APPROPRIATIONS LANGUAGE

NATIONAL CANCER INSTITUTE

For carrying out section 301 and title IV of the PHS Act with respect to cancer, **[**$7,104,159,000**]***$7,820,159,000*, of which *$716,000,000 shall remain available until expended, and of which* up to $30,000,000 may be used for facilities repairs and improvements at the National Cancer Institute—Frederick Federally Funded Research and Development Center in Frederick, Maryland.

NATIONAL HEART, LUNG, AND BLOOD INSTITUTE

For carrying out section 301 and title IV of the PHS Act with respect to cardiovascular, lung, and blood diseases, and blood and blood products, **[**$3,982,345,000**]***$3,985,158,000*.

NATIONAL INSTITUTE OF DENTAL AND CRANIOFACIAL RESEARCH

For carrying out section 301 and title IV of the PHS Act with respect to dental and craniofacial diseases, **[**$520,163,000**]***$520,138,000*.

NATIONAL INSTITUTE OF DIABETES AND DIGESTIVE AND KIDNEY DISEASES

For carrying out section 301 and title IV of the PHS Act with respect to diabetes and digestive and kidney disease, **[**$2,300,721,000**]***$2,303,098,000*.

NATIONAL INSTITUTE OF NEUROLOGICAL DISORDERS AND STROKE

For carrying out section 301 and title IV of the PHS Act with respect to neurological disorders and stroke, **[**$2,588,925,000**]***$2,739,418,000*.

NATIONAL INSTITUTE OF ALLERGY AND INFECTIOUS DISEASES

For carrying out section 301 and title IV of the PHS Act with respect to allergy and infectious diseases, **[**$6,562,279,000**]***$6,561,652,000*.

NATIONAL INSTITUTE OF GENERAL MEDICAL SCIENCES

For carrying out section 301 and title IV of the PHS Act with respect to general medical sciences, $3,239,679,000, of which **[**$1,412,482,000**]***$1,948,109,000* shall be from funds available under section 241 of the PHS Act: *Provided*, That not less than $425,956,000 is provided for the Institutional Development Awards program.

EUNICE KENNEDY SHRIVER NATIONAL INSTITUTE OF CHILD HEALTH AND HUMAN DEVELOPMENT

For carrying out section 301 and title IV of the PHS Act with respect to child health and human development, **[**$1,749,078,000**]***$1,747,784,000*.

NATIONAL EYE INSTITUTE

For carrying out section 301 and title IV of the PHS Act with respect to eye diseases and visual disorders, **[**$896,549,000**]***$896,136,000*.

NATIONAL INSTITUTE OF ENVIRONMENTAL HEALTH SCIENCES

For carrying out section 301 and title IV of the PHS Act with respect to environmental health sciences, **[**$913,979,000**]***$938,807,000. (Department of Health and Human Services Appropriations Act, 2023.)*

NATIONAL INSTITUTE OF ENVIRONMENTAL HEALTH SCIENCES

For necessary expenses for the National Institute of Environmental Health Sciences in carrying out activities set forth in section 311(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9660(a)) and section 126(g) of the Superfund Amendments and Reauthorization Act of 1986, $83,035,000. *(Department of the Interior, Environment, and Related Agencies Appropriations Act, 2023.)*

[NATIONAL INSTITUTE OF ENVIRONMENTAL HEALTH SCIENCES]

[For an additional amount for "National Institute of Environmental Health Sciences", $2,500,000, to remain available until expended, for necessary expenses in carrying out activities set forth in section 311(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9660(a)) and section 126(g) of the Superfund Amendments and Reauthorization Act of 1986 related to the consequences of major disasters declared pursuant to the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. 5121 et seq.) in 2022.**]** *(Disaster Relief Supplemental Appropriations Act, 2023.)*

NATIONAL INSTITUTE ON AGING

For carrying out section 301 and title IV of the PHS Act with respect to aging, **[**$4,407,623,000**]***$4,412,090,000*.

NATIONAL INSTITUTE OF ARTHRITIS AND MUSCULOSKELETAL AND SKIN DISEASES

For carrying out section 301 and title IV of the PHS Act with respect to arthritis and musculoskeletal and skin diseases, **[**$685,465,000**]***$687,639,000*.

NATIONAL INSTITUTE ON DEAFNESS AND OTHER COMMUNICATION DISORDERS

For carrying out section 301 and title IV of the PHS Act with respect to deafness and other communication disorders, **[**$534,333,000**]***$534,330,000*.

NATIONAL INSTITUTE OF NURSING RESEARCH

For carrying out section 301 and title IV of the PHS Act with respect to nursing research, **[**$197,693,000**]***$197,671,000*.

NATIONAL INSTITUTE ON ALCOHOL [ABUSE AND ALCOHOLISM] *EFFECTS AND ALCOHOL-ASSOCIATED DISORDERS*

For carrying out section 301 and title IV of the PHS Act with respect to alcohol **[**abuse and alcoholism, $595,318,000**]** *misuse, alcohol use disorder, and other alcohol-associated disorders, $596,616,000*.

NATIONAL INSTITUTE ON [DRUG ABUSE] *DRUGS AND ADDICTION*

For carrying out section 301 and title IV of the PHS Act with respect to **[**drug abuse, $1,662,695,000**]** *drugs and addiction, $1,663,365,000*.

NATIONAL INSTITUTE OF MENTAL HEALTH

For carrying out section 301 and title IV of the PHS Act with respect to mental health, **[**$2,112,843,000**]***$2,455,653,000*.

NATIONAL HUMAN GENOME RESEARCH INSTITUTE

For carrying out section 301 and title IV of the PHS Act with respect to human genome research, **[**$663,200,000**]***$660,510,000*.

NATIONAL INSTITUTE OF BIOMEDICAL IMAGING AND BIOENGINEERING

For carrying out section 301 and title IV of the PHS Act with respect to biomedical imaging and bioengineering research, **[**$440,627,000**]***$440,625,000*.

NATIONAL CENTER FOR COMPLEMENTARY AND INTEGRATIVE HEALTH

For carrying out section 301 and title IV of the PHS Act with respect to complementary and integrative health, **[**$170,384,000**]***$170,277,000*.

NATIONAL INSTITUTE ON MINORITY HEALTH AND HEALTH DISPARITIES

For carrying out section 301 and title IV of the PHS Act with respect to minority health and health disparities research, **[**$524,395,000**]***$525,138,000*.

JOHN E. FOGARTY INTERNATIONAL CENTER

For carrying out the activities of the John E. Fogarty International Center (described in subpart 2 of part E of title IV of the PHS Act), **[**$95,162,000**]***$95,130,000*.

NATIONAL LIBRARY OF MEDICINE

For carrying out section 301 and title IV of the PHS Act with respect to health information communications, **[**$497,548,000**]***$495,314,000*: *Provided,* That of the amounts available for improvement of information systems, $4,000,000 shall be available until September 30, **[**2024**]**

2025: *Provided further,* That in fiscal year **[**2023**]** *2024,* the National Library of Medicine may enter into personal services contracts for the provision of services in facilities owned, operated, or constructed under the jurisdiction of the National Institutes of Health (referred to in this title as "NIH").

NATIONAL CENTER FOR ADVANCING TRANSLATIONAL SCIENCES

For carrying out section 301 and title IV of the PHS Act with respect to translational sciences, $923,323,000: *Provided,* That up to $70,000,000 shall be available to implement section 480 of the PHS Act, relating to the Cures Acceleration Network: *Provided further,* That at least $629,560,000 is provided to the Clinical and Translational Sciences Awards program.

OFFICE OF THE DIRECTOR

(INCLUDING TRANSFER OF FUNDS)

For carrying out the responsibilities of the Office of the Director, NIH, **[**$2,642,914,000**]***$2,890,779,000*: *Provided,* That funding shall be available for the purchase of not to exceed 29 passenger motor vehicles for replacement only: *Provided further,* That all funds credited to the NIH Management Fund shall remain available for one fiscal year after the fiscal year in which they are deposited: *Provided further,* That $180,000,000 shall be for the Environmental Influences on Child Health Outcomes study: *Provided further,* That $722,401,000 shall be available for the Common Fund established under section 402A(c)(1) of the PHS Act: *Provided further,* That of the funds provided, $10,000 shall be for official reception and representation expenses when specifically approved by the Director of the NIH: *Provided further,* That the Office of AIDS Research within the Office of the Director of the NIH may spend up to $8,000,000 to make grants for construction or renovation of facilities as provided for

in section 2354(a)(5)(B) of the PHS Act: *Provided further,* That **[**$80,000,000**]** *up to $30,000,000* shall be used to carry out section 404I of the PHS Act (42 U.S.C. **[**283K), relating to biomedical and behavioral research facilities**]** *283k) with respect to the National Primate Research Centers and Caribbean Primate Research Center*: *Provided further,* That $5,000,000 shall be transferred to and merged with the appropriation for the "Office of Inspector General" for oversight of grant programs and operations of the NIH, including agency efforts to ensure the integrity of its grant application evaluation and selection processes, and shall be in addition to funds otherwise made available for oversight of the NIH: *Provided further,* That the funds provided in the previous proviso may be transferred from one specified activity to another with 15 days prior **[**approval of**]** *notification to* the Committees on Appropriations of the House of Representatives and the Senate: *Provided further,* That the Inspector General shall consult with the Committees on Appropriations of the House of Representatives and the Senate before submitting to the Committees an audit plan for fiscal years **[**2023**]** *2024* and **[**2024**]** *2025* no later than 30 days after the date of enactment of this Act: *Provided further,* That amounts made available under this heading are also available to establish, operate, and support the Research Policy Board authorized by section 2034(f) of the 21st Century Cures Act**[**: *Provided further,* That the funds made available under this heading for the Office of Research on Women's Health shall also be available for making grants to serve and promote the interests of women in research, and the Director of such Office may, in making such grants, use the authorities available to NIH Institutes and Centers**]**.

In addition to other funds appropriated for the Common Fund established under section 402A(c) of the PHS Act, $12,600,000 is appropriated to the Common Fund from the 10-year Pediatric Research Initiative Fund described in section 9008 of the Internal Revenue Code of 1986 (26

U.S.C. 9008), for the purpose of carrying out section 402(b)(7)(B)(ii) of the PHS Act (relating to pediatric research), as authorized in the Gabriella Miller Kids First Research Act. *(Department of Health and Human Services Appropriations Act, 2023.)*

[OFFICE OF THE DIRECTOR]

[(INCLUDING TRANSFER OF FUNDS)]

[For an additional amount for "Office of the Director", $25,000,000, to remain available until September 30, 2024, for necessary expenses directly related to the consequences of Hurricanes Fiona and Ian: *Provided*, That funds appropriated under this heading in this Act may be made available to restore amounts, either directly or through reimbursement, for obligations incurred for such purposes, prior to the date of enactment of this Act: *Provided further*, That funds appropriated under this heading in this Act may be transferred to the accounts of Institutes and Centers of the National Institutes of Health (NIH): *Provided further*, That this transfer authority is in addition to any other transfer authority available to the NIH.**]** *(Disaster Relief Supplemental Appropriations Act, 2023.)*

BUILDINGS AND FACILITIES

For the study of, construction of, demolition of, renovation of, and acquisition of equipment for, facilities of or used by NIH, including the acquisition of real property, $350,000,000, to remain available through September 30, **[**2027**]** *2028*.

ADVANCED RESEARCH PROJECTS AGENCY FOR HEALTH

For carrying out section 301 and part J of title IV of the PHS Act with respect to advanced research projects for health, $2,500,000,000, to remain available through September 30, 2026.

NIH INNOVATION ACCOUNT, CURES ACT

(INCLUDING TRANSFER OF FUNDS)

For necessary expenses to carry out the purposes described in section 1001(b)(4) of the 21st Century Cures Act, in addition to amounts available for such purposes in the appropriations provided to the NIH in this Act, **[**$1,085,000,000**]** *$407,000,000,* to remain available until expended: *Provided,* That such amounts are appropriated pursuant to section 1001(b)(3) of such Act, are to be derived from amounts transferred under section 1001(b)(2)(A) of such Act, and may be transferred by the Director of the National Institutes of Health to other accounts of the National Institutes of Health solely for the purposes provided in such Act: *Provided further,* That upon a determination by the Director that funds transferred pursuant to the previous proviso are not necessary for the purposes provided, such amounts may be transferred back to the Account: *Provided further,* That the transfer authority provided under this heading is in addition to any other transfer authority provided by law. *(Department of Health and Human Services Appropriations Act, 2023.)*

GENERAL PROVISIONS

SEC. 216. Not to exceed **[**$100,000,000**]** *1 percent* of funds appropriated by this Act to the *offices,* institutes, and centers of the National Institutes of Health may be **[**used for alteration, repair, or improvement of facilities, as necessary for the proper and efficient conduct of the activities authorized herein, at not to exceed $5,000,000 per project**]** *transferred to and merged with funds appropriated under the heading "National Institutes of Health—Buildings and Facilities": Provided, That the use of such transferred funds shall be subject to a centralized prioritization and governance process: Provided further, That the Director of the National*

Institutes of Health shall notify the Committees on Appropriations of the House of Representatives and the Senate at least 15 days in advance of any such transfer: Provided further, That the transfer authority provided in this section is in addition to any other transfer authority provided by law.

SEC. 237. (a) The Public Health Service Act (42 U.S.C. 201 et seq.), the Controlled Substances Act (21 U.S.C. 801 et seq.), the Comprehensive Smoking Education Act (15 U.S.C. 1331 et seq.), the Comprehensive Addiction and Recovery Act of 2016 (Public Law 114–198), the Drug Abuse Prevention, Treatment, and Rehabilitation Act (21 U.S.C. 1101 et seq.), the Omnibus Crime Control and Safe Streets Act of 1968 (34 U.S.C. 10101 et seq.), and title 5 of the United States Code are each amended—

(1) by striking "National Institute on Drug Abuse" each place it appears and inserting "National Institute on Drugs and Addiction"; and

(2) by striking "National Advisory Council on Drug Abuse" each place it appears and inserting "National Advisory Council on Drugs and Addiction".

(b) Title IV of the Public Health Service Act (42 U.S.C. 281 et seq.) is amended—

(1) in section 464H(b)(5), by striking "National Institute of Drug Abuse" and inserting "National Institute on Drugs and Addiction";

(2) in sections 464L, 464M(a), 464O, and 494A, by striking "drug abuse" each place it appears and inserting "drug use";

(3) in section 464L(a), by striking "treatment of drug abusers" and inserting "treatment of drug addiction";

(4) in section 464M(a), by striking "prevention of such abuse" and inserting "prevention of such use";

(5) in section 464N—

(A) in the section heading, by striking "DRUG ABUSE RESEARCH CENTERS" and inserting "DRUGS AND ADDICTION RESEARCH CENTERS";

(B) in subsection (a)—

(i) in matter preceding paragraph (1), by striking "National Drug Abuse Research Centers" and inserting "National Drugs and Addiction Research Centers"; and

(ii) in paragraph (1)(C), by striking "treatment of drug abuse" and inserting "treatment of drug addiction"; and

(C) in subsection (c)—

(i) by striking "DRUG ABUSE AND ADDICTION RESEARCH" and inserting "DRUGS AND ADDICTION RESEARCH CENTERS";

(ii) in paragraph (1), by striking "National Drug Abuse Treatment Clinical Trials Network" and inserting "National Drug Addiction Treatment Clinical Trials Network"; and

(iii) in paragraph (2)(H), by striking "reasons that individuals abuse drugs, or refrain from abusing drugs" and inserting "reasons that individuals use drugs or refrain from using drugs"; and

(6) in section 464P—

(A) in subsection (a)—

(i) in paragraph (1), by striking "drug abuse treatments" and inserting "drug addiction treatments"; and

(ii) in paragraph (6), by striking "treatment of drug abuse" and inserting "treatment of drug addiction"; and

(B) in subsection (d)—

(i) by striking "disease of drug abuse" and inserting "disease of drug addiction";

(ii) by striking "abused drugs" each place it appears and inserting "addictive drugs"; and

(iii) by striking "drugs of abuse" and inserting "drugs of addiction".

(c) Section 464N of the Public Health Service Act (42 U.S.C. 285o–2), as amended by subsection (b)(5), is further amended by striking "drug abuse" each place it appears and inserting "drug use".

(d) Any reference in any law, regulation, map, document, paper, or other record of the United States to the National Institute on Drug Abuse shall be considered to be a reference to the National Institute on Drugs and Addiction.

SEC. 238. (a) The Public Health Service Act (42 U.S.C. 201 et seq.) and the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment, and Rehabilitation Act of 1970 (42 U.S.C. 4541 et seq.) are each amended—

(1) by striking "National Institute on Alcohol Abuse and Alcoholism" each place it appears and inserting "National Institute on Alcohol Effects and Alcohol-Associated Disorders"; and

(2) by striking "National Advisory Council on Alcohol Abuse and Alcoholism" each place it appears and inserting "National Advisory Council on Alcohol Effects and Alcohol-Associated Disorders".

(b) Title IV of the Public Health Service Act (42 U.S.C. 281 et seq.) is amended—

(1) in section 464H—

(A) in subsection (a)—

(i) by striking "prevention of alcohol abuse" and inserting "prevention of alcohol misuse"; and

(ii) by striking "treatment of alcoholism" and inserting "treatment of alcohol-associated disorders"; and

(B) in subsection (b)—

(i) in paragraph (3)—

(I) in subparagraph (A), by striking "alcohol abuse and domestic violence" and inserting "alcohol misuse and domestic violence";

(II) in subparagraph (D), by striking "abuse of alcohol" and inserting "misuse of alcohol";

(III) by striking subparagraph (E) and inserting "(E) the effect of social pressures, legal requirements regarding the use of alcoholic beverages, the cost of such beverages, and the economic status and education of users of such beverages on the incidence of alcohol misuse, alcohol use disorder, and other alcohol-associated disorders,"; and

(ii) in paragraph (5), by striking "impact of alcohol abuse" and inserting "impact of alcohol misuse";

(2) in sections 464H(b), 464I, and 494A, by striking "alcohol abuse and alcoholism" each place it appears and inserting "alcohol misuse, alcohol use disorder, and other alcohol-associated disorders";

(3) in sections 464H(b) and 464J(a), by striking "alcoholism and alcohol abuse" each place it appears and inserting "alcohol misuse, alcohol use disorder, and other alcohol-associated disorders"; and

(4) in section 464J(a)—

(A) by striking "alcoholism and other alcohol problems" each place it appears and inserting "alcohol misuse, alcohol use disorder, and other alcohol-associated disorders";

(B) in the matter preceding paragraph (1), by striking "interdisciplinary research related to alcoholism" and inserting "interdisciplinary research related to alcohol-associated disorders"; and

(C) in paragraph (1)(E), by striking "alcohol problems" each place it appears and inserting "alcohol misuse, alcohol use disorder, and other alcohol-associated disorders".

(c) Any reference in any law, regulation, map, document, paper, or other record of the United States to the National Institute on Alcohol Abuse and Alcoholism shall be considered to be a reference to the National Institute on Alcohol Effects and Alcohol-Associated Disorders.

Language Provision to be Changed[61]	Explanation/Justification
NATIONAL CANCER INSTITUTE For carrying out section 301 and title IV of the PHS Act with respect to cancer, **[**$7,104,159,000**]** *$7,820,159,000*, of which *$716,000,000 shall remain available until expended, and of which* up to $30,000,000 may be used for facilities repairs and improvements at the National Cancer Institute—Frederick Federally Funded Research and Development Center in Frederick, Maryland.	This proposed revision provides no-year authority for funding specifically set aside for Cancer Moonshot, consistent with the period of availability of Cancer Moonshot funding previously provided through the 21st Century Cures Act.
NATIONAL INSTITUTE ON ALCOHOL [ABUSE AND ALCOHOLISM] ***EFFECTS AND ALCOHOL-ASSOCIATED DISORDERS*** For carrying out section 301 and title IV of the PHS Act with respect to alcohol **[**abuse and alcoholism, $595,318,000**]** *misuse, alcohol use disorder, and other alcohol-associated disorders, $596,616,000*.	This revision reflects the proposal to change the name of the National Institute on Alcohol Abuse and Alcoholism to the National Institute on Alcohol Effects and Alcohol-Associated Disorders.
NATIONAL INSTITUTE ON [DRUG ABUSE] ***DRUGS AND ADDICTION*** For carrying out section 301 and title IV of the PHS Act with respect to **[**drug abuse, $1,662,695,000**]** *drugs and addiction, $1,663,365,000*.	This revision reflects the proposal to change the name of the National Institute on Drug Abuse to the National Institute on Drugs and Addiction.
OFFICE OF THE DIRECTOR That **[**$80,000,000**]** *up to $30,000,000* shall be used to carry out section 404I of the PHS Act (42 U.S.C. **[**283K), relating to biomedical and behavioral research facilities**]** *283k) with respect to the National Primate Research Centers and Caribbean Primate Research Center*	This proposed revision changes the Office of the Director's extramural grant proviso to provide up to $30,000,000 for the National Primate Research Centers and Caribbean Primate Research Center for necessary improvements to nonhuman primate infrastructure.

[61] Language changes are relative to the Consolidated Appropriations Act, 2023 (P.L. 117-328).

Language Provision to be Changed[61]	Explanation/Justification
OFFICE OF THE DIRECTOR That the funds provided in the previous proviso may be transferred from one specified activity to another with 15 days prior **[**approval of**]** *notification to* the Committees on Appropriations of the House of Representatives and the Senate	This proposed revision changes "approval of" to "notification to" for funds transferred for the Office of the Inspector General.
OFFICE OF THE DIRECTOR **[**: *Provided further,* That the funds made available under this heading for the Office of Research on Women's Health shall also be available for making grants to serve and promote the interests of women in research, and the Director of such Office may, in making such grants, use the authorities available to NIH Institutes and Centers**]**	This proposed revision removes the proviso for Office of Research on Women's Health grant-making authority. This proviso, first added in FY 2022 enacted appropriations, is unnecessary as the Office of the Director already has the authority to make grants.
ADVANCED RESEARCH PROJECTS AGENCY FOR HEALTH *For carrying out section 301 and part J of title IV of the PHS Act with respect to advanced research projects for health, $2,500,000,000, to remain available through September 30, 2026.*	This provision provides the appropriation for the Advanced Research Projects Agency for Health (ARPA-H) within the National Institutes of Health, consistent with the new ARPA-H authorization, in contrast to FY 2023 enacted appropriations where ARPA-H funding was provided within the HHS Office of the Secretary.
GENERAL PROVISIONS SEC. 216. Not to exceed **[**$100,000,000**]** *1 percent* of funds appropriated by this Act to the *offices,* institutes, and centers of the National Institutes of Health may be **[**used for alteration, repair, or improvement of facilities, as necessary for the proper and efficient conduct of the activities authorized herein, at not to exceed $5,000,000 per project**]** *transferred to and merged with funds appropriated under the heading "National Institutes of Health—Buildings and Facilities": Provided, That the use of such transferred funds shall be subject to a centralized prioritization and governance process: Provided further, That the Director of the National Institutes of Health shall notify the Committees on Appropriations of the House of Representatives and the Senate at least 15 days in advance of any such transfer: Provided further, That the transfer authority provided in this section is in*	This proposed revision to the existing Section 216 general provision would allow the transfer of IC appropriations to the Buildings and Facilities appropriation, subject to a 1 percent cap. This would allow IC contributions to facilities projects where the timing of the project obligations requires the funds to be available beyond the normal one-year period of availability of IC appropriations.

Language Provision to be Changed[61]	Explanation/Justification
addition to any other transfer authority provided by law.	
GENERAL PROVISIONS *SEC. 237. (a) The Public Health Service Act (42 U.S.C. 201 et seq.), the Controlled Substances Act (21 U.S.C. 801 et seq.), the Comprehensive Smoking Education Act (15 U.S.C. 1331 et seq.), the Comprehensive Addiction and Recovery Act of 2016 (Public Law 114–198), the Drug Abuse Prevention, Treatment, and Rehabilitation Act (21 U.S.C. 1101 et seq.), the Omnibus Crime Control and Safe Streets Act of 1968 (34 U.S.C. 10101 et seq.), and title 5 of the United States Code are each amended—* *(1) by striking "National Institute on Drug Abuse" each place it appears and inserting "National Institute on Drugs and Addiction"; and* *(2) by striking "National Advisory Council on Drug Abuse" each place it appears and inserting "National Advisory Council on Drugs and Addiction".* *(b) Title IV of the Public Health Service Act (42 U.S.C. 281 et seq.) is amended—* *(1) in section 464H(b)(5), by striking "National Institute of Drug Abuse" and inserting "National Institute on Drugs and Addiction";* *(2) in sections 464L, 464M(a), 464O, and 494A, by striking "drug abuse" each place it appears and inserting "drug use";* *(3) in section 464L(a), by striking "treatment of drug abusers" and inserting "treatment of drug addiction";* *(4) in section 464M(a), by striking "prevention of such abuse" and inserting "prevention of such use";* *(5) in section 464N—* *(A) in the section heading, by striking "DRUG ABUSE RESEARCH CENTERS" and*	This new general provision would authorize the proposed name change for the National Institute on Drug Abuse to the National Institute on Drugs and Addiction.

Language Provision to be Changed[61]	Explanation/Justification
inserting "DRUGS AND ADDICTION RESEARCH CENTERS"; *(B) in subsection (a)—* *(i) in matter preceding paragraph (1), by striking "National Drug Abuse Research Centers" and inserting "National Drugs and Addiction Research Centers"; and* *(ii) in paragraph (1)(C), by striking "treatment of drug abuse" and inserting "treatment of drug addiction"; and* *(C) in subsection (c)—* *(i) by striking "DRUG ABUSE AND ADDICTION RESEARCH" and inserting "DRUGS AND ADDICTION RESEARCH CENTERS";* *(ii) in paragraph (1), by striking "National Drug Abuse Treatment Clinical Trials Network" and inserting "National Drug Addiction Treatment Clinical Trials Network"; and* *(iii) in paragraph (2)(H), by striking "reasons that individuals abuse drugs, or refrain from abusing drugs" and inserting "reasons that individuals use drugs or refrain from using drugs"; and* *(6) in section 464P—* *(A) in subsection (a)—* *(i) in paragraph (1), by striking "drug abuse treatments" and inserting "drug addiction treatments"; and* *(ii) in paragraph (6), by striking "treatment of drug abuse" and inserting "treatment of drug addiction"; and* *(B) in subsection (d)—* *(i) by striking "disease of drug abuse" and inserting "disease of drug addiction";* *(ii) by striking "abused drugs" each place it appears and inserting "addictive drugs"; and* *(iii) by striking "drugs of abuse" and inserting "drugs of addiction".* *(c) Section 464N of the Public Health Service Act (42 U.S.C. 285o–2), as amended by subsection (b)(5), is further amended by striking "drug abuse" each place it appears and inserting "drug use".* *(d) Any reference in any law, regulation, map, document, paper, or other record of the*	

Language Provision to be Changed[61]	Explanation/Justification
United States to the National Institute on Drug Abuse shall be considered to be a reference to the National Institute on Drugs and Addiction.	
GENERAL PROVISIONS *SEC. 238. (a) The Public Health Service Act (42 U.S.C. 201 et seq.) and the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment, and Rehabilitation* *Act of 1970 (42 U.S.C. 4541 et seq.) are each amended—* *(1) by striking "National Institute on Alcohol Abuse and Alcoholism" each place it appears and inserting "National Institute on Alcohol Effects and Alcohol-Associated Disorders"; and* *(2) by striking "National Advisory Council on Alcohol Abuse and Alcoholism" each place it appears and inserting "National Advisory Council on Alcohol Effects and Alcohol-Associated Disorders".* *(b) Title IV of the Public Health Service Act (42 U.S.C. 281 et seq.) is amended—* *(1) in section 464H—* *(A) in subsection (a)—* *(i) by striking "prevention of alcohol abuse" and inserting "prevention of alcohol misuse"; and* *(ii) by striking "treatment of alcoholism" and inserting "treatment of alcohol-associated disorders"; and* *(B) in subsection (b)—* *(i) in paragraph (3)—* *(I) in subparagraph (A), by striking "alcohol abuse and domestic violence" and inserting "alcohol misuse and domestic violence";* *(II) in subparagraph (D), by striking "abuse of alcohol" and inserting "misuse of alcohol";* *(III) by striking subparagraph (E) and inserting "(E) the effect of social pressures, legal requirements regarding the use of alcoholic beverages, the cost of such*	This new general provision would authorize the proposed name change for the National Institute on Alcohol Abuse and Alcoholism to the National Institute on Alcohol Effects and Alcohol-Associated Disorders.

Language Provision to be Changed[61]	Explanation/Justification
beverages, and the economic status and education of users of such beverages on the incidence of alcohol misuse, alcohol use disorder, and other alcohol-associated disorders,"; and *(ii) in paragraph (5), by striking "impact of alcohol abuse" and inserting "impact of alcohol misuse";* *(2) in sections 464H(b), 464I, and 494A, by striking "alcohol abuse and alcoholism" each place it appears and inserting "alcohol misuse, alcohol use disorder, and other alcohol-associated disorders";* *(3) in sections 464H(b) and 464J(a), by striking "alcoholism and alcohol abuse" each place it appears and inserting "alcohol misuse, alcohol use disorder, and other alcohol-associated disorders"; and* *(4) in section 464J(a)—* *(A) by striking "alcoholism and other alcohol problems" each place it appears and inserting "alcohol misuse, alcohol use disorder, and other alcohol-associated disorders";* *(B) in the matter preceding paragraph (1), by striking "interdisciplinary research related to alcoholism" and inserting "interdisciplinary research related to alcohol-associated disorders"; and* *(C) in paragraph (1)(E), by striking "alcohol problems" each place it appears and inserting "alcohol misuse, alcohol use disorder, and other alcohol-associated disorders".* *(c) Any reference in any law, regulation, map, document, paper, or other record of the United States to the National Institute on Alcohol Abuse and Alcoholism shall be considered to be a reference to the National Institute on Alcohol Effects and Alcohol-Associated Disorders.*	

BUDGET MECHANISM TABLE

(Dollars in Thousands)[1,2,3]	FY 2022 Final[9]		FY 2023 Enacted[9]		FY 2024 President's Budget[9]		FY 2024 +/- FY 2023 Enacted	
	No.	Amount	No.	Amount	No.	Amount	No.	Amount
Research Projects:								
Noncompeting	29,423	$17,056,649	30,768	$18,487,622	32,055	$19,393,431	1,287	$905,808
Administrative Supplements[3]	*(3,151)*	494,802	*(3,260)*	476,969	*(2,879)*	385,306	*(-381)*	-91,663
Competing	11,333	$6,668,939	10,961	$6,599,170	10,414	$6,047,419	-547	-$551,751
Subtotal, RPGs	40,756	$24,220,390	41,729	$25,563,761	42,469	$25,826,156	740	$262,395
SBIR/STTR	1,840	1,202,743	1,891	1,242,315	1,941	1,263,786	50	21,471
Research Project Grants	42,596	$25,423,133	43,620	$26,806,076	44,410	$27,089,942	790	$283,866
Research Centers:								
Specialized/Comprehensive	1,043	$2,114,324	1,107	$2,277,684	1,151	$2,374,503	44	$96,819
Clinical Research	73	441,087	58	338,841	36	258,134	-22	-80,707
Biotechnology	45	72,777	44	68,863	45	70,033	1	1,170
Comparative Medicine	47	144,037	46	140,771	45	135,706	-1	-5,065
Research Centers in Minority Institutions	22	74,230	25	83,204	25	83,204	0	0
Research Centers	1,230	$2,846,455	1,280	$2,909,362	1,302	$2,921,580	22	$12,218
Other Research:								
Research Careers	4,966	$930,003	5,142	$961,412	5,173	$976,015	31	$14,603
Cancer Education	75	20,668	76	21,508	74	21,078	-2	-430
Cooperative Clinical Research	261	473,265	297	504,493	346	644,352	49	139,859
Biomedical Research Support	158	104,783	149	103,257	149	93,549	0	-9,708
Minority Biomedical Research Support	228	77,191	158	57,578	88	35,948	-70	-21,630
Other	2,394	1,504,305	2,562	1,650,379	2,627	1,718,202	65	67,823
Other Research	8,082	$3,110,215	8,384	$3,298,628	8,457	$3,489,145	73	$190,517
Total Research Grants	51,908	$31,379,803	53,284	$33,014,066	54,169	$33,500,667	885	$486,601
Ruth L Kirchstein Training Awards:	FTTPs		FTTPs		FTTPs		FTTPs	
Individual Awards	4,107	$196,143	4,233	$206,087	4,226	$210,006	-7	$3,919
Institutional Awards	13,298	770,860	14,092	827,886	13,922	840,638	-170	12,753
Total Research Training	17,405	$967,003	18,325	$1,033,972	18,148	$1,050,644	-177	$16,672
Research & Develop. Contracts	2,736	$3,681,591	2,725	$3,828,668	2,752	$3,946,840	27	$118,172
(SBIR/STTR) (non-add)[3]	*(100)*	*(84,165)*	*(109)*	*(96,991)*	*(113)*	*(95,203)*	*(4)*	*(-1,788)*
Intramural Research		$4,828,314		$5,012,040		$5,056,584		$44,544
Res. Management & Support		2,160,226		2,304,890		2,491,369		186,479
Res. Management & Support (SBIR Admin) (non-add)[3]		*(9,188)*		*(11,133)*		*(13,051)*		*(1,919)*
Office of the Director - Appropriation[3,4]		*(2,772,998)*		*(3,066,208)*		*(3,133,379)*		*(67,171)*
Office of the Director - Other		1,798,512		2,021,814		2,088,985		67,171
ORIP (non-add)[3,4]		*(304,485)*		*(309,393)*		*(309,393)*		*(0)*
Common Fund (non-add)[3,4]		*(670,001)*		*(735,001)*		*(735,001)*		*(0)*
ARPA-H		1,000,000		1,500,000		2,500,000		1,000,000
Buildings and Facilities[5]		280,000		380,000		380,000		0
Appropriation[3]		*(250,000)*		*(350,000)*		*(350,000)*		*(0)*
Type 1 Diabetes[6,7]		-141,450		-141,450		-250,000		-108,550
Program Evaluation Financing[6]		-1,309,313		-1,412,482		-1,948,109		-535,627
Subtotal, Labor/HHS Budget Authority		**$44,644,687**		**$47,541,518**		**$48,816,980**		**$1,275,462**
Interior Appropriation for Superfund Research		82,540		83,035		83,035		0
Total, NIH Discretionary Budget Authority		**$44,727,227**		**$47,624,553**		**$48,900,015**		**$1,275,462**
Type 1 Diabetes[7]		141,450		141,450		250,000		108,550
Total, NIH Budget Authority		**$44,868,677**		**$47,766,003**		**$49,150,015**		**$1,384,012**
Program Evaluation Financing		1,309,313		1,412,482		1,948,109		535,627
Total, Program Level		**$46,177,990**		**$49,178,485**		**$51,098,124**		**$1,919,639**
Pandemic Preparedness Mandatory via PHSSEF (non-add)[8]		*(0)*		*(0)*		*(2,690,000)*		*(2,690,000)*

1 All Subtotal and Total numbers may not add due to rounding.

2 Includes 21st Century Cures Act funding and excludes supplemental financing.

3 All numbers in italics and brackets are non-add.

4 Number of grants and dollars for the Common Fund and ORIP components of OD are distributed by mechanism and are noted here as non-adds. Office of the Director - Appropriation is the non-add total of these amounts and the funds accounted for under OD - Other.

5 Includes B&F appropriation and monies allocated pursuant to appropriations acts provisions such that funding may be used for facilities repairs and improvements at the NCI Federally Funded Research and Development Center in Frederick, Maryland.

6 Number of grants and dollars for mandatory Type 1 Diabetes (T1D) and NIGMS Program Evaluation financing are distributed by mechanism above; therefore, T1D and Program Evaluation financing amounts are deducted to provide subtotals for Labor/HHS Budget Authority.

7 Amounts in FY 2022 and FY 2023 reflect a reduction of $8.550 million for Budget Control Act sequestration.

8 The FY 2024 budget also provides $20 billion in mandatory funding across HHS for pandemic preparedness, which is reflected in the Public Health and Social Services Emergency Fund chapter. Of this total, NIH will receive $2,690 million.

9 Reduced by a transfer of $5.0 million from OD to the HHS Office of Inspector General.

AUTHORIZING LEGISLATION

(Dollars in Thousands)	FY 2023 Amount Authorized	FY 2023 Amount Appropriated	FY 2024 Amount Authorized	FY 2024 President's Budget
National Institutes of Health Activity:				
1. Biomedical Research under Section 301 and Title IV of the PHS Act:				
General Authorization: Section 402A(a)(1) of the PHS Act[1]	TBD	46,361,400	TBD	47,850,489
General Authorization: Section 499A(s) of the PHS Act	TBD	1,500,000	500,000	2,500,000
Pediatric Research Initiative: Section 402A(a)(2) of the PHS Act[2]	12,600	12,600	TBD	12,600
2. Superfund Research Program: Section 311(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, and Section 126(g) of the Superfund Amendments and Reauthorization Act of 1986	Indefinite	83,035	Indefinite	83,035
3. 21st Century Cures Act:				
Precision Medicine: Section 1001(b)(4)(A)	419,000	419,000	235,000	235,000
BRAIN Initiative: Section 1001(b)(4)(B)	450,000	450,000	172,000	172,000
Cancer Moonshot: Section 1001(b)(4)(C)	216,000	216,000	0	0
4. Special Diabetes Programs: Section 330B(b) of the PHS Act[3]	150,000	141,450	TBD	250,000

[1]The authorization of appropriations expired as of September 30, 2020.

[2]The authorization of appropriations expires as of September 30, 2023.

[3]The amount for the Special Diabetes Programs in the FY 2023 Amount Appropriated column reflects the reduction due to sequestration.

APPROPRIATIONS HISTORY

FY 2024 Congressional Justification
National Institutes of Health
Appropriations History

Fiscal Year	Budget Request to Congress	House Allowance	Senate Allowance	Appropriation [1]
FY 2015	$30,353,453,000		$30,084,304,000	$30,311,349,000 [2]
FY 2016	$31,311,349,000 [3]	$31,411,349,000	$32,311,349,000	$32,311,349,000 [4]
FY 2017	$33,136,349,000 [5]	$33,463,438,000	$34,311,349,000	$34,229,139,000 [6]
FY 2018	$26,919,710,000 [7]	$35,184,000,000	$36,084,000,000	$37,311,349,000 [8]
FY 2019	$34,766,707,000 [9]	$38,564,000,000	$39,312,349,000	$39,313,000,000 [10]
FY 2020	$34,367,629,000 [9]	$41,154,000,000	$42,084,000,000	$41,690,000,000 [11]
FY 2021	$39,133,215,000 [9]	$42,071,000,000	$43,536,500,000	$42,940,500,000 [12]
FY 2022	$51,957,703,000 [13]	$49,520,540,000	$48,007,431,000	$46,182,990,000 [14]
FY 2023	$62,507,703,000 [15]	$47,542,035,000	$48,042,035,000	$49,183,485,000 [16]
FY 2024 PB	$51,103,124,000 [17]			

[1] Does not reflect comparability adjustments. Interior appropriation's Superfund Research allocation included for all years. Special Type 1 Diabetes Research mandatory funding included. Includes CURES amounts of $352,000,000 in FY 2017, $496,000,000 in FY 2018, $711,000,000 in FY 2019, $492,000,000 in FY 2020, $404,000,000 in FY 2021, $496,000,000 in FY 2022, $1,085,000,000 FY 2023, and $407,000,000 in the FY 2024 Request.

[2] Includes Program Evaluation Financing of $715,000,000. Excludes Ebola-related funding.

[3] Includes Program Evaluation Financing of $847,489,000.

[4] Includes Program Evaluation Financing of $780,000,000. Excludes Ebola-related and Zika-related funding.

[5] Includes Program Evaluation Financing of $847,489,000.

[6] Includes Program Evaluation Financing of $824,443,000.

[7] Includes Program Evaluation Financing of $780,000,000.

[8] Includes Program Evaluation Financing of $922,871,000. Excludes supplemental hurricane funding of $50,000,000 to the Office of the Director for extramural construction.

[9] Includes Program Evaluation Financing of $741,000,000.

[10] Includes Program Evaluation Financing of $1,146,821,000. Does not reflect $5,000,000 transfer from NIH to the HHS Office of the Inspector General (OIG) or hurricane disaster supplemental of $1,000,000 for National Institute of Environment Health Sciences.

[11] Includes Program Evaluation Financing of $1,230,821,000. Does not reflect $5,000,000 transfer from NIH to HHS OIG. Also does not reflect three COVID-19 supplementals totaling $3,587,400,000: $836,000,000 in P.L. 116-123, $945,400,000 in P.L. 116-136, and $1,806,000,000 in P.L. 116-139 that was provided to NIH through directive transfer from the PHSSEF.

[12] Includes Program Evaluation Financing of $1,271,505,000. Does not reflect $5,000,000 transfer from NIH to HHS OIG. Also does not reflect COVID-19 supplemental of $1,250,000,000 in P.L. 116-260 for the Office of the Director.

[13] Includes Program Evaluation Financing of $1,271,505,000 and reflects the sequestration of the mandatory funding for the Special Type 1 Diabetes Research account. Does not reflect $5,000,000 transfer from NIH to HHS OIG.

[14] Includes Program Evaluation Financing of $1,309,313,000 and reflects the sequestration of the mandatory funding for the Special Type 1 Diabetes Research account. Also reflects $1,000,000,000 for the Advanced Research Projects Agency for Health provided to NIH through transfer from HHS Office of the Secretary (OS). Does not reflect $5,000,000 transfer from NIH to HHS OIG.

[15] Includes Program Evaluation Financing of $1,271,505,000 and reflects the sequestration of the mandatory funding for the Special Type 1 Diabetes Research account. Does not reflect $5,000,000 transfer from NIH to HHS OIG.

[16] Includes Program Evaluation Financing of $1,412,482,000 and reflects the sequestration of the mandatory funding for the Special Type 1 Diabetes Research account. Also reflects $1,500,000,000 for the Advanced Research Projects Agency for Health provided to NIH through transfer from HHS OS. Does not reflect $5,000,000 transfer from NIH to HHS OIG or supplemental hurricane funding totaling $27,500,000 in P.L. 117-328.

[17] Includes Program Evaluation Financing of $1,948,109,000. Does not reflect $5,000,000 transfer from NIH to HHS OIG.

APPROPRIATIONS NOT AUTHORIZED BY LAW

	Last Year of Authorization	Authorization Level	Appropriations in Last Year of Authorization	Appropriations in FY 2023
NIH Labor/HHS Budget Authority[1]	FY 2020	$36,472,442,775	$40,954,400,000	$46,361,400,000

[1]Appropriations under general authorization of appropriations in Section 402A(a)(1) of the PHS Act. Excludes appropriations related to the Cures Act, the Gabriella Miller Pediatric Research Initiative, and the Advanced Research Projects Agency for Health.

NARRATIVE BY ACTIVITY TABLE/HEADER TABLE

(Dollars in Thousands)	FY 2022 Final[3]	FY 2023 Enacted[3]	FY 2024 President's Budget[3]	FY 2024 +/- FY 2023
Program Level[1,2]	$46,177,990	$49,178,485	$51,098,124	$1,919,639
Program Level, excluding ARPA-H[1,2]	$45,177,990	$47,678,485	$48,598,124	$919,639
FTE	18,689	20,366	20,943	577

[1] All columns exclude supplemental funds.

[2] Includes 21st Century Cures Act funding, Mandatory Type 1 Diabetes, and Superfund in all years; includes NIGMS Program Evaluation funding of (in thousands) $1,309,313 in FY 2022, $1,412,482 in FY 2023, and $1,948,109 in FY 2024 PB.

[3] Reduced by transfer to the HHS Office of Inspector General ($5.0 million).

Authorizing Legislation: For existing NIH program, Section 301 and Title IV of the Public Health Act, as amended.

Allocation Methods: Competitive Grants; Contract; Intramural; Other

NIH Contributions and Scientific Advances Towards Improving Human Health

NIH seeks fundamental knowledge about the nature and behavior of living systems and the application of that knowledge to enhance health, lengthen life, and reduce illness and disability. To achieve these goals, NIH supports research on the causes, prevention, and treatments of human diseases and disorders; processes in healthy development and aging; and methods for collecting and disseminating data and health information. To achieve its mission, NIH invests over $47 billion annually in research programs designed to enhance health, lengthen life, and reduce illness and disability.

In 2022, NIH-funded scientists continue to make ground-breaking contributions across the full arc of biomedical science from basic and translational research to clinical research studies. As the coronavirus disease 2019 (COVID-19) pandemic has evolved, NIH has begun adopting new approaches, learned during the pandemic, to enhance mission-critical scientific research and funding. These lessons learned are advancing research in other areas and contributing to preparations for future public health emergencies. Examples of these critical efforts and scientific research areas are described below.

Looking beyond the COVID-19 Pandemic

The demands of the COVID-19 pandemic spurred an unprecedented level of innovation and creativity in the biomedical research enterprise. In response, NIH was able to support the record-breaking development of safe and effective diagnostic tests and vaccines for COVID-19 by leveraging critical partnerships and developing inventive research paradigms.

NIH research efforts have adapted throughout the pandemic to address emerging needs such as ongoing questions on the biological impact of new viral variants, the long-term effects of the pandemic and COVID-19 cases, and preparations for future public health crises and infectious pandemics. The Researching COVID to Enhance Recovery (RECOVER) Initiative was launched to study how affected individuals recover from COVID-19 infection and why some develop Long COVID, also known as post-acute sequalae of SARS-CoV-2 (PASC).[62] RECOVER is led by a consortium and series of committees including closely engaged representative subject matter experts from NIH Institutes, Centers, and Offices (ICOs), patients, caregivers, community leaders, and outside scientific and medical experts. The Initiative supports research designed to identify effective treatments for and potential ways to prevent Long COVID. This year a study supported by the RECOVER Initiative applied machine learning to electronic health records of individuals with Long COVID to reliably predict whether a person with COVID-19 is likely to develop Long COVID.[63] This advance will allow researchers to rigorously investigate critical questions about individual risk factors for Long COVID and enable other RECOVER Initiative studies to identify people with or at risk of Long COVID for participation.

The potential of new emerging infectious diseases will continue to threaten public health in the United States and globally. NIH, led by the National Institute of Allergy and Infectious Diseases (NIAID), has coordinated research on effective countermeasures to potential pandemic pathogens for over two decades. To leverage this experience and expertise, NIH is pursuing

[62] recovercovid.org/

[63] directorsblog.nih.gov/2022/06/07/using-artificial-intelligence-to-advance-understanding-of-long-covid-syndrome/

pandemic preparedness on multiple levels. First, the NIAID Pandemic Preparedness Plan aims to characterize and increase research on pathogens of concern, shorten gaps between the emergence of a pathogen and the implementation of diagnostics, therapeutics, and vaccines, and eliminate gaps in infrastructure and technology to expand pre-clinical and clinical testing.[64] The Pandemic Response Repository through Microbial and Immune Surveillance and Epidemiology (PREMISE) Program will pair virologic and immunologic surveillance to facilitate development of diagnostics and medical countermeasures (MCMs). Preparedness efforts will include continued development of research infrastructure such as pre-clinical testing facilities and clinical trial networks. Finally, NIH will align roles, integrate internal and external preparedness efforts, and enhance or create new communication channels to ensure rapid mobilization of resources.

As the pandemic has evolved, public health needs have changed, and NIH is now able to review its response and begin to implement the new practices to innovate biomedical research administration. The partnerships leveraged during the pandemic, both within and outside of NIH, demonstrated the unique ability of interdisciplinary groups to coordinate large scale efforts. Streamlined administrative processes and policies allowed NIH and funded researchers to respond flexibly to changing needs. To fulfill its mission, NIH will identify lessons learned and implement best practices from the pandemic to support research programs that aim to understand the foundational biology of new organisms and emerging diseases, the role of behavioral and social factors, and their potential impact on human health. Building on these and other advances made during the COVID-19 crisis, NIH will continue to act swiftly to turn discoveries into health.

Addressing Health Disparities and Inequities in Biomedical Research

Health disparities, preventable differences in health status and outcomes that adversely impact certain populations, are a key focus of NIH's mission to improve health in the United States. NIH is dedicated to improving minority health, reducing health disparities, and removing barriers to health disparities research. Only by researching the influence of environment, social determinants, and other underlying mechanisms which lead to differential health outcomes can differences in health be prevented. Efforts across NIH are underway to study mechanisms to reducing disparities in all areas of health.

At NIH, the National Institute on Minority Health and Health Disparities (NIMHD) is the leading institute on research to improve minority health and reduce health disparities through collaborating across NIH and the federal government to advance promising studies. NIMHD supports all aspects of this research including genetic, molecular, and biologic science to clinical, behavioral, and translational research, as well as research on health systems, workforce development, and environmental justice. In 2023, NIMHD will launch the HDPulse Interventions Portal, an expansion of the HDPulse online resource for data to enhance minority health, to share proven interventions to reduce health disparities to inform community interventions.[65]

Many other NIH Institutes and Centers (ICs) lead efforts to advance health disparities research and address inequities within their scientific and medical areas of interest. For example, the National Institute of Nursing Research (NINR) dedicates one third of its budget to research on

[64] www.niaid.nih.gov/research/pandemic-preparedness
[65] www.nimhd.nih.gov/docs/hdPulse_factsheet.pdf

eliminating health disparities.[66] The National Heart, Lung, and Blood Institute (NHLBI) actively supports the Multi-Ethnic Study of Atherosclerosis (MESA), the Strong Heart Study in American Indian men and woman, and the Hispanic Community Health Study of health and disease in Hispanics and Latinos in the U.S. among many other research programs focused on health inequities.[67]

Diversity in the workforce is a key component of innovation and achievement in all areas of research, including health disparities research. To that end the NIH UNITE Initiative was launched in early 2021 as an NIH-wide effort committed to ending racial inequities across the biomedical research enterprise. It is composed of five committees, each with a specific, targeted focus: (U)nderstanding stakeholder experiences through listening and learning; (N)ew research on health disparities/minority health/health inequity; (I)mproving the NIH culture and structure for equity, inclusion, and excellence; (T)ransparency, communication, and accountability with NIH's internal and external stakeholders; and (E)xtramural research ecosystem and changing policy, culture, and structure to promote workforce diversity. To support research on health inequities, the UNITE Initiative will review NIH's research portfolio to identify and make recommendations for addressing research gaps, review systems for measuring and tracking health disparity research, and support research on behavioral, biological, and social determinants of health, structural racism, and discrimination.

NIH will continue to increase coordinated support for research on health disparities and approaches to reducing them and enhance opportunities for scientists and trainees from diverse backgrounds and life experiences. By supporting these goals, NIH will foster scientific innovation, improve the quality of research, and advance opportunities for health disparity populations to participate in and benefit from biomedical research.

Major collaborations across the agency support critical research areas

To achieve their research goals, NIH ICOs often leverage existing strengths and resources by collaborating in innovative and creative ways to develop multidisciplinary approaches to answer complex and crucial questions about human health and preventing disease. NIH-wide collaborative efforts have led to the development of special initiatives and innovative research programs across the agency.

The ultimate examples of NIH-wide collaboration came with the emergence of the COVID-19 pandemic. NIH quickly responded to this public health challenge by establishing new multi-ICO programs, including the Accelerating COVID-19 Therapeutics Interventions and Vaccines (ACTIV) partnership and the Rapid Acceleration of Diagnostics (RADx^{SM}) initiative. As the pandemic continues to evolve, the Community Engagement Alliance (CEAL) Against COVID-19 Disparities and RECOVER: Researching COVID to Enhance Recovery initiatives leverage expertise from across the agency to engage communities hit hardest by the pandemic and advance research on Long COVID. Other NIH-wide collaborations support research in a variety of areas critical for science and health. The INvestigation of Co-occurring conditions across the Lifespan to Understand Down syndrome (INCLUDE) Project for Down syndrome research, the approximately 30 Common Fund initiatives, and the Brain Research Through Advancing Innovative Neurotechnologies® (BRAIN) Initiative are examples of creative collaborations designed to bring together diverse expertise and advance critical, interdisciplinary research.

[66] www.ninr.nih.gov/researchandfunding/desp
[67] www.nhlbi.nih.gov/science/health-disparities-and-inequities

Partnerships with other federal entities, non-profit and private organizations, and academic institutions strengthen NIH's ability to meet unique research and scientific challenges. The Accelerating Medicines Partnership® (AMP®) program partnership with the Foundation for the NIH (FNIH) and the U.S. Food and Drug Administration (FDA) increases efficiencies and improves the process of identifying potential therapeutic targets. The Advisory Committee to the Director (ACD), which consists of external members from a range of backgrounds and organizations, guides program development, resource allocation, and NIH policy, and identifies promising research areas where NIH can make valuable contributions. NIH now has a unique opportunity to collaborate with the newly established Advanced Research Projects Agency for Health (ARPA-H). ARPA-H will support transformative research to drive biomedical breakthroughs from the molecular to societal.

NIH will continue to facilitate partnerships across ICOs, federal agencies, and other organizations to leverage infrastructure and scientific strengths to effectively advance biomedical research and public health. By answering the call of urgent public health needs, closing gaps in health disparities, and capitalizing on foundational research investments, NIH will continue turning discovery into health.

Modernizing Data Sharing in Biomedical Research

NIH's new Data Sharing and Management (DMS) Policy went into effect in January 2023 to ensure proper stewardship of research funding and maintain the quality and availability of scientific information.[68] By releasing this DMS Policy, NIH aims to lead a cultural shift across the biomedical research enterprise. Establishing standard practices for data management and sharing as an integral part of research supported by NIH will accelerate discovery, enhance rigor and reproducibility, provide broad access to important data sets, and promote data reuse for future studies. The DMS Policy applies to all NIH-supported research regardless of funding level and requires submission of a Data Management and Sharing Plan to NIH, as well as compliance with that plan. Promoting greater data sharing will ultimately help to advance needed validation and replication of research findings, provide opportunities for new research and collaborations, and promote trust in NIH-supported research by increasing transparency.

The Office of Science Policy (OSP) leads NIH's ongoing implementation efforts, which aim to catalyze these critical opportunities across biomedical and public health research while supporting a smooth transition for funded investigators. Building off successful engagement efforts in 2021 such as a workshop on strategies for successful data management and sharing,[69] NIH continued to gather feedback from the research community and share resources in advance of the DMS Policy's implementation. In 2022, NIH published a list of Frequently Asked Questions to clarify the requirements of the DMS Policy, how it interacts with previous data sharing expectations, and unique considerations for data derived from studies with human participants.[70] NIH also released a request for public comment to gather feedback on drafted Supplemental Information to the DMS Policy that promotes responsible management and sharing of data collected from American Indian/Alaska Native study participants.[71] This year,

[68] sharing.nih.gov/data-management-and-sharing-policy
[69] www.nationalacademies.org/event/04-29-2021/changing-the-culture-of-data-management-and-sharing-a-workshop
[70] sharing.nih.gov/faqs#/data-management-and-sharing-policy.htm
[71] grants.nih.gov/grants/guide/notice-files/NOT-OD-22-064.html

NIH is also investing in efforts to improve the readiness of NIH-supported data and existing repositories to align with FAIR (Findable, Accessible, Interoperable, and Reusable) Principles and will release additional resources on budgeting for data sharing, protecting participant privacy, and harmonizing the DMS Policy with existing expectations. As NIH implements the DMS Policy, the agency will continue to engage with researchers, participants, and others to provide clear guidance and resources to all stakeholders.

Advancing the Field of Community Violence Research

In addition to the many diseases and disorders studied by NIH, the agency supports a broad range of behavioral and community health research including studies on violence prevention. Violence presents a significant public health challenge which impacts both physical health and well-being and increases the risk of other health concerns. It is a leading cause of death and non-fatal injuries in the United States especially among young people and racial/ethnic minority, sexual and gender minority (SGM) and disability populations. As a research agency, NIH is committed to increasing the understanding of effective violence prevention interventions. In 2019, the NIH-wide Violence Research Working Group convened representative experts from ICOs across NIH to examine NIH's violence research portfolio and identify gaps and opportunities in research priorities. The Working Group, led by the Office of Behavioral and Social Sciences Research (OBSSR), serves as a coordinating body and a resource for the ICOs supporting violence prevention research. Most recently, the OBSSR collaborated with ICOs to support research on the role of violence in health outcomes and effective mechanisms for violence-related screenings in healthcare settings.[72]

Currently, little is known about the best implementation strategies to optimize the effectiveness, adoption, and scale-up of existing evidence-based violence prevention strategies. In 2022, NIH launched two new solicitations for research on firearms mortality and injury prevention. The first of these funding opportunities will support two-part studies on potential community level interventions for preventing firearm related violence.[73] Research projects will be integrated into the Community-Level Interventions for Firearm Violence Prevention (CLIF-VP) Research Network, whose members will collaborate with NIH and each other to advance cross-project activities. The second funding opportunity aims to identify a Coordinating Center for the CLIF-VP Research Network to ensure effective management and coordination of the Network, support data harmonization and sharing in an approved repository, engage stakeholders in research, and communicate research advances to the public.[74] Once established, this Research Network will result in a greater understanding of successful community-based violence prevention and intervention strategies that aim to modify characteristics of the environment to lower risk. This knowledge will allow communities to target resources toward eliminating high-level factors increasing violence risk, focus on individuals who will benefit most, and prevent later negative health outcomes.

Scientific breakthroughs ushered by NIH

The NIH ICOs support basic, translational, and clinical research in specific areas of health, the human body, and disease to fulfill the NIH mission of enhancing public health and advancing scientific breakthroughs. The unique approaches to research taken by each ICO have led to

[72] grants.nih.gov/grants/guide/notice-files/NOT-OD-22-167.html
[73] grants.nih.gov/grants/guide/pa-files/PAR-22-115.html
[74] grants.nih.gov/grants/guide/pa-files/PAR-22-120.html

critical scientific discoveries. Select highlights from the many accomplishments supported by the ICOs this past year are provided below:

- A clinical trial, which was sponsored by NIAID and conducted at the NIH Clinical Center, recently showed that a single injection of a monoclonal antibody known as L9LS was highly effective at protecting adults exposed to malaria.[75] If the treatment advances through later phase clinical trials, it has the potential to significantly reduce morbidity and mortality in children, healthcare workers, and others in malaria-endemic regions.

- In 2022, scientists at the National Institute on Alcohol Effects and Alcohol-Associated Disorders (NIAAA) released a new definition of recovery from alcohol use disorder (AUD) that establishes the groundwork for future recovery-related research. With input from key researchers, clinicians, and recovery specialists, the new definition recognizes recovery as an ongoing process and will enable more precise measures of recovery and effective collaborations across research studies.[76]

- To enhance research on chronic inflammatory demyelinating polyneuropathy and multifocal motor neuropathy, two rare but devastating neuromuscular diseases, researchers supported by the National Center for Advancing Translational Sciences (NCATS) created 3-D tissue chips to model the biology of each disease. The chips have provided preclinical data for authorization of clinical trials and have opened new avenues to develop innovative therapies for other rare diseases.[77]

- Researchers at the National Human Genome Research Institute (NHGRI) collaborated with the National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) and the European Bioinformatics Institute to identify more species of microorganisms residing on human skin than ever before.[78] This catalog, which was made possible by advances in bioinformatics and laboratory equipment, will significantly enhance research on skin diseases and disorders.

These and other discoveries by NIH-funded investigators deliver new treatments, cures, and innovative prevention mechanisms to communities and patients across the world. In FY 2024, NIH will continue to make bold investments in novel ideas and enable the scientific workforce with cutting-edge resources and opportunities.

Maternal health and growth of the IMPROVE Initiative

U.S. rates of maternal deaths (approximately 700 each year) and complications are higher than in any other developed country and continue to rise, with the highest rates of maternal deaths occurring in non-Hispanic Black and American Indian or Alaska Native populations. In FY 2022, NIH received a $30.0 million increase in funding for the Implementing a Maternal health and PRegnancy Outcomes Vision for Everyone (IMPROVE) initiative. IMPROVE seeks to build an evidence-based approach to reducing severe maternal morbidity (SMM) and maternal

[75] www.nih.gov/news-events/news-releases/monoclonal-antibody-prevents-malaria-us-adults-nih-trial-shows
[76] www.niaaa.nih.gov/news-events/research-update/niaaa-scientists-unveil-new-definition-recovery-aud
[77] ncats.nih.gov/news/releases/2022/researchers-create-3-D-model-for-rare-neuromuscular-disorders-setting-stage-for-clinical-trial
[78] www.genome.gov/news/news-release/NIH-researchers-find-thousands-of-new-microorganisms-living-on-human-skin

mortality (MM) and associated health disparities, including geographical, racial, and ethnic disparities. Led by the NIH Maternal Mortality Task Force, IMPROVE in FY 2022 released three funding opportunities that will develop components of a national network of Maternal Health Research Centers of Excellence. The network will support research projects that incorporate local community needs and perspectives to develop, implement, and evaluate community-tailored interventions to address health disparities in SMM and MM, as well as investigate biological, behavioral, sociocultural, and structural risk factors of the leading causes of SMM and MM.

FY 2022 maternal health research lent insight into causes of death or increasing morbidity during pregnancy and postpartum. One NIH-funded study found that more than 20 percent of deaths during pregnancy and the first year after childbirth are due to drug use, suicide, or homicide, with the number of deaths from these causes increasing between 2010 and 2019.[79] The prevalence of pregnancy-associated deaths because of drug use increased 190 percent during this time period. Another study revealed that women who experienced complications related to developing high blood pressure, or hypertension, during pregnancy had a 63 percent increased risk for developing cardiovascular disease later in life.[80] Early screening and monitoring in four targeted areas—blood pressure, cholesterol and glucose levels, and body mass index—could provide personalized targets to help delay or possibly prevent future cardiovascular events. Recognizing social, structural, or genetic risk factors that could contribute to an increased risk for SMM or MM has the potential to provide opportunities for earlier interventions to decrease or prevent related adverse events or death.

To align and support these and other collaborative maternal health initiatives, NIH remains actively engaged in coordinated efforts across the federal government, including the HHS Task Force on Research Specific to Pregnant Women and Lactating Women,[81] the White House Blueprint for Addressing the Maternal Health Crisis[82] and Maternal Health Interagency Policy Committee, and the establishment of HHS agency priority goals for maternal health.

Innovations in mental health research and treatment

Scientific and clinical advances are rapidly advancing mental health care in the United States. Progress in basic science has led to new tools and resources which enable investigators to gain significant insight into the complex interactions between the brain, environment, and disease. Intervention research continues to enhance the understanding and effectiveness of evidence-based care in a broad range of settings. The National Institute of Mental Health (NIMH) supports innovative research to transform the understanding and treatment of mental illness to pave the way for prevention, recovery, and cure. In 2022, NIMH-funded investigators discovered common biological mechanisms between autism spectrum disorder and congenital heart disease,[83] clarified risk factors and potential prevention strategies for child suicide,[84] and tested the effectiveness of existing care programs including the Veterans Health Administration

[79] journals.lww.com/greenjournal/Fulltext/2022/02000/Pregnancy_Associated_Deaths_Due_to_Drugs,_Suicide,.5.aspx

[80] jacc.org/doi/10.1016/j.jacc.2022.03.335

[81] nichd.nih.gov/about/advisory/PRGLAC

[82] whitehouse.gov/wp-content/uploads/2022/06/Maternal-Health-Blueprint.pdf

[83] www.nimh.nih.gov/news/research-highlights/2022/autism-and-congenital-heart-disease-share-underlying-molecular-network

[84] www.nimh.nih.gov/news/research-highlights/2021/understanding-the-characteristics-of-suicide-in-young-children

Recovery Engagement and Coordination for Health–Veterans Enhanced Treatment (REACH VET) program.[85] These and other innovations continue to improve mental health care for those in greatest need.

NIMH has adapted to new challenges such as the COVID-19 pandemic and growing socioeconomic disparities which have increased the need for mental health care by increasing overall stress, worsening symptoms of existing mental illness, and preventing effective administration of care. NIMH has released two urgent funding opportunities to address questions related to the intersection of mental health, COVID-19, and HIV[86] and to secondary impacts of the pandemic.[87] This research will meet the changing needs of the populations as the pandemic evolves and will lay groundwork for responding to future emergencies.

Looking into the future, NIMH will continue to partner with other ICOs and federal agencies, through initiatives like UNITE, the Accelerating Medicines Partnership® Program - Schizophrenia (AMP® SCZ), and the Hub to Reduce the Burden of Suicide among Urban American Indian and Alaska Native Youth. By contributing to and leading these efforts the NIMH advances interdisciplinary approaches to addressing disease with mental health components. Research priorities for FY 2023 and beyond include expansions to collaborative implementation science, improvements to mental health care to underserved populations, and exploration innovations to mental health services. Each of these efforts has the potential to deliver incredible advances to mental health science and care.

Reignite the Cancer Moonshot

With the passage of the 21st Century Cures Act in 2016, the Beau Biden Cancer Moonshot was launched with the goal to accelerate scientific discovery in cancer research, foster collaborations, and improve data sharing. The initiative made tremendous progress in its initial years, funding over $1 billion in research and over 240 studies across more than 70 scientific initiatives to date. In its first iteration, the Cancer Moonshot has focused on four main themes: collaborative research; open access publications; robust data sharing; and elimination of cancer health disparities. Many Moonshot programs, such as Partnerships for Accelerating Therapies, have been established as networks to leverage partner strengths and increase engagement with study participants. To increase transparency and data access, studies supported by the Moonshot programs are made immediately publicly available, resulting in more than 1,000 scientific papers published. Data sharing through the Cancer Moonshot has been enabled by enhanced support for infrastructure, such as the National Cancer Institute (NCI) Cancer Research Data Commons (CRDC), which leverages cloud computing to connect data with available analytical tools, and the Center for Cancer Data Harmonization, which is developing a standard model for harmonizing data across repositories. Finally, reducing cancer disparities is a key focus of all Moonshot programs. For example, many research consortia are creating better pre-clinical models and protocols for diverse patient populations.

The many research initiatives across the Cancer Moonshot have already made significant progress toward their goals. Current research priorities for FY 2023 include expanding immunotherapy by discovering novel immune targets and cell-based therapies for cancer

[85] www.nimh.nih.gov/news/research-highlights/2022/study-shows-reach-vet-program-effective-for-veterans-at-high-risk-for-suicide
[86] grants.nih.gov/grants/guide/pa-files/PAR-22-112.html
[87] grants.nih.gov/grants/guide/pa-files/PAR-22-113.html

treatments through research networks. Through the Cancer Moonshot, NIH will address the unique challenges of pediatric cancers by supporting research on fusion oncoproteins, which drive childhood cancers. Delivering targeted early detection and prevention strategies will reduce cancer risk and health disparities. NIH, in collaboration with other federal agencies, will develop a program to examine multicancer detection tests that are capable of detecting cancers early when the most effective treatment options are available to patients. Finally, in FY 2023, NIH will pursue implementation of proven strategies for detecting and treating cancer in underserved, rural, and minority populations, such as the application of artificial intelligence for detection in areas where access to care is limited.

In early 2022, the Biden-Harris Administration reignited the Cancer Moonshot with the new goals of reducing the death rate from cancer by 50 percent over 25 years and of improving the lives of individuals living with and surviving cancer. By shifting the focus to the experience of having and being treated for cancer, Cancer Moonshot will extend ongoing efforts to speed scientific discoveries and treatments. In the coming years, NIH will leverage the large community of investigators and other collaborators engaged in Cancer Moonshot programs to identify and pursue new methods to prevent and treat cancer and halve the cancer death rate.

Transforming nutrition science

Nutrition plays a fundamental role in human health. If carefully managed, proper nutrition can attenuate disease symptoms and progression, and reduce overall disease risk. Research into how the body reacts to and absorbs nutrients, how nutrient levels are regulated throughout the body, and how high or low levels of nutrients affect health enhance our understanding of the overall impact of diet on health and may lead to improved clinical recommendations and expectations for a healthy lifestyle. Guided by the goals and objectives of the *Strategic Plan for NIH Nutrition Research*,[88] the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) and the Office of Nutrition Research (ONR) lead the coordination and management of nutrition research programs at NIH.

One such program, Nutrition for Precision Health, is a collaborative effort by NIDDK, the NIH Common Fund, and the NIH *All of Us* Research Program, that leverages the vast *All of Us* data resources to develop predictive tools for determining how an individual's response to food might affect their health.[89] In 2022, NIH announced investment in 14 new scientific awards to build a consortium including clinical centers, a dietary assessment center, a metabolomics and clinical assays center, a microbiome and metagenomics center, a multimodal data modeling and bioinformatics center, and a research coordinating center. These many components of the consortium will work together to answer questions important to both *All of Us* participants and the general public. Nutrition is not one-size-fits-all. By understanding how our nutrition interacts with other individual health factors like genetics, gut microbiome, and social environments, the program will further precision nutrition and enable researchers to improve health and prevent disease.

Protecting health amid a changing climate

The changing climate is now a critical public health concern. Climate change negatively impacts health and well-being by worsening chronic diseases, increasing the likelihood of exposures to infectious diseases, impairing air and water quality, and risking access to medical care and

[88] dpcpsi.nih.gov/onr/strategic-plan
[89] commonfund.nih.gov/nutritionforprecisionhealth

resources. Extreme weather events such as floods and heat waves become more frequent and intense, leaving whole communities at risk. The impact of climate change differs across populations depending on socioeconomic status, life stage, and other adaptive capabilities. NIH aims to expand investments in scientific research and policy to identify and mitigate the range of health outcomes triggered or exacerbated by climate change.

As the leader in studying the impact of the environment on human health, the National Institute of Environmental Health Sciences (NIEHS) will lead collaborative efforts to fund research on climate change and human health and adaption. Most recently, the NIH Climate Change and Health Initiative, a collaboration of eight ICs, released the Climate Change and Health Initiative Strategic Framework, which outlines how NIH will invest in research in the short and long term to address the challenges of global climate change.[90] The Framework, published in 2022, explains how NIH will strengthen research by expanding capabilities in scientific workforce development, prioritizing equity, and building partnerships with other organizations working in this space. Priorities identified in the Framework include developing the research infrastructure and workforce, creating new partnerships to achieve greater impact, enhancing research translation to ensure findings are actionable, and identifying risks and benefits to mitigating or adapting to climate change.

To enable research partnerships and engage with the public, NIEHS will dedicate support to a Research Coordinating Center and the Alliance for Community Engagement (ACE-CH), in FY 2023. The Research Coordinating Center will develop a climate change and health community of practice to foster interdisciplinary, inclusive collaborations and provide data and project management services to networked research efforts.[91] Simultaneously, the ACE-CH will maximize engagement and participatory research to achieve climate justice and health equity.[92] The ACE-CH will empower two-way conversations between researchers and participating underserved communities to understand and reduce health disparities. The future of climate research will depend on strong collaborations and a shared commitment between researchers and communities to build new technologies, interventions, and knowledge to manage the impact of climate change.

Advancing research on pain and opioid addiction

The crisis of opioid misuse, addiction, and overdose in the United States is growing, exacerbated by the COVID-19 pandemic, with more drug overdose deaths today than at any point in modern history. The NIH Helping to End Addiction Long-term (HEAL) Initiative aims to identify and develop new therapeutic targets for pain and opioid use disorder, reduce the risk of opioids through nonpharmacological strategies for pain management, and improve opioid addiction treatment. By the end of FY 2021, HEAL had funded over $2 billion in research, representing more than 600 research projects across the United States. HEAL was launched as an NIH-wide program in 2018 to build on the existing research efforts across multiple ICs to address the historic rise in opioid misuse and addiction and better understand pain in the United States by advancing multidisciplinary research across basic, translational, clinical, and implementation science. HEAL research efforts align with the HHS Overdose Prevention Strategy to address the needs of people who live with pain and use drugs. Research supported by HEAL builds on past achievements in basic science of medication development for pain and substance use disorders,

[90] www.nih.gov/sites/default/files/research-training/initiatives/climate-change/nih-climate-change-framework.pdf
[91] grants.nih.gov/grants/guide/rfa-files/RFA-ES-22-003.html
[92] www.nhlbi.nih.gov/sites/default/files/media/docs/ACE_CH_ROA_6_08_2022_FINAL.pdf

pharmacological approaches to pain management, integration of mental health into primary care, and testing of multimodal and multidisciplinary systems of care for pain and addiction. A critical goal of this research is to advance health equity and acknowledge the role of the environment in drug use, chronic pain, and related health outcomes.

Today, HEAL is addressing the many crosscutting issues exposed by the COVID-19 pandemic by prioritizing new research on diversity, equity, and inclusion in research and healthcare and enhancing access to novel telehealth practices for those with co-occurring disparities or limited health and technical literacy. In February 2023, HEAL hosted its fourth annual Investigator Meeting, convening more than 400 researchers, federal officials, and people with lived experiences of opioid use to share recent research findings and identify opportunities to advance HEAL goals.[93] HEAL is also supporting community-engaged research and increasing dissemination of findings to reach researchers, participants, and communities in meaningful ways. In May 2022, HEAL solicited applications for a Research Dissemination and Engagement Center expected to be supported by the end of 2022.[94]

Looking ahead to FY 2024 and beyond, HEAL will support new research on novel approaches to preventing drug use, treating pain and addiction, and reversing overdose. Top priorities for HEAL include advancements to our understanding of polysubstance use, such as the health effects of taking multiple drugs at the same time. HEAL-supported research will work to find tailored treatment approaches for a variety of environments, including primary care settings, and work with health systems to design and test personalized treatments. These personalized treatments could include combination therapies like medication, counseling, and integrative treatments, in addition to support for providers to recognize and treat polysubstance use and complications of drug use. Other research priorities for HEAL include health disparities in treatment for opioid use disorder, neonatal opioid exposure and maternal health, and integrated pain and mental health treatments. HEAL will continue to assess progress made by its older programs and consider how support for research infrastructure and ongoing studies could be leveraged to move in these and other emerging research directions.

[93] heal.nih.gov/news/events/fourth-heal-investigator-meeting
[94] heal.nih.gov/files/2022-05/dissemination-engagement-center-roa.pdf

FUNDING HISTORY (FIVE YEAR FUNDING TABLE)

Fiscal Year	Amount[1, 2]
2020	$41,690,000,000
2021	$42,940,500,000
2022[3,4]	$46,182,990,000
2023[3,5]	$49,183,485,000
2024 Budget Request	$51,103,124,000

[1] Appropriated amounts include discretionary budget authority received from both Labor/HHS appropriations that fund ICs as well as the Interior, Environment & Related Agencies appropriation that supports NIH Superfund Research activities. Also includes mandatory budget authority derived from the Special Type 1 Diabetes account. Includes NIGMS Program Evaluation financing of $1,146,821,000 in FY 2019, $1,230,821,000 in FY 2020, $1,271,505,000 in FY 2021, $1,309,313,000 in FY 2022, $1,412,482,000 in FY 2023, and $1,948,109,000 in the FY 2024 request. Includes CURES amounts of $492,000,000 in FY 2020, $404,000,000 in FY 2021, $496,000,000 in FY 2022, $1,085,000,000 in FY 2023, and $407,000,000 in the FY 2024 request.

[2] Excludes supplemental appropriations and permissive and directive transfers unless otherwise noted.

[3] Reflects the sequestration of the mandatory funding for the Special Type 1 Diabetes Research account.

[4] Reflects $1,000,000,000 for the Advanced Research Projects Agency for Health provided to NIH through transfer from HHS Office of the Secretary (OS).

[5] Reflects $1,500,000,000 for the Advanced Research Projects Agency for Health provided to NIH through transfer from HHS OS.

SUMMARY OF REQUEST NARRATIVE

The FY 2024 President's Budget (PB) request provides a program level of $51.1 billion for NIH, including the Advanced Research Projects Agency for Health (ARPA-H), which is $1.9 billion more than the FY 2023 Enacted level of $49.2 billion. The FY 2024 program level excluding ARPA-H is $48.6 billion, which is an increase of $0.9 billion, or 1.9 percent, over the FY 2023 Enacted level.

The following summary references program level funding, which is the sum of discretionary budget authority in the Department of Labor, Health and Human Services, and Education, and Related Agencies appropriations ($48.8 billion in FY 2024); discretionary budget authority in the Department of the Interior, Environment, and Related Agencies appropriations dedicated to the Superfund Research Program ($83.0 million in FY 2024); mandatory budget authority provided for Type 1 Diabetes research ($250.0 million in FY 2024)[95]; and Program Evaluation Financing for the National Institute of General Medical Sciences under Section 241 of the Public Health Service Act ($1,948.1 million in FY 2024).

The FY 2024 Budget provides $20.0 billion in mandatory funding across HHS for pandemic preparedness, which is reflected in the Public Health and Social Services Emergency Fund (PHSSEF) Congressional Justification. Of this total, $2.7 billion is allocated to NIH. This allocation is not included in the program level total above.

The primary budget mechanisms discussed below include allocations by mechanism of Program Evaluation Financing and Type 1 Diabetes funds. The Superfund Research program and ARPA-H are a lump-sum amount within the NIH mechanism tables.

In FY 2024, NIH will continue providing upfront funding for certain research projects, as appropriate, to facilitate efficient management of resources across multiple years. In general, NIH discretionary research project grants are awarded for more than one year and funded incrementally; each year's commitment is obligated from that year's appropriation. Grants are classified as Competing in the first year of award or renewal, and Non-competing in the remaining years of each award. Certain categories of NIH grants are awarded for multiple years with the full funding provided up front. This includes the NIH Director's New Innovator Award (DP2) and the NIH Research Enhancement Award (R15). The latter consists of two programs, the Academic Research Enhancement Award (AREA) for Undergraduate-Focused Institutions, and the Research Enhancement Award Program (REAP) for Health Professional Schools and Graduate Schools. In addition, full funding can be provided up front for other NIH grants and cooperative agreements as appropriate in special circumstances. Situations that may benefit from such an approach can include, but are not limited to, appropriations for new programs, rapid increases in funding, or variable outyear funding streams (e.g., under the 21st Century Cures Act). The use of upfront funding for new programs makes some base funding available for competing awards in the following year. Up-front funding has increased over the last few years, due in part to the large Congressional increases for Alzheimer's disease research.

[95] The final FY 2023 funding level of $141.450 million for Type 1 Diabetes reflects the 5.7 percent reduction for Budget Control Act sequestration.

Research Project Grants (RPGs)
The FY 2024 President's Budget provides $27.1 billion for RPGs, which is $0.3 billion more than the FY 2023 Enacted level. This amount would fund 10,414 Competing RPGs, or 547 fewer than the FY 2023 Enacted level. It would also support 32,055 Noncompeting RPGs, 1,287 more than the FY 2023 Enacted level. In addition, the projected average cost for Competing RPGs of approximately $581,000 would be 3.5 percent below the FY 2023 Enacted level projected average cost of $602,000.

- **Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) RPGs.** The FY 2024 President's Budget provides $1,263.8 million for SBIR/STTR program grants, which is $21.5 million above the FY 2023 Enacted level. The statutory minimum set-aside requirement of 3.65 percent for NIH-wide SBIR/STTR support is achieved in FY 2024.

Research Centers
The FY 2024 President's Budget provides $2,921.6 million for Research Centers, which is $12.2 million more than the FY 2023 Enacted level. This amount would fund 1,302 grants, 22 more than the FY 2023 Enacted level.

Other Research
The FY 2024 President's Budget provides $3,489.1 million for this mechanism, which is $190.5 million more than the FY 2023 Enacted level. This amount would fund 8,457 grants, which is 73 more than the number of awards projected in the FY 2023 Enacted level.

Training
The FY 2024 President's Budget provides $1,050.6 million for research training, which is $16.7 million above the FY 2023 Enacted level. This amount would fund 18,148 Full-Time Trainee Positions (FTTPs), which is 177 fewer than planned for in the FY 2023 Enacted level, and would continue to fund the new childcare subsidy allowance for individual and institutional trainees that was phased in starting in FY 2021.

Research & Development (R&D) Contracts
The FY 2024 President's Budget provides $3,946.8 million for R&D contracts, which is $118.2 million more than the FY 2023 Enacted level. The requested amount would fund an estimated 2,752 contracts, or 27 more than the FY 2023 Enacted level.

- **SBIR/STTR R&D Contracts.** The FY 2024 President's Budget includes a $95.2 million set-aside within the R&D Contracts mechanism for support of qualified SBIR/STTR contracts.

Intramural Research (IR)
The FY 2024 President's Budget provides $5,056.6 million for IR, which is $44.5 million more than the FY 2023 Enacted level.

Research Management and Support (RMS)
The FY 2024 President's Budget provides $2,491.4 million for RMS, which is $186.5 million more the FY 2023 Enacted level.

Office of the Director (OD)
The FY 2024 President's Budget provides $3,133.4 million for OD, which is $67.2 million more than the FY 2023 Enacted level.

- **Common Fund (CF)**
  Funding of $735.0 million is allocated for CF-supported programs. This amount maintains the FY 2023 Enacted level.

- **Office of Research Infrastructure Programs (ORIP)**
  Funding of $309.4 million is allocated for ORIP. This amount maintains the FY 2023 Enacted level.

- **Other**
  The $2,089.0 million allocated for OD components other than the Common Fund or ORIP is a net increase of $67.2 million from the FY 2023 Enacted level.

Advanced Research Projects Agency for Health (ARPA-H)
The FY 2024 President's Budget provides $2.5 billion to support ARPA-H, an increase of $1.0 billion from the FY 2023 Enacted level.

Buildings & Facilities (B&F)
The FY 2024 President's Budget provides $380.0 million for infrastructure sustainment projects associated with the B&F program, which maintains the FY 2023 Enacted level. This amount includes $350.0 million for NIH's Buildings and Facilities appropriation, and $30.0 million within the appropriation for the National Cancer Institute (NCI) for facility repair and improvement activities at NCI's Frederick, Maryland, facility.

Superfund Research Program
The FY 2024 President's Budget provides $83.0 million for the Superfund Research Program, which is equal to the FY 2023 Enacted level.

Program Evaluation Financing
The FY 2024 President's Budget provides $1,948.1 million for Program Evaluation Financing purposes in NIGMS, which is a $535.6 million increase over the FY 2023 Enacted level.

OUTPUTS AND OUTCOMES

Measure	Year and Most Recent Result / Target for Recent Result / (Summary of Result)	FY 2023 Target	FY 2024 Target	FY 2024 Target +/-FY 2023 Target
SRO-2.4 By 2025, increase the number of potential treatment options for communication disorders that are being tested in clinical trials by adding one new treatment option per year. (Outcome)	FY 2022: Investigators initiated testing of one new treatment option for a disorder affecting language. Target: Initiate testing one new potential treatment option for a disorder affecting language. (Target Met)	Initiate testing one new treatment for a disorder affecting hearing.	Initiate testing one new treatment for a disorder affecting balance.	N/A
SRO-2.8 By 2023, advance the development of three novel drug or biologic therapeutic candidates for Alzheimer's disease (AD) or related dementias toward the point of entry into Phase 1 human studies. (Output)	FY 2022: Investigational New Drug (IND)-enabling studies were completed for two new candidate therapeutics. Target: Complete IND-enabling studies for 2-3 new candidate therapeutics. (Target Met)	Advance the development of three novel drug or biologic therapeutic candidates for AD or related dementias toward the point of entry into Phase 1 human studies.	N/A	N/A
SRO-2.9 By 2022, evaluate the safety and effectiveness of 1-3 long-acting strategies for the prevention of HIV. (Outcome)	FY 2022: Enrollment is not complete due to regulatory hurdles in other countries. Target: Complete enrollment of two open label extension studies (HPTN 083 and HPTN 084) investigating the safety and efficacy of the long-acting injectable antiretroviral drug cabotegravir (CAB LA).	N/A	N/A	N/A

Measure	Year and Most Recent Result / Target for Recent Result / (Summary of Result)	FY 2023 Target	FY 2024 Target	FY 2024 Target +/-FY 2023 Target
	(Target Not Met)			
SRO-2.10 By 2022, develop methods for the regeneration of functional tissues of the human dental, oral, and craniofacial complex to enable initiation of human Phase 1 clinical trials. (Outcome)	FY 2022: Three projects submitted complete applications for Investigational New Drugs and Devices following successful interactions with FDA under the pre-investigational new drug and device application and pre-request for designation consultation programs. Two additional projects are conducting pilot studies prior to consultation with FDA and final design of pre-clinical trials. Target: One FDA application for a tissue regeneration combination product will be approved and one Phase 1 clinical trial protocol will be developed. (Target Met)	N/A	N/A	N/A
SRO-2.13 By 2023, advance the development of 1-2 new drugs and/or other therapeutic candidates for neurological diseases from lead optimization or device development toward the point of preparedness for first-	FY 2022: Studies on eight therapeutic drug or device candidates have demonstrated efficacy in preclinical disease models. Target: Demonstrate efficacy of trial-ready formulation of 1-2 therapeutic or device	Advance the development of 1-2 new drugs and/or other therapeutic candidates for neurological diseases from lead optimization or device	N/A	N/A

Measure	Year and Most Recent Result / Target for Recent Result / (Summary of Result)	FY 2023 Target	FY 2024 Target	FY 2024 Target +/-FY 2023 Target
in-human studies. (Output)	candidates in preclinical disease models. (Target Exceeded)	development toward the point of preparedness for first-in-human studies.		
SRO-3.1 By 2025, identify neurobehavioral precursors or consequences of adolescent substance use or other childhood experiences. (Outcome)	FY 2022: Researchers continued preclinical research to identify which brain regions (e.g., prefrontal cortex, nucleus accumbens, and amygdala) and signaling molecules (e.g., oxytocin and vasopressin) contribute to social alcohol misuse among adolescents. Target: Continue preclinical research to identify brain-based predictors of alcohol use initiation and misuse among adolescents. (Target Met)	Conduct preclinical and clinical studies to better understand the predictors and consequences associated with adolescent alcohol misuse.	Examine the neurobiological mechanisms that underlie the relationship between childhood trauma and increased risk of alcohol misuse during adolescence and adulthood.	N/A
SRO-3.2 By 2022, establish the feasibility of using one emerging technology to safely and non-invasively obtain real-time data on human placenta development and function during pregnancy. (Outcome)	FY 2022: Researchers established the feasibility of using two separate and distinct emerging technologies to safely and non-invasively obtain real time data on human placenta development and function during pregnancy. The first used ultrasound paired with blood oxygen-level dependent magnetic resonance imaging, and	N/A	N/A	N/A

Measure	Year and Most Recent Result / Target for Recent Result / (Summary of Result)	FY 2023 Target	FY 2024 Target	FY 2024 Target +/-FY 2023 Target
	the second used sequencing of placental RNA (ribonucleic acid) present naturally in maternal blood. Target: Establish the feasibility of using one emerging technology to safely and non-invasively obtain real time data on human placenta development and function during pregnancy. (Target Exceeded)			
SRO-4.9 By 2026, evaluate the efficacy of new or refined interventions to treat opioid use disorders (OUD). (Output)	FY 2022: Researchers conducted two clinical trials to test medications to prevent opioid overdose death. Target: Conduct a clinical trial of a medication for relapse prevention of OUD or overdose. (Target Met)	Complete a Phase 2 trial of a long-acting formulation of an opioid antagonist.	Conduct Phase 1 clinical trials of at least two anti-opioid vaccines.	N/A
SRO-4.15 By 2025, develop, refine, and evaluate the effectiveness of evidence-based intervention strategies for facilitating treatment of alcohol misuse in underage populations. (Output)	FY 2022: Researchers conducted studies to evaluate the feasibility and effectiveness of delivering computer-based alcohol screening and brief interventions to adolescents in primary care settings. Target: Evaluate the	Evaluate the effectiveness of an alcohol intervention in reducing alcohol misuse among emerging adults outside of college settings.	Continue a clinical trial to evaluate the effectiveness of screening and brief intervention in primary care for reducing alcohol	N/A

Measure	Year and Most Recent Result / Target for Recent Result / (Summary of Result)	FY 2023 Target	FY 2024 Target	FY 2024 Target +/-FY 2023 Target
	effectiveness of a digital-based alcohol screening and brief intervention for adolescents. (Target Met)		misuse among underage populations.	
SRO-5.2 By 2025, develop or evaluate the efficacy or effectiveness of new or adapted prevention interventions for substance use disorders (SUD). (Outcome)	FY 2022: Researchers conducted two studies to test the effectiveness of prevention interventions focused on electronic nicotine delivery systems in schools, via social media and electronic cigarette advertising restrictions. Target: Conduct 1-2 studies to test the effectiveness of prevention interventions focused on electronic nicotine delivery systems (including vaping). (Target Met)	Launch 1-2 clinical trials testing approaches to prevent opioid and other substance misuse by intervening on social determinants of health.	Launch 1-2 pilot studies to develop novel strategies to prevent substance use among youth and young adults informed by epidemiological research.	N/A
SRO-5.3 By 2023, identify risk and protective alleles that lead to one novel therapeutic approach, drug target, or pathway to prevention for late-onset Alzheimer's disease. (Output)	FY 2022: The Alzheimer's Disease Sequencing Project (ADSP) consortium continued analysis of Discovery Follow-up Studies in ethnically diverse cohorts. The consortium continued confirmation of genomic regions of interest from the Discovery Phase and Discovery Follow-Up Phase in ethnically diverse cohorts and	Identify risk and protective alleles that lead to one novel therapeutic approach, drug target, or pathway to prevention for late-onset Alzheimer's disease.	N/A	N/A

Measure	Year and Most Recent Result / Target for Recent Result / (Summary of Result)	FY 2023 Target	FY 2024 Target	FY 2024 Target +/-FY 2023 Target
	identified genomic elements that underpin the progression of Alzheimer's disease and related dementias. The consortium continued quality control checks and harmonization of phenotypic data with genetic data across multiple studies. The consortium began analysis of genetic data using artificial intelligence/ machine learning approaches. Target: Continue analysis of ADSP Discovery Follow-Up Study in ethnically diverse cohorts. Continue confirmation of genomic regions of interest from Discovery Phase and Discovery Follow-Up Phase in ethnically diverse datasets. Continue harmonization of phenotypic data with ADSP genetic data across multiple types of study approaches from large epidemiology and clinical cohorts that are outside of the ADSP. Begin analysis of ADSP genetic data using artificial intelligence approaches.			

Measure	Year and Most Recent Result / Target for Recent Result / (Summary of Result)	FY 2023 Target	FY 2024 Target	FY 2024 Target +/-FY 2023 Target
	(Target Met)			
SRO-5.8 By 2022, obtain pre-clinical and clinical data from newly initiated and current studies to evaluate 1-2 HIV vaccine candidate(s). (Outcome)	FY 2022: Primary analysis of laboratory data from a Phase 2b vaccine efficacy study was completed, and additional immune correlates analyses were performed. Target: Analyze laboratory data from a Phase 2b vaccine efficacy study. (Target Exceeded)	N/A	N/A	N/A
SRO-5.13 By 2022, complete research to the pre-clinical stage of development of a new or significantly improved targeted, minimally invasive biomodulation technology for therapy. (Outcome)	FY 2022: In a preclinical mouse model, researchers successfully demonstrated the feasibility of an ultrasound technique to temporarily open the blood-brain barrier (which actively prevents foreign substance, like drugs, from entering the brain) for drugs to be delivered to the brain. Target: Evaluate the feasibility and safety of one pre-clinical prototype technology that uses acoustic, optical, or electromagnetic waves to manipulate cells for treatment of a specific disease.	N/A	N/A	N/A

Measure	Year and Most Recent Result / Target for Recent Result / (Summary of Result)	FY 2023 Target	FY 2024 Target	FY 2024 Target +/-FY 2023 Target
	(Target Met)			
SRO-5.15 By 2025, develop, refine and evaluate evidence-based intervention strategies and promote their use to prevent substance misuse and substance use disorders and their consequences in underage populations. (Outcome)	FY 2022: Researchers demonstrated the effectiveness of a suicide and alcohol prevention intervention for adolescents living in rural Alaska Native communities. Target: Develop and/or evaluate preventive interventions to address underage alcohol use among specific underserved populations. (Target Met)	Evaluate a culturally appropriate family-based intervention to prevent and reduce underage drinking among an underserved population.	Develop and/or evaluate a preventive intervention to address alcohol use in underage populations.	N/A
SRO-5.17 By 2022, develop and test the effectiveness of three strategies to enhance end-of-life and palliative care. (Outcome)	FY 2022: Researchers tested three interventions to enhance end-of-life and palliative care. Target: Develop and test at least three effective interventions to enhance end-of-life and palliative care by: improving quality of life for patients; providing support for family members and informal caregivers; and/or facilitating shared decision-making. (Target Met)	N/A	N/A	N/A
SRO-5.18 By 2026, enhance understanding of how five health	FY 2022: The app *¡Hola Bebé, Adiós Diabetes!* was	Assess the feasibility of using data	Identify barriers and enhancers to	N/A

Measure	Year and Most Recent Result / Target for Recent Result / (Summary of Result)	FY 2023 Target	FY 2024 Target	FY 2024 Target +/-FY 2023 Target
information technologies can be applied effectively to improve minority health or to reduce health disparities. (Output)	successfully launched, but completion of effectiveness testing has been delayed due to the COVID-19 pandemic. Target: Determine if a mobile phone app is effective in promoting physical activity or reducing weight among racial and ethnic minority populations. (Target Not Met)	mining, natural language processing, and/or other technological advances to improve health or healthcare for individuals who experience health disparities.	adoption of health information technologies, such as clinical decision aids, from the perspective of physicians who care for populations who experience health disparities.	
SRO-5.19 By 2026, establish a formalized funding pathway for the development, validation, and regulatory review of diagnostic technologies to enhance surveillance and pandemic preparedness. (Outcome and Efficiency)	FY 2022: NIH supported the development of technologies that led to two at-home COVID-19 tests, five point-of-care COVID-19 tests, and two lab-based COVID-19 tests. All nine tests received an FDA emergency use authorization for marketability. Target: Receive FDA authorization for marketability for three home, point-of-care, or lab-based diagnostics. (Target Exceeded)	Receive FDA authorizations or approvals for two home, point-of-care, or lab-based diagnostics, at least one of which addresses accessibility needs of people with disabilities.	Receive FDA authorization or approval (including updated authorization or approval) for at least two home, point-of-care, or lab-based diagnostics, at least one of which is fully accessible to people with disabilities.	N/A
SRO-5.20 By 2026, advance the preclinical or clinical development of 10 antivirals for current or future	FY 2022: Researchers advanced the preclinical development of multiple antiviral therapeutic candidates.	Advance preclinical or clinical development of	Advance preclinical or clinical development of two	N/A

Measure	Year and Most Recent Result / Target for Recent Result / (Summary of Result)	FY 2023 Target	FY 2024 Target	FY 2024 Target +/-FY 2023 Target
infectious disease threats. (Outcome)	Target: Advance preclinical or clinical development of one antiviral therapeutic. (Target Exceeded)	two antiviral therapeutics.	antiviral therapeutics.	
SRO-6.1 By 2023, perform comparative effectiveness studies to test five therapies for prevention or treatment of type 2 diabetes. (Outcome)	FY 2022: The GRADE Study found that a long-acting form of insulin (insulin glargine) and an antidiabetic drug that increases insulin levels (liraglutide) performed the best at maintaining blood glucose levels in the recommended range for people with type 2 diabetes, out of the four FDA medications tested in the study. Target: Analyze the primary outcome results from Glycemia Reduction Approaches in Diabetes: A Comparative Effectiveness (GRADE) Study. (Target Met)	Determine the long-term durability of diabetes remission following bariatric surgery compared with medical/lifestyle intervention.	N/A	N/A
SRO-6.2 By 2025, advance 1-2 new or repurposed compounds that act on neurobiological targets that may have the potential for treating alcohol or other substance use disorders. (Outcome)	FY 2022: NIH supported a clinical study to evaluate the efficacy of ketamine combined with motivational enhancement therapy to reduce the number of heavy drinking days in adults seeking treatment for alcohol use disorder.	Evaluate a candidate compound for the treatment of alcohol use disorder in a preclinical and/or clinical study.	Conduct a clinical study to evaluate a candidate compound for the treatment of alcohol use disorder in individuals with a co-	N/A

Measure	Year and Most Recent Result / Target for Recent Result / (Summary of Result)	FY 2023 Target	FY 2024 Target	FY 2024 Target +/-FY 2023 Target
	Target: Evaluate the efficacy of a candidate compound used in combination with a behavioral therapy for the treatment of alcohol use disorder. (Target Met)		occurring mental health condition.	
CTR-7 By 2022, engage a national community in the development, dissemination, and implementation of a comprehensive national strategy to address the burden of Chronic Obstructive Pulmonary Disease (COPD) in the US. (Output)	FY 2022: Submissions from COPD community stakeholders, which capture activities that support implementation of the COPD National Action Plan, were monitored and analyzed. Target: Analyze Action Plan implementation activities reported by stakeholders. (Target Met)	N/A	N/A	N/A
CBRR-1.1 Provide research training for predoctoral trainees and fellows that promotes greater retention and long-term success in research careers. (Output)	FY 2022: Award rate to comparison group reached 9.8 percent Target: N ≥ 10 percent (Target Not Met)	N ≥ 10 percent	N ≥ 10 percent	N/A
CBRR-1.2 Provide research training for postdoctoral fellows that promotes greater retention and long-term success in research careers. (Output)	FY 2022: Award rate to comparison group reached 16.3 percent and exceeded target by 6.3 percent. Target: N ≥ 10 percent	N ≥ 10 percent	N ≥ 10 percent	N/A

Measure	Year and Most Recent Result / Target for Recent Result / (Summary of Result)	FY 2023 Target	FY 2024 Target	FY 2024 Target +/-FY 2023 Target
	(Target Exceeded)			
CBRR-2 Promote data sharing and provide information in real time through the NIH Business System (NBS) by developing, integrating, deploying and maintaining business modules. (Output)	FY 2022: NBS finalized FedRamp Cloud requirements and selected Oracle Cloud Infrastructure as the cloud service provider. Target: (Development) Initiate development of planned business modules to build capacity and functionality of the NBS. (Target Met)	(Development) Identify or initiate development effort for the implementation of the G-Invoicing platform.	(Development) Transition NBS portfolio to a FedRAMP-certified cloud service provider.	N/A
CBRR-18 By 2023, develop and validate a new protocol for dementia assessment for use in large nationally representative samples. (Outcome)	FY 2023: The Harmonized Cognitive Assessment Protocol (HCAP) has been developed and validated for dementia assessment for use in large nationally representative samples in several countries, including U.S., Mexico, England, Chile, China, India, and parts of South Africa. Target: Develop and validate a new protocol for dementia assessment for use in large nationally representative samples. (Target Met) FY 2022: The follow-up HCAP assessment to provide new data on the	(Note: FY 2023 Target was met early in FY 2022; see results in the second column.)	N/A	N/A

Measure	Year and Most Recent Result / Target for Recent Result / (Summary of Result)	FY 2023 Target	FY 2024 Target	FY 2024 Target +/-FY 2023 Target
	incidence and prevalence of dementia and Alzheimer's disease and related dementias (ADRD) in the U.S. was initiated. FY 2022: Initiate a follow-up HCAP assessment to provide new data on the incidence and prevalence of dementia and ADRD in the U.S. (Target Met)			
CBRR-25 Increase the total number of mentored research career development experiences for trainees from diverse backgrounds, including groups underrepresented in biomedical research, to promote individual development and to prepare them for a range of research-related careers. (Output)	FY 2022: Trainees from diverse backgrounds received a total of 3,972 career development experiences across all career stages. Target: 3,545 career experiences across all career stages. (Target Exceeded)	3,550 career experiences across all career stages.	3,600 career experiences across all career stages.	N/A

Measure	Year and Most Recent Result / Target for Recent Result / (Summary of Result)	FY 2023 Target	FY 2024 Target	FY 2024 Target +/-FY 2023 Target
CBRR-26 Maintain the yearly number of undergraduate students with mentored research experiences through the IDeA (Institutional Development Award) Networks of Biomedical Research Excellence (INBRE) program in order to sustain a pipeline of undergraduate students who will pursue health research careers. (Output)	FY 2022: An estimated 1,490 undergraduate students participated in mentored research experiences, consistent with 2021 level. Target: Sustain the number of undergraduate mentored research experiences from FY 2021 level. (Target Met)	Sustain the number of undergraduate mentored research experiences from FY 2022 level.	Sustain the number of undergraduate mentored research experiences from FY 2023 level.	N/A
CBRR-28 Collect and distribute human tissue samples and molecular and genetic data from human tissues to the scientific community with the purpose of supporting research on brain and behavior. (Output)	FY 2022: Brain tissue from 39 new donors was obtained. Samples were distributed to 22 researchers. Target: Collect brain tissue from an additional 40 new donors and distribute tissue samples or data derived from tissue to 20 researchers studying mental or neurological disorders. (Target Not Met)	Collect brain tissue from an additional 30 new donors and distribute tissue samples or data derived from tissue to 20 researchers studying mental or neurological disorders.	Collect brain tissue from an additional 30 new donors and distribute tissue samples or data derived from tissue to 20 researchers studying mental or neurological disorders.	N/A
CBRR-30 By 2025, expand the use of program-focused versus target-focused award mechanisms by National Institute of General Medical Sciences (NIGMS) investigators. (Output)	FY 2022: Out of 4,381 investigators supported by R01 or MIRA/R35 grants, 2,057 were MIRA/R35 investigators (47 percent). This is an increase of 6 percentage points from 41 percent in FY 2021.	Expand NIGMS investigator participation in the Maximizing Investigators' Research Award (MIRA) program by 2	Expand NIGMS investigator participation in the Maximizing Investigators' Research Award	N/A

Measure	Year and Most Recent Result / Target for Recent Result / (Summary of Result)	FY 2023 Target	FY 2024 Target	FY 2024 Target +/-FY 2023 Target
	Target: Expand NIGMS investigator participation in the Maximizing Investigators' Research Award (MIRA) program by 2 percentage points. (Target Exceeded)	percentage points.	(MIRA) program by 2 percentage points.	
MPO-1 Reduce the footprint of office and warehouse space in NIH's owned and leased facilities portfolio by one percent annually to comply with guidelines in the Office of Management and Budget (OMB) Memorandum M-12-12, Promoting Efficient Spending to Support Agency Operations. (Output and Efficiency)	FY 2022: The usable square footage of rentable office and warehouse space was reduced by 6.4 percent. Target: Reduce one percent of FY 2021 usable square feet. (Target Exceeded)	Reduce one percent of FY 2022 usable square feet.	Reduce one percent of FY 2023 useable square feet.	N/A
MPO-3 Address diverse workforce recruitment needs to ascertain highly qualified staff to conduct or support biomedical research. (Ongoing) (Output)	FY 2022: NIH's Client Services Division Metrics Unit evaluated the return-on-investment on shared recruitments versus standard recruitments and found that shared recruitments continually outperform their counterpart. Target: Assess the shared recruitment approach, using data gathered in first year of full-time	Examine key area to enhance recruitment: Examine use of advanced applicant assessments to help improve the quality of applicant pools for highly skilled positions at the NIH and determine whether or not there is an	Examine key area to enhance recruitment: Examine use of resources created specifically to assist Human Resources Specialists with the promotion of vacancies to underrepresen ted groups,	N/A

Measure	Year and Most Recent Result / Target for Recent Result / (Summary of Result)	FY 2023 Target	FY 2024 Target	FY 2024 Target +/-FY 2023 Target
	practice, to determine if hiring goals are being met. (Target Met)	impact on hiring and retention.	veterans, etc. in an effort to increase awareness of NIH opportunities among diverse populations and determine whether or not there is an impact on the diversity of NIH's applicant pools.	
MPO-4 Reallocate laboratory resources based on external reviews by Boards of Scientific Counselors (BSC). (Output)	FY 2022: 25 percent of Principal Investigators were reviewed resulting in approximately 25 percent of resources recommended to be reallocated. Target: Conduct BSC reviews annually of 25 percent of Principal Investigators to assess quality of science and prioritize resources. (Target Met)	Conduct BSC reviews annually of 25 percent of Principal Investigators to assess quality of science and prioritize resources.	Conduct BSC reviews annually of 25 percent of Principal Investigators to assess quality of science and prioritize resources.	N/A
MPO-7 Manage all Buildings and Facilities (B&F) line-item projects so it is completed within 100 percent of the final approved project cost. (Ongoing) (Output)	FY 2022: 22 of the 28 active projects at the Facility Project Approval Agreement (FPAA) level threshold were effectively managed to ensure completion within 100 percent of the final	24 Active Projects	32 Active Projects	N/A

Measure	Year and Most Recent Result / Target for Recent Result / (Summary of Result)	FY 2023 Target	FY 2024 Target	FY 2024 Target +/-FY 2023 Target
	approved cost. Target: 28 Active Projects (Target Not Met)			
MPO-8 Manage design and construction of capital facility projects funded by B&F so that no more than 10 percent of the projects may incorporate plus or minus 10-percent adjustments of the approved scope. (Ongoing) (Output)	FY 2022: NIH managed the design and construction of 26 of the 28 funded projects within plus or minus 10 percent adjustment to the scope. Target: 28 Active Projects (Target Not Met)	24 Active Projects	32 Active Projects	N/A
MPO-9 Utilize performance-based contracting (PBC). (ongoing) (Output)	FY 2022: Obligated 47 percent of eligible service contracting dollars to PBC. Target: Obligate the FY 2022 goal of eligible service contracting dollars to PBC. (Target Met)	Obligate the FY 2023 goal of eligible service contracting dollars to PBC.	Obligate the FY 2024 goal of eligible service contracting dollars to PBC.	N/A
MPO-11 Verify 70 percent of awarded state-of-the-art instruments are installed at NIH-supported research institutions across the nation. (Output)	FY 2022: The NIH's Shared Instrumentation Grant (S10) Program awarded 123 grants in FY 2020. Of the 123 grant awards, 88 instruments (72 percent) were installed within 24 months of the Notice of Award date. Target: Verify 60 percent of awarded state-of-the-	Verify 60 percent of awarded state-of-the-art instruments are installed at NIH-supported research institutions across the nation 24 months after award.	Verify 65 percent of awarded state-of-the-art instruments are installed at NIH-supported research institutions across the nation 24	N/A

Measure	Year and Most Recent Result / Target for Recent Result / (Summary of Result)	FY 2023 Target	FY 2024 Target	FY 2024 Target +/-FY 2023 Target
	art instruments are installed at NIH-supported research institutions across the nation 24 months after award. (Target Met)		months after award.	

GRANT AWARDS TABLE

	FY 2022 Final[3,a]	FY 2023 Enacted[3,a]	FY 2024 President's Budget[3,a]
Number of Awards	51,908	53,284	54,169
Average Award (in Whole $s)	$604,527	$619,587	$618,447
Range of Awards (in Whole $s)[1,2]	$1,000 to $30,393,525	$1,000 to $39,534,706	$1,000 to $38,397,646

[1] Award range excludes minimum values of zero to under $1,000 related primarily to no-cost extensions and co-funded actions.

[2] Award maximum estimates are based on an extrapolation from the most recent historical actual while accounting for expected budget policies applicable to each future fiscal year. The actual year-to-year fluctuations are roughly eight million dollars, plus or minus.

[3] Includes 21st Century Cures Act funding.

[a] Figures do not include any awards or funding related to ARPA-H.

NEF NARRATIVE

Budget Summary

(Dollars in Thousands)

	FY 2022[2]	FY 2023[3]	FY 2024[4]
Notification[1]	--	$63,140	$120,130

[1] Pursuant to Section 223 of Division G of the Consolidated Appropriation Act, 2008, notification is required of planned use.
[2] Notification submitted to the Committees on Appropriations in the House of Representatives and the Senate on June 17, 2021.
[3] Notification submitted to the Committees on Appropriations in the House of Representatives and the Senate on September 23, 2022.
[4] The NEF CJ indicates the amounts HHS intends to notify for FY 2024; these amounts are planned estimates and subject to final approval.

Authorizing Legislation:
Authorization…….Section 223 of Division G of the Consolidated Appropriations Act, 2008
Allocation Method…….……...…..Direct Federal, Competitive Contract

Program Description and Accomplishments

The Nonrecurring Expenses Fund (NEF) permits HHS to transfer unobligated balances of expired discretionary funds from FY 2008 and subsequent years into the NEF account. Congress authorized use of the funds for capital acquisitions necessary for the operation of the Department, specifically information technology (IT) and facilities infrastructure acquisitions. Since FY 2016, the NEF has provided support for eight projects delivering important improvements on NIH clinical infrastructure, largely focused on the NIH Clinical Center on the Bethesda campus.

Budget Allocation FY 2024

In FY 2024 NIH will receive $120.13 million in NEF funding for five projects:

Improve Clinical Center Complex Electrical Power Reliability
One of NIH's highest facility-related priorities is to support the safety and reliability of the infrastructure that provides utility services to patient-related areas of the Clinical Center Complex (CCC) on the Bethesda Campus. The CCC is composed of three major structures including the original Building 10, the Ambulatory Care Research Facility (ACRF), and the Clinical Research Center (CRC) built in 1952, 1980, and 2005, respectively. This four-phase project consists of three major initiatives in order to achieve electrical power reliability in the CCC, including: 1) new electrical risers and associated equipment; 2) electrical vault decommissioning; and 3) upgrades to existing vaults. This utility project will replace and upgrade aging services with safe, state-of-of the art, cost effective, contiguous, and secure electrical systems. The three initiatives are to be completed in four phases. This FY 2024 NEF project carries out Phase 2 of the program, which will replace Vault 9, rebuild Vault 6, remove the existing freight elevator, and create new floors and electrical rooms, extend the electrical busducts from the West vault to the newly created electrical rooms, and decommission Vault 4.

Replacement of Cooling Towers 18, 19 and Chillers 17, 18, 19
In all, there are six chillers that require replacement under the Building 11 R22 Chiller Replacement program – Chillers 16, 17, 18, 19, 20 and 21. These chillers need to be replaced to eliminate use of R22 refrigerant, which is being phased out; to improve efficiency in serving newer buildings with more efficient heating, air conditioning, and ventilation systems; and because the cooling towers are beyond their lifespan and under capacity to serve current campus needs.

This project replaces three of the six chillers (Chillers 17, 18 and 19) along with their associated cooling towers. The project will include required electrical updates, replacement of the chillers and cooling towers, and expansion of the Building 11 substation to house the variable frequency drives and other equipment associated with the chillers.

Sprinkler Protection in Building 11
This project will provide sprinkler protection in the NIH Central Utility Plant (CUP), Building 11. The CUP is a nearly 70-year-old, 290,488 gross square feet (gsf) building that provides chilled water and steam to cool, heat, and humidify nearly 12 million gsf of space at the NIH Bethesda Campus. The current infrastructure is over 40 years old and is at the end of its useful life; the necessity for an overhaul to the CUP's current sprinkler system is based on the requirements of the National Fire Protection Association (NFPA) 101, Life Safety Code.

The scope of this project is to install a fully code compliant fire sprinkler system in all required areas of the facility. These areas include the main plant, hallways, mechanical spaces, etc. Included in the scope is selective demolition and restoration of ceilings and other disturbed finishes from the sprinkler installation.

Replacement of Steam and Chilled Water Lines from Vault 2 to Vault 31C
This project will design and replace failed, underground steam, chilled water and domestic water piping from existing Valve Vault - 2 (VV2) to existing Valve Vault 31C (VV31C) within a new, underground walkable utility tunnel on the Bethesda campus, Maryland. The west side of the campus steam loop is formed by existing direct-buried pipe. Not only has the trench collapsed, but multiple segments of the existing aging underground piping in this area have failed and require replacement. By connecting to existing steam tunnel on the east side of the loop, the repair will provide for the final west leg of a continuous walkable tunnel, connecting to the ends of the existing Northeast tunnel between VV-2 and VV-31C.

Repair of Bethesda Campus Parking Garages
This project is a three-phase repair/restoration program of four multi-level parking (MLP) garages located on the Bethesda campus. One of these garages is the Building 10 ACRF garage, part of which is located directly beneath the 15-story ACRF Building, and in which the parking garage columns also support the ACRF building.

The MLP garages on the Bethesda campus were built at different times, so their condition and service life vary. However, all have common issues - the structures are deteriorating due to lack of maintenance and poor drainage. To correct and mitigate garage deterioration and safety issues, NIH plans a garage repair/restoration program that will provide for a complete remediation of the parking structures (including stairs towers) to include concrete and drainage repairs as well as any other repair necessary to ensure the safety and structure integrity of the parking garage system; and provide a 25-year maintenance and repair plan for the expected service life of each

garage. The plan will prioritize the preventative maintenance, repair, and rehabilitation needs for the entire garage system on a yearly basis.

FY 2024 NEF Planned Projects

FPAA Number	Project Title	Requested Amount
N-15-011	Electrical Power Reliability for the CCC	$26.10M
N-19-011	Replace Cooling Towers 18, 19 and Chillers 17, 18, 19	$40.0M
N-21-006	Building 11 Provide Sprinkler Protection	$11.37M
N-19-010	Replace Steam & Chilled Water Lines from Vault 2 to Vault 31C	$29.30M
N-20-008	Repair Parking Garages, Bethesda	$13.36M

Budget Allocation FY 2023

In FY 2023 NIH received $63.140 million in NEF funding for the following projects:

$22.49 million of FY 2023 NEF funding was allocated to Phase 3 of the CCC Electrical Power Reliability program, as mentioned above. Phase 3 of this project, funded with FY 2023 NEF funding, will extend the life safety, emergency, and normal power bus ducts from the East Vault to the "A" Wing of Building 10. The project will provide a new tower on the south side of the "A" Wing for the bus duct risers and closets and offer distribution to all "A" Wing floors. Additionally, the work will upgrade Vault 8 to four 2000 kVA transformers and Vault 9 to four 2500 kVA transformers.

$40.65 million of FY 2023 NEF funding was allocated to the NIAID Support Facility (Building J), at Rocky Mountain Laboratories (RML) in Hamilton, Montana. Building J is a multistory addition to existing NIAID Building J for departmental functions including Microscopy, Intramural Administrative Management Branch (IAMB), Acquisition Management and Operations Branch (AMOB), Office of Cyber Infrastructure and Computational Biology (OCICB), and NIH Police. The existing facilities housing the essential support functions of these programs have remained unchanged for many years, while the scientific structure being supported continues to expand. All areas of services have had additional demands placed on them and additional staff have been hired without adequate facilities available to house and support them. The current deficient facilities negatively affect the ability to provide the central support functions and consequently, negatively affect the scientific mission of NIH at RML.

Budget Allocation for FY 2021 and earlier years

$212.4 million of FY 2020 and $225.0 million of FY 2021 NEF funding was allocated to NIH for the development of enhanced bridging documents and the design build (D/B) construction of the Surgery, Radiology and Lab Medicine Building (SRLM) on the Bethesda campus. This project, the most critical project on NIH's five-year Buildings and Facilities Plan, will construct a new addition and repurpose two floors of the west laboratory wing of the CRC. The project will include the Clinical Center's Surgical (Department of Perioperative Medicine and

Interventional Radiology – DPM/IR), Radiology (Radiology and Imaging Sciences – RADIS) and the Laboratory Medicine (Department of Laboratory Medicine - DLM) departments now located in the 1982-era ACRF wings S&T and the NCI research laboratories located on floors 1W and 3W of the CRC West laboratory wing. These departments involve some of the most advanced and technology dependent cutting-edge programs supporting NIH's Translational Research initiatives. The project is focused on developing a facility that supports medical research initiatives to improve the nation's health and strengthen NIH's biomedical research capacity in close proximity to the CRC. The most recent "Building Condition Index" conducted by the NIH has the ACRF in the POOR category. Some of the major deficiencies include the following: 1) functional space inadequacies/inefficiencies; 2) routes of circulation are not efficient; 3) facility has numerous limitations restricting the flexibility/adaptability to address growth and change; 4) infrastructure systems are deficient and unreliable (major areas of concern include normal and emergency power, communication systems, heating, cooling, and ventilation); and 5) structural problems (light steel structure) result in unacceptable vibration levels in some areas of the building. The total project will consist of 630,000 gross square footage (GSF), including new construction of 527,000 GSF and 103,000 GSF of renovation. The new wing will be an eight-story above-grade structure (with interstitial floors), plus one floor below grade and a mechanical penthouse. A below grade Cardiovascular Intervention Program (CIP) suite is also planned. The addition is located on the west end of the CRC-West Laboratory Wing. Once the new addition is completed, two floors of the West Lab wing (1W and 2W) will be renovated after the existing NCI Research Labs are moved to the new addition.

$12.6 million of FY 2020 NEF funding was allocated to the NIH for the Building Automation System (BAS) Replacement, Building 10, Bethesda. The project is to upgrade and replace the obsolete Johnson Controls, Inc. (JCI) Building Automation System (BAS) of NIH Bethesda campus Building 10 CRC with a new state-of-the-art, cost-effective, contiguous, simple, and secure system.

$63.54 million of FY 2019 NEF funding was allocated to the NIH for construction of the Utility Vault and Patient Parking Garage on the Bethesda campus, providing a new, 330,000 GSF, Utility Vault and Multi-Level Parking Garage to serve the NIH Clinical Center. The project also includes several 'enabling' tasks for the proposed SRLM project described above, including a new 2MW generator and switchgear for the SRLM Building and the Clinical Data Center, replacement of electrical duct bank currently serving the CRC which is in the footprint of the new SRLM building, a new CO2 storage tank, a new electrical feeder from Building 63 to the utility vault and parking garage, and utility vault housing for the future Building 59 and 59A (emergency generators and switchgear) replacement.

$19.5 million of FY 2019 NEF funding was allocated to the NIH for Phase 1 of the Electrical Power Reliability program to replace failing and unreliable electrical power systems in the CCC on the Bethesda campus. As noted above, this program consists of three major initiatives, to be completed in four phases. Phase 1 will replace the most critical Vault 10 in the ACRF and provide critical immediate upgrades to Vaults 6 through 9.

$35.27 million of FY 2017 NEF funding was allocated for the replacement of R22 Refrigerant Chillers. This project involves replacing two existing York 5,000-ton dual steam turbine/electric driven chillers (CH-21 FY 2016, CH-16 FY 2017) in Building 11 with four new 3,000-ton variable speed electric chillers, two in FY 2017 and two in FY 2018. Due to the efficiency

achieved in the current chilled water upgrades accomplished between 2013 and 2015 and the additional efficiency and capacity of the four new chillers, the remaining four R22 chillers will not have to be replaced. The refrigerant removed from the demolished chillers will be used as backup for the four remaining chillers if needed.

$16.48 million of FY 2017 NEF funding was allocated for Emergency Generators to support the CUP. The Cogeneration (COGEN) Plant at NIH, which runs on natural gas, is unique in that it is believed to be the most efficient source of electrical power and steam from a stand-alone system in the world. The plant has the capability of delivering 22 megawatts of power to various substations on the Bethesda Campus, which in turn feeds the CUP. This project is to direct the new emergency power generator or generators (2000 KW total) toward the startup of the COGEN plant should a loss of power occur from the local Utility. This system will guarantee uninterrupted cooling and steam service to the most critical facilities on campus.

$162.1 million of FY 2016 NEF funding was allocated to the NIH for the Renovation of the E-Wing in the NIH Clinical Center (Building 10). This project replaces failing infrastructure in Building 10 by converting former patient care and laboratory space on Floors 2 through 13 to build out laboratory, laboratory support space, and offices for personnel in the clinical research programs of numerous Institutes and Centers (ICs).

$10 million of FY 2015 NEF funding was allocated for National Institute of Environmental Health Sciences (NIEHS) Net-Zero Energy Warehouse in Research Triangle Park, North Carolina. Creating this government-owned warehouse facility replaced an off-site leased facility, eliminating the need to pay for a continuing lease, and provided an increased level of security for the warehouse.

Exhibit A

(In millions of dollars)

NIH Nonrecurring Expense Fund (NEF) Overview									
Project	FY2016 Received $M	FY2017 Received $M	FY2018 Received $M	FY2019 Received $M	FY2020 Received $M	FY2021 Received $M	FY2022 Received $M	FY2023 Received $M	FY2024* Planned $M
E-Wing Renovation, Building 10, Bethesda, MD	$ 162.10								
R22 Refrigerant Chillers Replacement, Bethesda, MD		$ 35.27							
Emergency Power Generators to Assure Chilled Water, Bethesda		$ 16.48							
Surgery, Radiology and Lab Medicine Building (SRLM), Bethesda, MD					$ 212.40	$ 225.00			
ORF/ORS/NIAID Support Facilities, RML, MT								$ 40.65	
Electrical Power Reliability, Building 10, Bethesda. MD				$ 19.50				$ 22.49	$ 26.10
Building Automation System (BAS) Replacement, Bldg 10, Bethesda, MD					$ 12.60				
Utility Vault and Patient Parking Garage, Bethesda, MD				$ 63.54					
Replace Cooling Towers 18,19 and Chillers 17,18,19									$ 40.00
Building 11 Provide Sprinkler Protection									$ 11.37
Replace Steam & Chilled Water Lines from Vault 2 to Vault 31C									$ 29.30
Repair Parking Garages, Bethesda									$ 13.36
Totals:	$ 162.10	$ 51.75	$ -	$ 83.04	$ 225.00	$ 225.00	$ -	$ 63.14	$ 120.13

*The NEF CJ indicates the amounts HHS intends to notify for in FY 2024; these amounts are planned estimates and subject to final approval.