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National Institutes of Health (NIH) Funding: FY1996-FY2023

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SUMMARY

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Kavya Sekar
Analyst in Health Policy

National Institutes of Health (NIH) Funding: FY1996-FY2023

This report details the National Institutes of Health (NIH) budget and appropriations process with a focus on FY2022 and FY2023. NIH is the primary federal agency charged with conducting and supporting medical, health, and behavioral research, and it is made up of 27 Institutes and Centers and the Office of the Director (OD). About 80% of the NIH budget funds extramural research through grants, contracts, and other awards. About 10% of NIH funding goes to intramural researchers at NIH-operated facilities. Almost all of NIH's funding is provided in the annual Departments of Labor, Health and Human Services, and Education, and Related Agencies (LHHS) Appropriations Act. NIH also receives smaller amounts of funding from Interior/Environmental (INT) appropriations and a mandatory budget authority for type 1 diabetes research.

The FY2022 NIH program level of $46.183 billion represents a $3.146 billion increase (+7.3%) relative to FY2021-enacted program level. The FY2022 enacted total for NIH is also $5.775 billion (-11.1%) less than the FY2022 budget request and $3.404 billion (-6.9%) less than the program level proposed by the House-passed LHHS and INT bills. In FY2022, all Institute and Center (IC) accounts received an increase relative to FY2021 funding levels (see **Table A-1**).

Additionally, the Biden Administration's FY2022 budget request had proposed the creation of a new Advanced Research Projects Agency for Health (ARPA-H) within NIH with an initial funding level of $6.5 billion to be available for three years. FY2022 appropriations (P.L. 117-103; Division H) provided $1 billion in funding for ARPA-H in a new LHHS account (available for three years) and allowed for the Department of Health and Human Services (HHS) Secretary to transfer ARPA-H to any agency or office of the Department of Health and Human Services (including NIH) within 30 days of enactment. On March 30, 2022, HHS Secretary Xavier Becerra submitted a notice to the appropriations committees that ARPA-H is to reside within the NIH, while the ARPA-H Director is to report directly to the HHS Secretary. Appropriations for ARPA-H are therefore included within the NIH FY2022 program level in this report.

The Biden Administration's FY2023 budget request proposes an FY2023 program level of $62.503 billion—a $16.320 billion increase (+35.3%) from the FY2022 program level. Within the total, the request proposes $5 billion for ARPA-H, an increase of $4 billion from the FY2022-enacted level. The FY2023 request total also includes $12.05 billion in new mandatory appropriations for pandemic preparedness.

NIH has seen periods of high and low funding growth during the period covered by this report, as illustrated in **Figure 1**. Between FY1996 and FY1998, funding for NIH grew from $11.928 billion to $13.675 billion (nominal dollars). Over the next five years, Congress and the President doubled the NIH budget to $27.167 billion in FY2003. In each of FY1999 through FY2003, NIH received annual funding increases of 14% to 16%. From FY2003 to FY2015, NIH funding increased more gradually in nominal dollars. In some years (FY2006, FY2011, and FY2013), funding for the agency decreased in nominal dollars. From FY2016 through FY2022, NIH has seen funding increases each year. The largest increase was from FY2017 to FY2018, where the program level increased by $3.0 billion (+8.8%), making this the largest single-year nominal dollar increase since FY2003. The proposed funding increase in the FY2023 budget request would be a single-year nominal dollar increase of $16.320 billion (+35.3%), which would represent the largest funding increase in the period covered in this report.

When looking at NIH funding adjusted for inflation (in projected constant FY2022 dollars using the Biomedical Research and Development Price Index; BRDPI), the purchasing power of NIH funding initially peaked in FY2003—the last year of the five-year doubling period—and then declined fairly steadily for more than a decade until funding increases were provided in each of FY2016 through FY2022. The FY2022 program level is 0.6%

greater than the peak FY2003 program level. The FY2023 budget request would provide a program level that is a 32.8% increase relative to the peak FY2003 program level.

This CRS report details NIH budget and appropriations for FY2022 and FY2023 and provides an overview of funding trends in regular appropriations to the agency from FY1996 to FY2023. Coronavirus supplemental funding for NIH is discussed in **Appendix B** of the report but is generally not included in the budgetary figures elsewhere in the report. **Appendix A** includes funding tables by account and program-specific funding levels for FY2021, FY2022, and FY2023. **Appendix C** provides a list of acronyms and abbreviations used in the report.

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NIH Funding: FY1996-FY2023

This report provides a historical overview of federal funding provided to the National Institutes of Health (NIH) between FY1996 and FY2023. It also provides a brief explanation of the discretionary spending funding sources for NIH associated with the annual appropriations process (via the Labor, HHS, and Education and Interior/Environment Appropriations Acts) and the mandatory funding for special program on type 1 diabetes research.[1]

NIH is the primary federal agency for medical, health, and behavioral research. It is the largest of the eight health-related agencies that make up the Public Health Service (PHS) within the Department of Health and Human Services (HHS).[2] NIH consists of the Office of the Director (OD) and 27 Institutes and Centers (ICs) that focus on aspects of health, human development, and biomedical science. The OD sets overall policy for NIH and coordinates the programs and activities of all NIH components, particularly in areas of research that involve multiple institutes. In addition, FY2022 appropriations established a new entity that has been placed within NIH: the Advanced Research Projects Agency for Health (ARPA-H), as discussed further in this report.

NIH activities cover a wide range of basic, clinical, and translational research, focused on particular diseases, areas of human health and development, or more fundamental aspects of biology and behavior. Its mission also includes research training and health information collection and dissemination.[3] More than 80% of the NIH budget funds extramural research (i.e., external) through grants, contracts, and other awards. This funding supports research performed by more than 300,000 individuals who work at over 2,500 hospitals, medical schools, universities, and other research institutions around the country.[4] About 10% of the agency's budget supports intramural research (i.e., internal) conducted by nearly 6,000 NIH physicians and scientists, most of whom are located on the NIH campus in Bethesda, MD.[5]

Supplemental Funding for NIH

In FY2021 and prior years, NIH received supplemental appropriations provided as an emergency requirement. Given that this report examines trends in regular annual appropriations to NIH enacted by Congress and the President for the normal operations of the agency, amounts provided to NIH pursuant to an emergency requirement are generally excluded from this report. In some years, supplemental funding to NIH was substantial, such as the over $10 billion in appropriations provided in the American Recovery and Reinvestment Act of 2009 (ARRA; P.L. 111-5), which was a 33% increase to the regular FY2009 appropriations NIH received. NIH has also received supplemental appropriations during several infectious disease emergencies, such as for the Ebola and Zika outbreaks. Given current interest, a summary of the FY2020 and FY2021 amounts for the COVID-19 pandemic is provided in **Appendix B**.

[1] "Mandatory spending" is controlled by authorization acts; "discretionary spending" is controlled by appropriations acts. For further information, see CRS Report R44582, *Overview of Funding Mechanisms in the Federal Budget Process, and Selected Examples*.

[2] The Public Health Service (PHS) also includes the Centers for Disease Control and Prevention (CDC), the Food and Drug Administration (FDA), the Agency for Healthcare Research and Quality (AHRQ), the Health Resources and Services Administration (HRSA), the Substance Abuse and Mental Health Services Administration (SAMHSA), the Indian Health Service (IHS), and the Agency for Toxic Substances and Disease Registry (ATSDR).

[3] For further information on the National Institutes of Health (NIH), see CRS Report R41705, *The National Institutes of Health (NIH): Background and Congressional Issues*.

[4] NIH, "What We Do - Budget," June 29, 2020, at https://www.nih.gov/about-nih/what-we-do/budget.

[5] Ibid.

Funding Sources

The vast majority of NIH funding comes from annual discretionary appropriations bills. NIH additionally receives some mandatory funding and some funding due to unique transfer or budgetary rules, as explained below. The total funding available for NIH activities, taking account of add-ons and PHS tap transfers, is referred to as the NIH "program level."[6]

Discretionary budget authority: NIH's discretionary budget authority comes primarily from annual Labor, HHS, and Education (LHHS) Appropriations Acts, with an additional smaller amount for the Superfund Research Program and related activities from the Interior/Environment (INT) Appropriations Act.[7]

PHS Evaluation Set-Aside: Through LHHS appropriations, some funding is subject to the PHS Evaluation Set-Aside or the "PHS Evaluation Tap" transfer authority.[8] Authorized by Section 241 of the Public Health Service Act, the evaluation tap allows the Secretary of HHS, with the approval of appropriators, to redistribute a portion of eligible PHS agency appropriations across HHS for program evaluation and implementation purposes. The PHSA section limits the set-aside to not less than 0.2% and not more than 1% of eligible program appropriations. However, LHHS Appropriations Acts have commonly established a higher maximum percentage for the set-aside and have appropriated specific amounts of "tap" funding to selected HHS programs—in the context of NIH, these appropriations have been made to National Institute of General Medical Sciences in recent years.[9] Since FY2010, and including in FY2022, this higher maximum set-aside level has been 2.5% of eligible appropriations.[10] Readers should note that totals in this report and NIH source documents include amounts "transferred in" pursuant to PHS tap but do not include any amounts "transferred out" under this same authority.

21st Century Cures Act Innovation Account: NIH also receives funding through LHHS appropriations, subject to different budget enforcement rules than the rest of the NIH funding in the act—appropriations to the NIH Innovation Account created by the 21st Century Cures Act

[6] NIH program levels in this report reflect total funding for all Institutes and Centers (ICs), the Office of the Director (OD), the PHS Evaluation Set-Aside ("PHS Evaluation Tap"), the Superfund Research Program, mandatory type I diabetes research (provided in Public Health Service Act [PHSA] Section 330B), the nonrecurring expenses fund (NEF), and, when applicable, the Patient-Centered Outcomes Research Trust Fund (PCORTF) and mandatory pandemic preparedness funding proposed in the FY2023 budget.

[7] The Hazardous Substance Basic Research and Training Program (Superfund Research Program) funds research on the health effects of exposures to hazardous substances and related solutions at the National Institute of Environmental Health Sciences. It is authorized by 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.

[8] For more information on the PHS Evaluation Tap, or PHS Evaluation Set-Aside, see discussion in CRS Report R44916, *Public Health Service Agencies: Overview and Funding (FY2016-FY2018)*.

[9] Prior to FY2015, NIH had traditionally been by far the largest net donor of tap funds, rather than a net recipient. The joint explanatory statement accompanying the FY2015 omnibus explained this shift as being intended to ensure that tap transfers are a "net benefit to NIH rather than a liability" and noted that this change was in response to a growing concern at the loss of NIH funds to the tap. Joint Explanatory Statement, Proceedings and Debates of the 113th Congress, Second Session, *Congressional Record*, vol. 160, no. 151, Book II, December 11, 2014, p. H9832.

[10] See Section 204 of Division H, Title II, of P.L. 117-103 for the FY2022 maximum set-aside level. The last time that an appropriations act set the PHS tap percentage at a level other than 2.5% was in FY2009, when it was 2.4% (see P.L. 111-8). The FY2022 omnibus also retained a change to this provision, first included in the FY2014 omnibus, allowing tap transfers to be used for the "evaluation and the implementation" of programs funded in the HHS title of the LHHS Appropriations Act. Prior to FY2014, such provisions had restricted tap funds to the "evaluation of the implementation" of programs authorized under the Public Health Service Act.

("the Cures Act," P.L. 114-255) to fund programs authorized by the act for FY2017 through FY2026.[11] For appropriated amounts to the account—up the limit authorized for each fiscal year—the amounts are subtracted from any cost estimate for enforcing discretionary spending limits (i.e., the budget caps). In effect, appropriations to the NIH Innovation Account as authorized by the Cures Act are not subject to discretionary spending limits.[12] The NIH Director may transfer these amounts from the NIH Innovation Account to other NIH accounts, but only for the purposes specified in the Cures Act. If the NIH Director determines that the funds for any of the four Innovation Projects are not necessary, the amounts may be transferred back to the NIH Innovation Account. All amounts authorized by the Cures Act have been fully appropriated to the Innovation Account from FY2017 to FY2022, including $496 million for FY2022. For FY2023, $1.085 billion is authorized to be appropriated.

Mandatory Type I Diabetes Funding: In addition, NIH has received mandatory funding of $150 million annually that is provided in Public Health Service Act (PHSA) Section 330B, for a special program on type 1 diabetes research, most recently extended through FY2023 by the Consolidated Appropriations Act, 2021 (P.L. 116-260; Division BB, Title III).

Nonrecurring expenses fund (NEF): The NEF permits HHS to transfer unobligated balances of expired discretionary funds from FY2008 and subsequent years into the NEF account. Statute authorizes use of the funds for capital acquisitions, including information technology (IT) and facilities infrastructure (42 U.S.C. §3514a), and appropriators can direct the funds to certain accounts through appropriations acts. As shown in **Table A-1**, appropriations directed specific amounts from the NEF to the NIH Building and Facilities account in FY2020 and FY2021. Appropriators did not direct a NEF transfer in FY2022.

FY2022 Proposed and Enacted Funding

President Biden's FY2022 budget request (May 28, 2021) proposed that NIH be provided with a total program level of $51.958 billion, an increase of $8.92 billion (+20.7%) from the FY2021 program level. The proposed FY2022 program level would have been made up of[13]

- $50.461 billion in discretionary LHHS budget authority (nontransfer);
- $1.272 billion pursuant to the PHS program evaluation transfer;
- $84 million for the Superfund research program and related activities from Interior/Environment appropriations; and
- $141 million in annual funding for the mandatory type 1 diabetes research program.[14]

[11] See section on 21st Century Cures Act in CRS Report R41705, *The National Institutes of Health (NIH): Background and Congressional Issues*.

[12] CRS Report R45778, *Exceptions to the Budget Control Act's Discretionary Spending Limits*.

[13] Based mostly on budget request numbers in *Congressional Record*, vol. 168, no. 42, Book IV, March 9, 2022, pp. H2862-H2865, except where noted.

[14] The FY2022 request amount for the mandatory type 1 diabetes research program differs from the already enacted amount for FY2022 of $150 million in PHSA Section 330B, as amended in P.L. 116-260, Division BB, Title III. According to the budget request, the FY2022 request amount reflects sequestration of $8.55 million. See "Budget Request by IC," p. 1, at https://officeofbudget.od.nih.gov/pdfs/FY21/br/2022%20CJ%20Overview%20Volume%20Supplementary%20Tables%20May%2028_corrections%20Oct%204%20annotated.pdf

Under this request, all existing IC accounts, except for the OD, would have received an increase compared with FY2021-enacted levels (see **Appendix A**). The proposed funding level for the OD ($2.25 billion) would have been $163 million less (-6.7%) than the FY2021-enacted level. The Buildings and Facilities (B&F) account would have received an increase of $51 million (+25.4%) in LHHS discretionary budget authority, but an overall decrease of $174 million (-41.1%) when accounting for the additional NEF transfer of $225 million directed to the B&F account in FY2021 appropriations.[15]

The FY2022 budget request also proposed the creation of an Advanced Research Projects Agency for Health (ARPA-H) within NIH. The budget request included $6.5 billion, available through September 30, 2024, for ARPA-H "to build platforms and capabilities to deliver cures for cancer, Alzheimer's disease, diabetes, and other diseases."[16] The $6.5 billion for ARPA-H accounted for 72.9% of the FY2022 budget request's proposed $8.92 billion increase from FY2021-enacted levels. Further information on the ARPA-H proposal is provided in the text box below.

In July 2021, the House passed a consolidated appropriations bill, H.R. 4502, with proposed FY2022 funding levels for NIH accounts in Division A (LHHS appropriations) and Division E (Interior/Environment appropriations). The House-passed appropriations bill would have provided NIH with a FY2022 estimated program level of $49.587 billion, an increase of $6.550 billion (+15.2%) from FY2021-enacted levels and a decrease of $2.371 billion (-4.6%) from the FY2022 budget request. The House-proposed FY2022 program level would have included the following amounts:[17]

- $48.082 billion in discretionary LHHS budget authority (nontransfer);
- $1.272 billion pursuant to the PHS program evaluation transfer;
- $84 million for the Superfund research program and related activities from Interior/Environment appropriations; and
- $150 million in annual funding for the mandatory type 1 diabetes research program.

House-passed appropriations would have provided increases to all existing IC accounts compared with FY2021 funding levels. Compared with the FY2022 budget request, House-passed appropriations would have provided increases to all existing IC accounts except for the National Institute of Child Health and Human Development (-$252 million), the National Institute of Environmental Health Sciences (-$79 million), and the National Institute of Arthritis and Musculoskeletal and Skin Diseases (-$1 million). The House-passed measure also included $3.0 billion for ARPA-H available through September 30, 2024, a decrease of $3.5 billion (-53.8%) compared with the FY2022 budget request, and provided that funding would have been available only if legislation specifically establishing ARPA-H is enacted into law. The Senate Appropriations Committee LHHS and INT subcommittee chairs introduced regular appropriations bills (S. 3062 and S. 3034, respectively) that would have provided funding for NIH; the Senate did not consider these measures in committee or on the floor.

[15] Accounting for the directed NEF transfer, the Buildings and Facilities account has a total FY2021 funding level of $424 million. This total account amount is not reflected in budget request documents.

[16] NIH, Congressional Justification: FY2022, May 28, 2021, p. 10, at https://officeofbudget.od.nih.gov/pdfs/FY22/br/2022%20CJ%20Overview%20Volume%20May%2028.pdf.

[17] H.Rept. 117-96, Departments of Labor, Health and Human Services, and Education, and Related Agencies Appropriations Bill, 2022, July 19, 2021, pp. 475-477, at https://www.congress.gov/117/crpt/hrpt96/CRPT-117hrpt96.pdf. The FY2022 House numbers incorporate the budgetary effects of the amendments to H.R. 4502 that were adopted by the House on July 29, 2021.

On March 15, 2022, Congress and President Biden finalized NIH FY2022 appropriations by enacting the Consolidated Appropriations Act, 2022 (P.L. 117-103), which includes final FY2022 LHHS appropriations in Division H and Interior/Environment appropriations in Division G. The enacted FY2022 NIH program level is made up of the following:

- $43.65 billion in discretionary LHHS budget authority;
- $1.309 billion pursuant to the PHS program evaluation transfer;
- $83 million for the Superfund research program and related activities from Interior/Environment appropriations; and
- $141 million in annual funding for the mandatory type 1 diabetes research program.[18]

In total, the NIH FY2022 program level as enacted is $45.183 billion. In addition, the law provided $1 billion for the Advanced Research Projects Agency for Health to a new account under the Office of the Secretary. The law allowed the HHS Secretary to place the new agency anywhere within the department within 30 days of enactment. On March 30, 2022, HHS Secretary Xavier Becerra submitted a notice to the appropriations committees that ARPA-H is to reside within the NIH.

Accounting for the ARPA-H transfer, the NIH FY2022-enacted program level is $46.183 billion. This FY2022 NIH program level represents a $3.146 billion increase (+7.3%) relative to the FY2021-enacted program level of $43.037 billion. The FY2022 enacted total for NIH is also $5.775 billion (-11.1%) less than the FY2022 budget request. In FY2022, all IC accounts received an increase relative to FY2021 funding levels. For the Innovation Account, the full amount authorized by the 21st Century Cures Act ($496 million) is appropriated. The Buildings and Facilities (B&F) account receives an increase of $51 million (+25.4%) in LHHS discretionary budget authority, but an overall decrease of $174 million (-41.1%) when accounting for the additional NEF transfer of $225 million directed to the B&F account in FY2021 appropriations.

Advanced Research Projects Agency for Health (ARPA-H)

President Biden's FY2022 budget request to Congress proposed the creation of an Advanced Research Projects Agency for Health (ARPA-H) within the National Institutes of Health (NIH). The budget request included $6.5 billion for ARPA-H "to build platforms and capabilities to deliver cures for cancer, Alzheimer's disease, diabetes, and other diseases." Funding was requested for a period of three years to "allow for both scale-up in FY 2022 and redeployment of resources in the next two years if projects fail to meet performance milestones." The vast majority of funding would support extramural research, with a small amount of funding reserved for staffing and administrative functions. Unlike NIH Institutes and Centers (ICs), ARPA-H would not have its own intramural research program.

As proposed, ARPA-H is modeled after the Defense Advanced Research Projects Agency (DARPA), which works primarily with the Department of Defense (DOD), and would contain several "DARPA model" characteristics, including a flat and nimble organizational structure, tenure-limited program managers with a high degree of autonomy to select and fund projects, and a milestone-based contract approach. While this organizational structure would be "operationally unique" from NIH ICs, ARPA-H would still coordinate research and activities with NIH ICs and other HHS agencies.

[18] The FY2022-enacted amount for the mandatory type 1 diabetes research program differs from the amount for FY2022 of $150 million in PHSA Section 330B, as amended in P.L. 116-260 , Division BB, Title III. According to the budget request, the FY2023 amount reflects sequestration of $8.55 million. See "Budget Mechanism Table," p. 44, at https://officeofbudget.od.nih.gov/pdfs/FY23/br/Overview%20of%20FY%202023%20Presidents%20Budget.pdf.

[18] HHS, *Budget in Brief: FY2023*, pp. 53-54, https://www.hhs.gov/sites/default/files/fy-2023-budget-in-brief.pdf.

The FY2022 budget request describes four broad project areas that ARPA-H would fund:

- tackling bold challenges requiring large-scale, sustained, cross-sector coordination;
- creating new capabilities (e.g., technologies, data resources, disease models);
- supporting high-risk exploration that could establish entirely new paradigms; and
- overcoming market failures through critical solutions, including financial incentives.

Most ARPA-H awards would be given to industry, universities, and nonprofit research institutions, and may involve some agreements with other federal agencies.[19]

The Consolidated Appropriations Act, 2022 (P.L. 117-103), provides $1 billion to HHS to establish the Advanced Research Projects Agency for Health (ARPA-H). The law created a new ARPA-H account at HHS, with funding available until September 30, 2024, and allowed the HHS Secretary to place the new agency anywhere within the department within 30 days of enactment. On March 30, 2022, HHS Secretary Xavier Becerra submitted a notice to the appropriations committees that ARPA-H is to reside within the NIH, while the ARPA-H Director is to report directly to the HHS Secretary.

For further information and analysis regarding ARPA-H, see CRS Report R47074, *Advanced Research Projects Agency for Health (ARPA-H): Congressional Action and Selected Policy Issues*.

FY2023 Budget Request

President Biden's FY2023 budget request proposes that NIH be provided with a total program level of $62.503 billion, an increase of $16.320 billion (+35.3%) from FY2022-enacted levels. The proposed FY2023 program level would be made up of[20]

- $48.957 billion in discretionary LHHS budget authority (nontransfer);
- $1.272 billion pursuant to the PHS program evaluation transfer;
- $83 million for the Superfund research program and related activities from Interior/Environment appropriations;
- $141 million in annual funding for the mandatory type 1 diabetes research program;[21]and
- $12.05 billion in new mandatory appropriations for pandemic preparedness.[22]

Under this request, approximately half of existing IC accounts would receive increases compared with FY2022-enacted levels (see **Appendix A**). Funding for the National Institute on Minority Health and Health Disparities (NIMHD) would increase by the greatest percentage amount (+$201 million, +43.7%), and funding for OD would decrease by the greatest amount (-$319

[19] NIH, *Congressional Justification: FY2022*, May 28, 2021, pp. 10-11, at https://officeofbudget.od.nih.gov/pdfs/FY22/br/2022%20CJ%20Overview%20Volume%20May%2028.pdf and HHS, "FY2022 Budget in Brief," pp. 59-60, at https://www.hhs.gov/sites/default/files/fy-2022-budget-in-brief.pdf.

[20] NIH, *Congressional Justification: FY2023*, "Budget Request by IC (Summary Table)," March 28, 2022, p. 86, at https://officeofbudget.od.nih.gov/pdfs/FY23/br/Overview%20of%20FY%202023%20Presidents%20Budget.pdf.

[21] This proposed amount for the mandatory type 1 diabetes research program differs from the already enacted amount for FY2023 of $150 million in PHSA Section 330B, as amended in P.L. 116-260, Division BB, Title III. According to the budget request, the FY2023 amount reflects sequestration of $8.55 million. See "Budget Mechanism Table," p. 44, at https://officeofbudget.od.nih.gov/pdfs/FY23/br/Overview%20of%20FY%202023%20Presidents%20Budget.pdf.

[22] The FY2023 budget request proposes an HHS-wide total of $81.7 billion for pandemic preparedness to "transform U.S. capabilities to prepare for and respond rapidly and effectively to future pandemics and other high consequence biological threats." The $12.05 billion directed to NIH is for "NIH research and development of vaccines, diagnostics, and therapeutics against high priority viral families, biosafety and biosecurity, and to expand laboratory capacity and clinical trial infrastructure." See HHS, *Budget in Brief: FY2023*, p. 55, https://www.hhs.gov/sites/default/files/fy-2023-budget-in-brief.pdf.

million, -12.2%). In addition, the full amount ($1.085 billion) authorized by the 21st Century Cures Act for FY2023 (P.L. 114-255) would be appropriated to the Innovation Account. The FY2023 budget request also proposes $5 billion for ARPA-H, an increase of $4 billion from the FY2022-enacted level.[23]

Under the pandemic preparedness proposal, NIH would be provided $12.05 billion in new mandatory appropriations available for five years. This new appropriation makes up 73.8% of the proposed increase of $16.32 billion relative to FY2022-enacted program level. The pandemic preparedness proposal generally does not designate specific amounts for NIH ICs but describes a number of activities the new funding would support, including vaccine and therapeutic development, diagnostic test development and innovation, research infrastructure for clinical trials, and laboratory biosafety and biosecurity.[24] If enacted, these mandatory appropriations generally would be controlled outside the annual appropriations process by authorizing law.

Trends

Table 1 outlines NIH program level funding from FY1996 until the FY2023 request. **Figure 1** illustrates funding trends in both current (also called nominal dollars) and projected constant (i.e., inflation-adjusted) FY2022 dollars (funding shown is total budget authority).

NIH has seen periods of high and low funding growth. Between FY1996 and FY1998, funding for NIH grew from $11.928 billion to $13.675 billion (nominal dollars). Over the next five years, Congress and the President doubled the NIH budget to $27.167 billion in FY2003. In each of FY1999 through FY2003, NIH received annual funding increases of 14% to 16%. From FY2003 to FY2015, NIH funding increased more gradually in nominal dollars.[25] In some years, (FY2006, FY2011, and FY2013) funding for the agency decreased in nominal dollars.[26] From FY2016 through FY2022, NIH has seen funding increases each year. The largest increase was from FY2017 to FY2018, where the program level increased by $3.010 billion (+8.8%), making this the largest single-year nominal dollar increase since FY2003. The proposed funding increase in the FY2023 budget request would be a single-year nominal dollar increase of $16.320 billion (+35.3%)—it would represent the largest single-year increase in the period covered by this report.

The lower half of **Figure 1** shows NIH funding adjusted for inflation (in projected constant FY2023 dollars) using the Biomedical Research and Development Price Index (BRDPI).[27] It

[23] NIH, *Congressional Justification: FY2023*, "Budget Request by IC (Summary Table)," March 28, 2022, p. 86, at https://officeofbudget.od.nih.gov/pdfs/FY23/br/Overview%20of%20FY%202023%20Presidents%20Budget.pdf.

[24] NIH, *Congressional Justification: FY2023*, pp. 17-20, https://officeofbudget.od.nih.gov/pdfs/FY23/br/Overview%20of%20FY%202023%20Presidents%20Budget.pdf.

[25] Amounts shown in **Table 1** include appropriations for the Global Fund to Fight AIDS, TB, and Malaria (FY2002-FY2011) that were subject to transfer-out. As of FY2012, NIH no longer receives appropriations for the National Institute of Allergy and Infectious Diseases (NIAID) identifying resources for the Global Fund; this responsibility was transferred to another federal agency. For further details on the amounts transferred out by fiscal year, see the "Supplemental Appropriation Data Table" for "History of Congressional Appropriations, Fiscal Years 2000-2012" at http://officeofbudget.od.nih.gov/approp_hist.html.

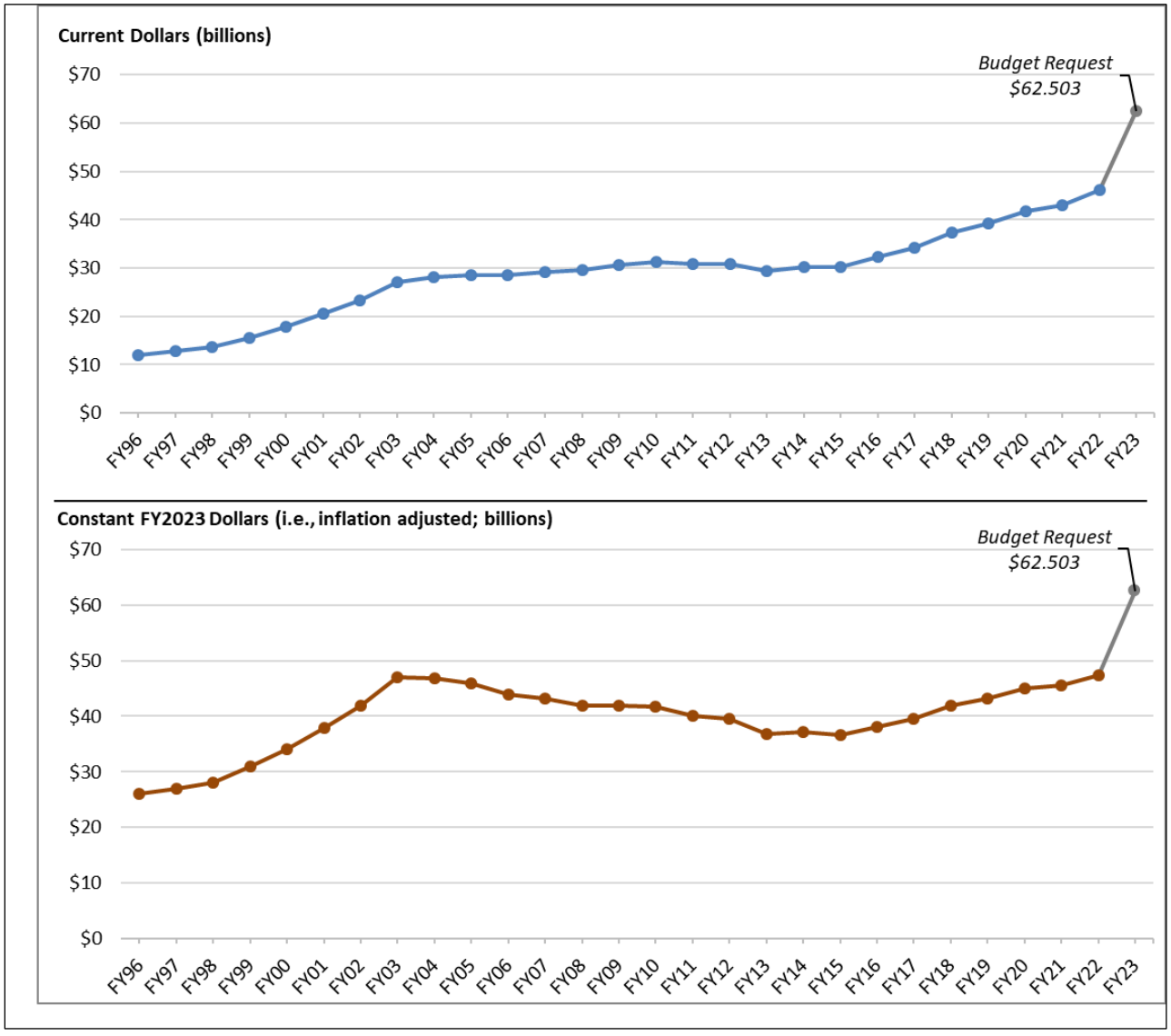
[26] For instance, the FY2006 total was 0.1% lower than the previous year, the first time that NIH appropriations had decreased since FY1970; the FY2011 total, provided in the Full-Year Continuing Appropriations Act, 2011 (P.L. 112-10), was 1.0% less than the previous fiscal year; the FY2013 total, provided in the Consolidated and Further Continuing Appropriations Act, 2013 (P.L. 113-6), was reduced by the March 2013 sequestration and a transfer of funding under the authority of the HHS Secretary ($1.553 billion and $173 million, respectively), resulting in a budget that was 5.0% lower than the prior year.

[27] The index is developed for NIH by the Bureau of Economic Analysis of the Department of Commerce. It reflects the increase in prices of the resources needed to conduct biomedical research, including personnel services, supplies, and

shows that the purchasing power of NIH funding initially peaked in FY2003 (the last year of the five-year doubling period) and then declined fairly steadily for more than a decade until consecutive funding increases were provided in each of FY2016 through FY2022. The FY2022 program level is 0.6% greater than the peak FY2003 program level. The FY2023 budget request would provide a program level that is 32.8% relative to the peak FY2003 program level.

Figure 1. NIH Funding, FY1996-FY2023

Program Level Funding in Current and Projected Constant (FY2023) Dollars.



Source: Sources used for FY2023 request, FY2022, and FY2021 program levels are in **Table A-1**. The FY2020 (and earlier) program levels are from NIH Budget Office, Appropriations History by Institute/Center (1938 to Present), at http://officeofbudget.od.nih.gov/approp_hist.html. Inflation adjustment reflects the Biomedical Research and Development Price Index (BRDPI), updated March 2022, at https://officeofbudget.od.nih.gov/gbiPriceIndexes.html.

equipment. It indicates how much the NIH budget must change to maintain purchasing power. See "NIH Price Indexes," at https://officeofbudget.od.nih.gov/gbiPriceIndexes.html.

Notes: By convention, program level totals include amounts "transferred in" pursuant to PHS tap but do not include any amounts "transferred out" under this same authority. Program level includes all budget authority, including appropriations for the Global Fund to Fight AIDS, TB, and Malaria (FY2002-FY2011) that were subject to transfer-out. As of FY2012, NIH no longer receives appropriations for the National Institute of Allergy and Infectious Diseases (NIAID) identifying resources for the Global Fund; this responsibility was transferred to another federal agency. In general, amounts provided to NIH designated for emergency requirements are excluded from these totals (e.g., the FY2020 and FY2021 amounts do not include the amounts provided in the coronavirus supplemental appropriations acts, summarized in **Appendix B**).

Table 1. NIH Funding, FY1996-FY2023

Program Level Funding in Current and Constant (FY2023) Dollars (Billions)

Fiscal Year	Program Level Current $	% Change	Program Level Projected Constant FY2023 $	% Relative to FY2003[a]
1996	11.928	5.6%	25.045	
1997	12.741	6.8%	26.028	
1998	13.675	7.3%	27.020	
1999	15.629	14.3%	29.934	
2000	17.841	14.1%	32.942	
2001	20.459	14.7%	36.561	
2002	23.321	14.0%	40.340	
2003	27.167	16.5%	45.396	
2004	28.037	3.2%	45.167	-0.5%
2005	28.594	2.0%	44.341	-2.3%
2006	28.560	-0.1%	42.328	-6.8%
2007	29.179	2.2%	41.664	-8.2%
2008	29.607	1.5%	40.385	-11.0%
2009	30.545	3.2%	40.480	-10.8%
2010	31.238	2.3%	40.176	-11.5%
2011	30.916	-1.0%	38.657	-14.8%
2012	30.861	-0.2%	38.099	-16.1%
2013	29.316	-5.0%	35.526	-21.7%
2014	30.143	2.8%	35.760	-21.2%
2015	30.311	0.6%	35.243	-22.4%
2016	32.311	6.6%	36.769	-19.0%
2017	34.301	6.2%	38.044	-16.2%
2018	37.311	8.8%	40.375	-11.1%
2019	39.313	5.4%	41.661	-8.2%
2020	41.690	6.0%	45.018	-4.4%
2021	43.037	3.2%	45.498	-3.3%
2022	46.183	7.3%	47.363	+0.6%
2023PB	*62.503*	*35.3%*	*62.503*	*+32.8%*

Sources: Sources used for FY2023 request, FY2022, and FY2021 program levels are in **Table A-1**. The FY2020 (and earlier) program levels are from NIH Budget Office, Appropriations History by Institute/Center (1938 to Present), at http://officeofbudget.od.nih.gov/approp_hist.html. Inflation adjustment reflects the Biomedical Research and Development Price Index (BRDPI), updated March 2022, at https://officeofbudget.od.nih.gov/gbiPriceIndexes.html.

Notes: By convention, budget tables, such as **Table 1**, include amounts "transferred in" pursuant to PHS tap but do not include any amounts "transferred out" under this same authority. Program level includes all budget

authority, including appropriations for the Global Fund to Fight AIDS, TB, and Malaria (FY2002-FY2011) that were subject to transfer-out. As of FY2012, NIH no longer receives appropriations for the National Institute of Allergy and Infectious Diseases (NIAID) identifying resources for the Global Fund; this responsibility was transferred to another federal agency. In general, amounts provided to NIH for emergency requirements are excluded from these totals (e.g., the FY2020 and FY2021 amounts do not include the amounts provided in the coronavirus supplemental appropriations acts, summarized in **Appendix B**). PB denotes "President's Budget."

a. FY2003 was the year that NIH received the most program level funding (prior to FY2022) in 2023 constant dollars.

Appendix A. NIH Funding Details

Table A-1. National Institutes of Health Funding

(budget authority, in millions of dollars)

Institutes/Centers	FY2021 Final	FY2022 Request	FY2022 Enacted	FY2023 Request
Cancer Institute (NCI)	$6,540	$6,733	$6,913	$6,714
Heart, Lung, and Blood Institute (NHLBI)	$3,654	$3,846	$3,808	$3,823
Dental/Craniofacial Research (NIDCR)	$483	$516	$501	$513
Diabetes/Digestive/Kidney (NIDDK)[a]	$2,126	$2,219	$2,204	$2,206
Neurological Disorders/Stroke (NINDS)	$2,504	$2,783	$2,611	$2,768
Allergy/Infectious Diseases (NIAID)	$6,049	$6,246	$6,323	$6,268
General Medical Sciences (NIGMS)[b]	$1,715	$1,825	$1,783	$1,826
Child Health/Human Development (NICHD)	$1,588	$1,942	$1,683	$1,675
National Eye Institute (NEI)	$833	$859	$864	$853
Environmental Health Sciences (NIEHS)[c]	$812	$937	$842	$932
National Institute on Aging (NIA)	$3,888	$4,036	$4,220	$4,011
Arthritis/Musculoskeletal/Skin Diseases (NIAMS)	$632	$680	$656	$676
Deafness/Communication Disorders (NIDCD)	$497	$512	$515	$509
Alcohol Abuse/Alcoholism (NIAAA)	$553	$570	$574	$567
Nursing Research (NINR)	$174	$200	$181	$199
National Institute on Drug Abuse (NIDA)	$1,476	$1,853	$1,595	$1,843
National Institute of Mental Health (NIMH)	$2,100	$2,214	$2,217	$2,211
Human Genome Research Institute (NHGRI)	$614	$633	$639	$629
Biomedical Imaging/Bioengineering (NIBIB)	$409	$422	$425	$419
Complementary/Integrative Health (NCCIH)	$154	$184	$159	$183
Minority Health/Health Disparities (NIMHD)	$390	$652	$459	$660
Fogarty International Center (FIC)	$84	$96	$87	$96
National Library of Medicine (NLM)	$461	$475	$479	$472
Advancing Translational Sciences (NCATS)	$853	$879	$882	$874
Office of Director (OD)[d]	$2,413	$2,250	$2,629	$2,310
Innovation Account[e]	$109	$150	$150	$419
Buildings and Facilities (B&F)[f]	$199	$250	$250	$300
Research Quality	—	—	—	—
ARPA-H	—	$6,500	$1,000[g]	$5,000
Subtotal, NIH (LHHS Discretionary BA)	**$41,309**	**$50,461**	**$44,650**	**$48,957**
PHS Program Evaluation (provided to NIGMS)	$1,272	$1,272	$1,309	$1,272
Superfund (Interior approp. to NIEHS)[h]	$82	$84	$83	$83
Mandatory type 1 diabetes funds (to NIDDK)[i]	$150	$141	$141	$141[i]

Institutes/Centers	FY2021 Final	FY2022 Request	FY2022 Enacted	FY2023 Request
Pandemic Preparedness[k] (proposed mandatory)	—	—	—	$12,050
Nonrecurring Expenses Fund (NEF) Transfer (to Buildings and Facilities)[l]	$225	—	—	—
NIH Program Level	**$43,037**	**$51,958**	**$46,183**	**$62,503**

Source: The FY2023 Request and FY2021 program levels are from NIH, *Congressional Justification: FY2023*, "Budget Request by IC (Summary Table)," March 28, 2022, p. 86, at https://officeofbudget.od.nih.gov/pdfs/FY23/br/Overview%20of%20FY%202023%20Presidents%20Budget.pdf. The FY2022 and FY2022 Request program levels are from *Congressional Record*, vol. 168, no. 42, Book IV, March 9, 2022, pp. H2862-H2865, except where noted below.

Notes: Totals may differ from the sum of the components due to rounding. Amounts in table may differ from actuals in many cases. By convention, budget tables such as **Table A-1** do not subtract the amount of transfers to the evaluation tap from the agencies' appropriation. In general, amounts provided to NIH for emergency requirements are excluded from these totals (e.g., FY2021 amounts do not include the amounts provided in the coronavirus supplemental appropriations acts, summarized in **Appendix B**).

a. Amounts for the NIDDK do not include mandatory funding for type 1 diabetes research (see note j).

b. Amounts for NIGMS do not include funds from PHS Evaluation Set-Aside (§241 of the PHS Act).

c. Amounts for NIEHS do not include Interior/Environment Appropriations amount for Superfund research (see note i).

d. Includes $12.6 million transfer from the Pediatric Research Initiative Fund (PRIF) as authorized by the Gabriella Miller Kids First Research Act.

e. The amount shown for the NIH Innovation Account in each column represents only a portion of the total appropriation to the account ($404 million for FY2021: $496 million for FY2022; $1.085 billion for FY2023. The remaining funds for this account are reflected, where applicable, into the totals for other ICs. For FY2022, this includes $194 million to NCI for cancer research and $76 million to each of NINDS and NIMH for the BRAIN Initiative ($152 million total for BRAIN). For FY2023, this includes $216 million to NCI for cancer research and $225 million to each of NINDS and NIMH for the BRAIN Initiative ($450 million total).

f. Amounts for the Building and Facilities account do not include directed transfers from the nonrecurring expenses fund in FY202-enacted appropriations (see note l).

g. Funding for ARPA-H in P.L. 117-103 was provided to a new ARPA-H account under the HHS Office of the Secretary. A proviso accompanying the appropriation gave HHS Secretary Becerra the ability to transfer the new agency anywhere within the department within 30 days of enactment. On March 30, 2022, HHS Secretary Xavier Becerra submitted a notice to the appropriations committees that ARPA-H is to reside within the NIH; therefore, ARPA-H is shown within NIH in this table presentation.

h. This is a separate account in the Interior/Environment appropriations for NIEHS research activities related to Superfund research.

i. Mandatory funds are available to NIDDK for type 1 diabetes research under PHSA Section 330Bm, which was most recently extended through FY2023 by the Consolidated Appropriations Act, 2021 (P.L. 116-260; Division BB, Title II).

j. The FY2022 and FY2023 amounts for the type I diabetes research program ($141 million) are lower than the enacted funding levels for FY2022 and FY2023 ($150 million). According to the budget request, the FY2022 and FY2023 amounts reflect sequestration of $8.55 million. See "Budget Mechanism Table," p. 44 in https://officeofbudget.od.nih.gov/pdfs/FY23/br/Overview%20of%20FY%202023%20Presidents%20Budget.pdf.

k. The FY2023 request proposes new mandatory funding for pandemic preparedness to be available for five years. The request proposes an HHS-wide total of $81.7 billion for pandemic preparedness, with $12.05 billion of the total designated for NIH.

l. The nonrecurring expenses fund (NEF) permits HHS to transfer unobligated balances of expired discretionary funds from FY2008 and subsequent years into the NEF account. Congress and the President authorized use of the funds for capital acquisitions, including information technology (IT) and facilities infrastructure (42 U.S.C. §3514a), and can direct the funds to certain accounts through appropriations acts. NEF transfers are shown as non-add in this budget presentation as these amounts were not reflected in FY2023 budget request tables.

Program-Specific Funding

In recent years, Congress and the President have increasingly specified funding levels for programs or research areas within NIH accounts throughout the budget and appropriations process. Congress uses appropriations report language to designate funding for specified purposes, whereas the President proposes amounts in his annual budget request.[28] This is a relatively new practice that has expanded since FY2015.[29] For the most part, Congress does not specify NIH funding for particular diseases or areas of research in the appropriations process and instead allows the ICs to award funding within their mission areas based on their own strategic planning and priority-setting processes. Research funding is generally awarded on a flexible and competitive basis through various funding mechanisms intended to balance scientific and health priorities.[30]

In FY2022, Congress used appropriations report language to specify a certain amount of IC funding for designated purposes, as summarized in **Table A-2**. Sometimes the language specifies a certain amount for a certain purpose; in other cases, the language provides increased or additional funding. The appropriations reports also include many additional statements directing the agency to prioritize certain programs or areas of research, as well as statements expressing the opinion or concerns of Congress regarding NIH; these broad statements are not summarized here. In addition, the President has proposed broad funding increases for certain research and other areas in his FY2023 budget request, as summarized in **Table A-3**.

Table A-2. Specified NIH Funding Levels in FY2022 Explanatory Statement

Institute/Center	Program/Activity	Amount
	Childhood Cancer Data Initiative (CCDI)	$50 million
	Childhood Cancer Survivorship, Treatment Access, and Research (STAR) Act	No less than $30 million
	Cancer success rates	An additional $150 million
National Heart, Lung, and Blood Institute (NHLBI)	Community Engagement Alliance Against COVID–19 Disparities (CEAL) Initiative	$20 million
	Health disparities research*	An increase of $50 million
National Institute of Dental and Craniofacial Research (NIDCR)	Opioids and pain/pain management research*	An increase of $18 million
National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)	Opioids and pain/pain management research*	An increase of $20 million
	HEAL Initiative (opioids, stimulants, and pain management)	No less than the FY2021 funding level ($270 million)

[28] For a general overview, see CRS Report R44124, *Appropriations Report Language: Overview of Components and Development* and CRS Report R47019, *The Executive Budget Process: An Overview*.

[29] As recently as December 2014, the explanatory statement on the FY2015 omnibus stipulated, "In keeping with longstanding practice, the agreement does not recommend a specific amount of NIH funding for this purpose [Alzheimer's disease] or for any other individual disease. Doing so would establish a dangerous precedent that could politicize the NIH peer review system. Nevertheless, in recognition that Alzheimer's disease poses a serious threat to the Nation's long-term health and economic stability, the agreement expects that a significant portion of the recommended increase for NIA should be directed to research on Alzheimer's. The exact amount should be determined by scientific opportunity of additional research on this disease and the quality of grant applications that are submitted for Alzheimer's relative to those submitted for other diseases." See *Congressional Record*, daily edition, vol. 160, no. 151, Book II (December 11, 2014), p. H9832.

[30] CRS Report R41705, *The National Institutes of Health (NIH): Background and Congressional Issues*.

Institute/Center	Program/Activity	Amount
National Institute of Neurological Disorders and Stroke (NINDS)	Basic research related to opioids and pain*	An additional $43 million
National Institute of Allergy and Infectious Diseases (NIAID)	Centers for AIDS Research	$71 million, an increase of $10 million
	Consortium of Food Allergy Research (CoFAR)	$9.1 million, an increase of $3 million
	Lyme disease and other tick-borne diseases	An increase of $18 million
	Regional biocontainment laboratories (RBL)	$52 million
	Responding to infectious diseases	No less than $540 million, an increase of $15 million
	Rapid vaccine development platforms for emerging infectious disease*	$50 million
	SARS–CoV–2–Immunity: understanding diversity and addressing disparity	$5 million
	Universal flu vaccine	No less than $245 million, an increase of $25 million
National Institute of General Medical Sciences (NIGMS)	Increasing diversity in biomedical research	An increase of $6.36 million
	Institutional Development Award (IDeA) Program	$410 million, an increase of $13.4 million
Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD)	Impact of COVID–19 on children	An increase of $7.5 million
	Implementing a Maternal Health and Pregnancy Outcomes Vision for Everyone (IMPROVE) Initiative	$43 million, an increase of $30 million
	Research in pregnant and lactating women- National Academies of Science, Education, and Medicine (NASEM) panel	$1.5 million
National Institute of Environmental Health Sciences (NIEHS)	Climate change research*	An increase of $100 million
National Institute on Aging (NIA)	Alzheimer's disease and related dementias	An increase of $289 million
	Center on Exposome Studies in Alzheimer's Disease and Related Dementias (ADRD)	$15 million
	Opioids and pain/pain management research*	An increase of $29 million
National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS)	Opioids and pain/pain management research*	An increase of $24 million
National Institute on Drug Abuse (NIDA)	HEAL Initiative (opioids, stimulants, and pain management)	No less than $345 million
	Underage and perinatal marijuana use- NASEM panel*	$2 million
National Institute of Mental Health (NIMH)	Impact of COVID on mental health	An increase of $20 million
National Institute of Nursing Research (NINR)	Health disparities research*	An increase of $20 million
National Human Genome Research Institute (NHGRI)	Emerging Centers of Excellence in Genomic Sciences	No less than $15 million
National Institute on Minority Health and Health Disparities (NIMHD)	Health disparities research	An increase of $50 million
	Research Centers in Minority Institutions Coordination Network	$5 million

Institute/Center	Program/Activity	Amount
National Center for Complementary and Integrative Health (NCCIH)	Pain and pain management research*	An increase of $26 million
National Center for Advancing Translational Sciences (NCATS)	Clinical and Translational Science Awards (CTSAs)	$606.7 million, an increase of $19.8 million
	Cures Acceleration Network (CAN)	$60 million
John E. Fogarty International Center (FIC)	Health disparities research*	An increase of $10 million
Office of the Director (OD)/ Multi-Institute Research Initiatives	*All of Us* Precision Medicine Initiative	$541 million, an increase of $41 million[a]
	Amyotrophic lateral sclerosis (ALS)	$25 million for implementation of the Accelerating Access to Critical Therapies for ALS Act (P.L. 117-79).
		$1 million for NASEM study "to identify and recommend actions for the public, private, and nonprofit sectors to undertake to make ALS a livable disease within a decade."
	Grants for biomedical research facilities	$60 million
	Brain Research through Advancing Innovative Neurotechnologies (BRAIN) Initiative	$620 million,[b] including $70 million for the Human Brain Cell Atlas, $30 million for the Armamentarium for Brain Cell Access, and $10 million for the Brain Connectivity Map
	Cybersecurity	An increase of $40 million
	Environmental Influences on Child Health Outcomes (ECHO)*	$180 million
	Firearm injury and mortality prevention research	$12.5 million
	HHS Office of Extramural Research allocation for foreign influence investigations	$2.5 million
	IDeA States Pediatric Clinical Trials Network	No less than the FY2021 funding level ($15 million)
	Investigation of Co-Occurring Conditions Across the Lifespan to Understand Down Syndrome (INCLUDE)	No less than $75 million, an increase of $10 million
	Office of AIDS Research, for HIV/AIDS research	No less than $3.2 billion
	Office of Research on Women's Health (ORWH)	$59.5 million, including $4 million for the Building Interdisciplinary Research Careers in Women's Health (BIRCWH) program
	Office of Behavioral and Social Sciences Research (OBSSR)	$38.9 million
	Office of the Chief Officer for Scientific Workforce Diversity (COSWD)	$16.2 million

Source: *Congressional Record*, vol. 168, no. 42, Book IV, March 9, 2022, pp. H2674-H2679, and H.Rept. 117-96, pp. 108-166. House report amounts cited where not superseded by the explanatory statement per direction in the explanatory statement, "Unless otherwise noted, the language set forth in H.Rept. 117-96 carries the same weight as language included in this explanatory statement and should be complied with unless specifically addressed to the contrary in this explanatory statement" (p. H2668).

Notes: Table does not include amounts already shown in **Table A-2**. Asterisks (*) denote amounts from H.Rept. 117-96.

a. Amount includes $150 million from the Innovation Account as authorized in the Cures Act.

b. Amount includes $152 million from the Innovation Account for the BRAIN Initiative as authorized by the Cures Act (split between NINDS and NIMH in FY2022 appropriations).

Table A-3. Specified NIH Funding Levels in FY2023 Budget Request

Program/Activity	Amount
Opioid, stimulant, and pain research	$2.6 billion—$811 million for the Helping to End Addiction Long-term (HEAL) Initiative and $1.8 billion to support ongoing research across ICs
Health disparities and inequities research	An increase of $350 million—$210 million for the National Institute on Minority Health and Health Disparities (NIMHD)
Office of Nutrition Research—to promote health and reduce the burden of diet-related diseases.	$97 million
Universal influenza vaccine	$260 million, an increase of $15 million above enacted
Centers for AIDS Research	$26 million
Maternal Health and Pregnancy Outcomes Vision for Everyone (IMPROVE) Initiative	$30 million
Research on effects of COVID-19 on pregnant and lactating women (National Institute of Child Health and Human Development [NICHD])	additional $3 million
Studies of the social media impact on mental health (National Institute of Mental Health [NIMH])	$5 million
Studies to inform mental health treatment approaches, service delivery, and system transformation (NIMH)	$5 million
Center for Sexual Orientation and Gender Identity (SOGI) research	$2 million

Source: HHS, "FY2023 Budget in Brief," pp. 55-58, at https://www.hhs.gov/sites/default/files/fy-2023-budget-in-brief.pdf. In several cases, the budget request does not specify funding amounts by institute/center or account.

Appendix B. Coronavirus Supplemental Appropriations (FY2020 and FY2021) and Additional American Rescue Plan Act funding

NIH received FY2020 and FY2021 emergency supplemental appropriations to several IC accounts and as transfers from the Public Health and Social Services Emergency Fund (PHSSEF) account as provided by four coronavirus supplemental appropriations acts:[31]

- Division A of the Coronavirus Preparedness and Response Supplemental Appropriations Act, 2020 (P.L. 116-123), enacted on March 6, 2020.
- Division B of the Coronavirus Aid, Relief, and Economic Security Act (CARES Act, P.L. 116-136), enacted on March 27, 2020.
- Division B of the Paycheck Protection Program and Health Care Enhancement Act (PPPHCEA, P.L. 116-139), enacted on April 24, 2020.
- Division M of Consolidated Appropriations Act, 2021 (P.L. 116-260), enacted on December 27, 2020.

NIH received a total of $3.031 billion to NIH IC accounts, along with directed transfers from the PHSSEF account to NIH accounts totaling not less than $1.806 billion. Accounting for transfers, NIH received a total of at least $4.837 billion (see text box below for information on American Rescue Plan Act funding). All appropriations to NIH accounts are available until September 30, 2024, and all transfers from the PHSSEF are available until expended. This funding was primarily provided in three categories:

Broadly Available Funding. In the first (P.L. 116-123) and third measure (CARES Act; P.L. 116-136), funding was made available to several NIH IC accounts "to prevent, prepare for and respond to coronavirus, domestically and internationally." NIH IC accounts that received broadly available funds and their totals include the following:

- **National Institute of Allergy and Infectious Diseases (NIAID):** $1.542 billion, including $836 million in the first measure and $706 million in the CARES Act. Some transfers or set-asides were directed for specific purposes in the NIAID appropriations. The first measure directed a transfer of not less than $10 million to the National Institute of Environmental Health Sciences (NIEHS) for "worker-based training to prevent and reduce exposure of hospital employees, emergency first responders, and other workers who are at risk of exposure to coronavirus through their work duties." The third measure set aside not less than $156 million of the total for "the study of, construction of, demolition of, renovation of, and acquisition of equipment for, vaccine and infectious diseases research facilities of or used by NIH, including the acquisition of real property."
- **National Heart, Lung, and Blood Institute (NHLBI)**: $103 million in the CARES Act.
- **National Institute of Biomedical Imaging and Bioengineering (NIBIB):** $60 million in the CARES Act.
- **National Library of Medicine (NLM):** $10 million in the CARES Act.

[31] NIH did not receive supplemental appropriations from the Families First Coronavirus Response Act (FFCRA, P.L. 116-127), enacted on March 18, 2020.

- **National Center for Advancing Translational Sciences (NCATS):** $36 million in the CARES Act.
- **Office of the Director (OD):** $30 million in the CARES Act.

Diagnostic Testing Research and Development (R&D). In the fourth (Paycheck Protection Program and Health Care Enhancement Act; PPPHCEA, P.L. 116-139) and fifth measure (Division M of P.L. 116-260), NIH received funding for specific purposes related to diagnostic test R&D. This funding was directed to NIH as "not less than" transfers from the PHSSEF account in the fourth measure, and directly to the OD account in the fifth measure. These amounts included the following:

- **National Cancer Institute (NCI):** Transfer of not less than $306 million from PHSSEF to NCI "to develop, validate, improve, and implement serological testing and associated technologies" in the PPPHCEA.
- **NIBIB:** Transfer of not less than $500 million from PHSSEF to NIBIB "to accelerate research, development, and implementation of point of care and other rapid testing related to coronavirus" in the PPPHCEA.
- **OD:** Transfer of not less than $1 billion from PHSSEF to OD "to develop, validate, improve, and implement testing and associated technologies; to accelerate research, development, and implementation of point of care and other rapid testing; and for partnerships with governmental and non-governmental entities" in the PPPHCEA. In the fifth measure, not less than $100 million of the $1.250 billion total provided to the OD account is for "the Rapid Acceleration of Diagnostics."

NIH's Rapid Acceleration of Diagnostics (RADx) initiative is an effort to innovate and scale up COVID-19 diagnostic technologies. As communicated to CRS, the $1.5 billion total for NIBIB and OD in the fourth measure was used to support RADx initially, with additional funds in the fifth measure as specified above.[32]

Long-Term Studies of COVID-19. The fifth measure directed $1.15 billion of the total $1.250 billion provided to the OD account "for research and clinical trials related to long-term studies of COVID-19." The $1.15 billion has since been directed toward NIH's REsearching COVID to Enhance Recovery (RECOVER) Initiative, a large coordinated research initiative to study long COVID. [33] The fifth measure also allows the total $1.25 billion appropriation to OD to be transferred to other IC accounts (in addition to other HHS transfer authorities in the law).

American Rescue Plan Act of 2021 (ARPA; P.L. 117-2) Appropriations

The ARPA did not provide any mandatory appropriations directly to NIH but made available several appropriations that could be allocated to NIH. For example, $6.05 billion was provided to the HHS Secretary in mandatory appropriations (i.e., direct appropriations) for research, development, manufacturing, production, and the purchase of vaccines, therapeutics, and ancillary medical products and supplies—available to address COVID-19, SARS-CoV-2 or its variants, and any disease with potential for creating a pandemic (Title II, Section 2303). The HHS Secretary can allocate a portion of these funds to NIH accounts at his discretion. In addition, NIH has

[32] CRS communication with NIH, July 24, 2020.

[33] See "How is RECOVER being paid for" at RECOVER: Frequently Asked Questions, https://recovercovid.org/faqs#paid. As reported by the Government Accountability Office (GA)-22-105497), HHS transferred $1,063.5 million of the $1.25 appropriation for NIH OD in the fifth measure to the Administration for Children and Families' Unaccompanied Children Program (see Appendix: HHS COVID-19 Funding). NIH's RECOVER website states that "the primary funding source for RECOVER has changed to the American Rescue Plan (ARP) Act of 2021 (Sec. 2401), the $1.15 billion budget remains and NIH RECOVER research activities have neither stopped nor had any delays."

reported that the HHS Secretary has allocated other ARPA funding in Section 2401 toward the RECOVER Initiative (see above) after an initial transfer of $1,063.5 from NIH to HHS's Administration for Children and Families' Unaccompanied Children Program of the original appropriation for that program in the fifth measure (see footnote 31).

Appendix C. Acronyms and Abbreviations

Acronym/ Abbreviation	Organization/Term
ARPA-H	Advanced Research Projects Agency for Health
DARPA	Defense Advanced Research Projects Agency
DOD	Department of Defense
FIC	Fogarty International Center
FY	Fiscal Year
IC	Institutes and Centers
NASEM	National Academies of Sciences, Engineering, and Medicine
NCATS	National Center for Advancing Translational Sciences
NCCIH	National Center for Complementary and Integrative Health
NCI	National Cancer Institute
NEF	Nonrecurring Expenses Fund
NEI	National Eye Institute
NHGRI	National Human Genome Research Institute
NHLBI	National Heart, Lung, and Blood Institute
NIA	National Institute on Aging
NIAAA	National Institute on Alcohol Abuse and Alcoholism
NIAID	National Institute of Allergy and Infectious Diseases
NIAMS	National Institute of Arthritis and Musculoskeletal and Skin Diseases
NIBIB	National Institute of Biomedical Imaging and Bioengineering
NICHD	National Institute of Child Health and Human Development
NIDA	National Institute on Drug Abuse
NIDCD	National Institute on Deafness and Other Communication Disorders
NIDCR	National Institute of Dental and Craniofacial Research
NIDDK	National Institute of Diabetes and Digestive and Kidney Diseases
NIEHS	National Institute of Environmental Health Sciences
NIGMS	National Institute of General Medical Sciences
NIMH	National Institute of Mental Health
NIMHD	National Institute on Minority Health and Health Disparities
NINDS	National Institute of Neurological Disorders and Stroke
NINR	National Institute of Nursing Research
NLM	National Library of Medicine
OD	NIH Office of the Director
PHS	Public Health Service

Author Information

Kavya Sekar
Analyst in Health Policy

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