
uropathogenic Escherichia coli (UPEC), 211
uterine biomagnetic signals, 164
uterine fibroids, 173, 180, 240, 250
uterine vascular remodeling, 317
uterus
  endocrine disruption of, 321
  estrogen-related responses in, 242
UTIs. See urinary tract infections

V
vaccines
  BCG, 313
  development of, 136, 273
  during pregnancy, 57
  HIV, 128, 273, 313
  HPV, 70, 77, 78, 82
  influenza, 132–133
  OPV (Oral Polio Vaccine), 313
vaginal epithelium, hormone influences on, 318
vaginal immune response, 136
vaginal transmission of HIV, 313, 314
varenicline, 231
Varmus, Harold, 222
vascular cognitive impairment, 303
vasopressin, 258
vesicoureteral reflux (VUR), 212
vestibular research, 185–186
veterinarians, 321–322
violence against women. See intimate partner violence
vitamin D, 130, 147, 171
voice disorders, 183–184, 186
VOICE trials, 125–126

W
Web site (ORWH), 14
weight, 206
  Weight-Control Information Network, 214
  weight loss surgery, 205–206, 215–216, 217
See also obesity
West Virginia Health Sciences Technology Academy, 322
WHI. See Women's Health Initiative
WIHS. See Women's Interagency HIV Study
WOC. See Committee on Women of Color in Biomedical Careers
women
  adding to studies already in progress, 5
  biomedical career development, 19–35
  enrollment data for clinical research, 4, 41, 44–45, 53–54
  enrollment data for phase III clinical trials, 41, 45, 46–47, 53–54
  inclusion as subjects in clinical research, 4–5, 7, 10, 37–57
  life expectancy, 107
  older women, 106–115
  See also inclusion of women and minorities
Women in Science Web site, 29
Women of Color Health Data Book, 30, 56
Women of Color Research Network (WoCRn), 29, 34, 113
Women's Cancer Summits, 84
women's health, 170–174
  across the lifespan, 246, 299, 300, 303
  international, 171
  National Institute of Nursing Research, 288, 293–294
Women's Health Congress, 15
Women's Health Initiative (WHI), 100–101, 102, 106
  Memory Study (WHIMS), 106, 112
  Observational Study (WHI-OS), 194
  Study of Cognitive Aging (WHISCA), 106, 112–113
Women’s Health: NIH Has Increased Its Efforts to Include Women in Research (report), 37
women's health research (WHR)
  Advancing Novel Science in Women's Health Research Program (R21), 11
career development support by ORWH (summary), 34
  language associated with, 7
NIH budget for, 59–67
NIH Intramural Program on Research on Women’s Health (IPRWH), 31
ORWH research, 7–17
Report of NIH Institutes and Centers, 69–330
See also career development; ORWH (Office of Research on Women’s Health)
Women’s Health Week, National, 15–16
Women’s Interagency HIV Study (WIHS), 123, 124, 139
Women’s Ischemia Syndrome Evaluation (WISE), 96
Women’s Mental Health Program, 257
Women’s Mental Health Team, 257
Women’s Reproductive Health Research (WRHR) Career Development Program, 26–27, 34, 176
Working Group on Women in Biomedical Careers, 28–31, 34
workplace culture, impact of, 283
workshops, 14–17
WRHR. See Women’s Reproductive Health Research Career Development Program

Z
zebrafish, 254, 318, 324
Zimbabwe, orphan girls in, 171