

**The Trustees of
Columbia University
in the City of New York**

**Report on Federal Awards in Accordance with
OMB Uniform Guidance**

June 30, 2023

Employer Identification Number 13-5598093

The Trustees of Columbia University in the City of New York
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June 30, 2023 and 2022

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Report of Independent Auditors

To The Trustees of Columbia University in the City of New York

Report on the Audit of the Consolidated Financial Statements

Opinion

We have audited the accompanying consolidated financial statements of The Trustees of Columbia University in the City of New York and its subsidiaries (the “University”), which comprise the consolidated statement of financial position as of June 30, 2023 and 2022, and the related consolidated statements of activities for the year ended June 30, 2023 and of cash flows for the years ended June 30, 2023 and 2022, including the related notes (collectively referred to as the “consolidated financial statements”).

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the University as of June 30, 2023 and 2022, and the changes in its net assets for the year ended June 30, 2023 and its cash flows for the years ended June 30, 2023 and 2022 in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinion

We conducted our audit in accordance with auditing standards generally accepted in the United States of America (US GAAS) and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Our responsibilities under those standards are further described in the Auditors’ Responsibilities for the Audit of the Consolidated Financial Statements section of our report. We are required to be independent of the University and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Other Matter

We previously audited the consolidated statement of financial position as of June 30, 2022, and the related consolidated statements of activities and of cash flows for the year then ended (the statement of activities is not presented herein), and in our report dated October 17, 2022, we expressed an unmodified opinion on those consolidated financial statements. In our opinion, the information set forth in the accompanying summarized financial information as of June 30, 2022 and for the year then ended is consistent, in all material respects, with the audited consolidated financial statements from which it has been derived.

Responsibilities of Management for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with accounting principles generally accepted in the United States of America and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the University’s



ability to continue as a going concern for one year after the date the consolidated financial statements are issued.

Auditors' Responsibilities for the Audit of the Consolidated Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with US GAAS and *Government Auditing Standards*, will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with US GAAS and *Government Auditing Standards*, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the University's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the consolidated financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the University's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control-related matters that we identified during the audit.

Supplemental Information

Our audit was conducted for the purpose of forming an opinion on the consolidated financial statements as a whole. The accompanying schedule of expenditures of federal awards for the year ended June 30, 2023 and schedules of financial responsibility ratios as of and for the year ended June 30, 2023 are presented for purposes of additional analysis as required by Title 2 U.S. Code of Federal Regulations Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards (Uniform Guidance) and the Department of Education, respectively, and are not a required part of the consolidated financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the consolidated financial statements. The information has been subjected to the auditing procedures applied in the audit of the consolidated financial statements and certain additional procedures, including comparing and



reconciling such information directly to the underlying accounting and other records used to prepare the consolidated financial statements or to the consolidated financial statements themselves, and other additional procedures, in accordance with auditing standards generally accepted in the United States of America. In our opinion, the schedule of expenditures of federal awards and schedule of financial responsibility ratios are fairly stated, in all material respects, in relation to the consolidated financial statements taken as a whole.

Other Information

Management is responsible for the other information included in the annual report. The other information comprises the Columbia University Financial Overview For The Year 2022-2023, but does not include the consolidated financial statements and our auditor's report thereon. Our opinion on the consolidated financial statements does not cover the other information, and we do not express an opinion or any form of assurance thereon.

In connection with our audit of the consolidated financial statements, our responsibility is to read the other information and consider whether a material inconsistency exists between the other information and the consolidated financial statements or the other information otherwise appears to be materially misstated. If, based on the work performed, we conclude that an uncorrected material misstatement of the other information exists, we are required to describe it in our report.

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated October 17, 2023, except for footnotes 19 and 22 with respect to the consolidated financial statements and the opinion on the schedule of financial responsibility data, as to which the date is March 25, 2024, on our consideration of the University's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements and other matters for the year ended June 30, 2023. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing and not to provide an opinion on the effectiveness of internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the University's internal control over financial reporting and compliance.

PricewaterhouseCoopers LLP

New York, New York

October 17, 2023, except for footnotes 19 and 22 with respect to the consolidated financial statements and the opinion on the schedule of financial responsibility data, as to which the date is March 25, 2024.

The Trustees of Columbia University in the City of New York
Consolidated Statements of Financial Position
At June 30, 2023 and 2022
(in thousands of dollars)

	June 2023	June 2022
Assets		
Cash and cash equivalents	\$518,647	\$714,875
Accounts receivable, net	704,258	637,954
Securities held in trust by others	25,908	111
Pledges receivable, net	584,838	581,246
Investments, at fair value	14,748,716	14,275,431
Institutional real estate	1,137,198	1,077,445
Land, buildings, and equipment, net	4,913,273	5,000,150
Right of use, lease assets	268,267	280,807
Other assets	693,783	662,986
Total assets	\$23,594,888	\$23,231,005
Liabilities		
Accounts payable and accrued expenses	\$448,334	\$431,268
Deferred revenue and other prepayments	392,098	412,843
Finance lease obligations	133,650	136,087
Right of use, lease obligations	279,423	290,718
Conditional asset retirement obligations	134,790	130,398
Accrued employee benefit liabilities	490,463	451,827
Federal student loan funds	28,930	43,749
Bonds and notes payable (including bond premium and issuance costs of \$280,836 and \$246,980) (see Note 15)	2,403,847	2,316,548
Other long-term liabilities	565,533	584,336
Total liabilities	4,877,068	4,797,774
Net assets		
Without donor restrictions	8,383,806	8,303,326
With donor restrictions	10,334,014	10,129,905
Total net assets	18,717,820	18,433,231
Total liabilities and net assets	\$23,594,888	\$23,231,005

See accompanying notes to the consolidated financial statements.

The Trustees of Columbia University in the City of New York
Consolidated Statements of Activities
For the Year Ended June 30, 2023, with Summarized Comparative 2022 Totals
(in thousands of dollars)

	Without Donor Restrictions	With Donor Restrictions	June 2023	June 2022
Operating activities				
Revenues and support				
Tuition and fees (net of \$556,728 and \$524,636 in financial aid grants, respectively)	\$1,487,356		\$1,487,356	\$1,467,249
Government grants and contracts	1,227,651		1,227,651	1,212,635
Private gifts, grants and contracts	356,603	205,140	561,743	573,158
Revenue from other educational and research activities	248,069		248,069	216,546
Patient care revenue	1,659,969		1,659,969	1,511,543
Investment income and gains utilized	504,913	268,597	773,510	643,777
Sales and services of auxiliary enterprises	237,478		237,478	202,146
Net assets released from restrictions	402,894	(402,894)		
Total operating revenues and support	6,124,933	70,843	6,195,776	5,827,054
Expenses				
Instruction and educational administration	2,287,931		2,287,931	2,093,132
Research	883,165		883,165	812,624
Patient care expense	1,440,772		1,440,772	1,317,600
Operation and maintenance of plant	351,777		351,777	322,252
Institutional support	337,618		337,618	360,300
Auxiliary enterprises	216,410		216,410	184,638
Depreciation	331,843		331,843	329,390
Interest	67,183		67,183	58,039
Total expenses	5,916,699		5,916,699	5,477,975
Change in net assets from operating activities	208,234	70,843	279,077	349,079
Nonoperating activities				
Endowment gifts		172,683	172,683	171,090
Current year realized and unrealized capital gains (losses)	215,581	378,149	593,730	(1,051,971)
Endowment appreciation utilized	(216,952)	(462,009)	(678,961)	(599,639)
Change in net assets held by CPMC Fund, Inc.		265	265	(7,362)
Change in funds held by others in perpetuity		11,642	11,642	(33,830)
Present value adjustment to split-interest agreements	515	14,009	14,524	(40,218)
Net periodic benefit cost other than service cost	14,469		14,469	16,085
Changes in pension and postretirement obligations	12,041		12,041	(3,348)
Other	(134,881)		(134,881)	7,435
Reclassification	(18,527)	18,527		
Change in net assets from nonoperating activities	(127,754)	133,266	5,512	(1,541,758)
Change in net assets	80,480	204,109	284,589	(1,192,679)
Net assets at beginning of year	8,303,326	10,129,905	18,433,231	19,625,910
Net assets at end of year	\$8,383,806	\$10,334,014	\$18,717,820	\$18,433,231

See accompanying notes to the consolidated financial statements.

The Trustees of Columbia University in the City of New York
Consolidated Statements of Cash Flows
For the Years Ended June 30, 2023 and 2022
(in thousands of dollars)

	June 2023	June 2022
Cash flows from operating activities		
(Includes adjustments to reconcile change in net assets to net cash provided by operating activities):		
Change in net assets	\$284,589	(\$1,192,679)
Depreciation expense	331,843	329,390
Institutional real estate depreciation	35,436	31,143
Change in right of use leases and interest on finance lease obligations and conditional asset retirement obligations	13,973	17,877
Realized and unrealized (gains) losses	(497,730)	1,104,588
Partnership distributions from endowment	476,204	809,895
Contributions restricted for permanent investment, plant, and split-interest agreements	(236,855)	(246,076)
Contributions other than cash	(369)	(1,083)
Present value adjustments and actuarial liability for split-interest agreements	(14,524)	40,218
Accreted interest on bonds	363	408
Change in unamortized bond premium and issuance costs	(21,806)	(25,900)
Change in fair value of net assets held by CPMC Fund, Inc.	(265)	7,362
Change in fair value of interest in perpetual trusts held by others	(11,642)	33,830
Change in operating assets and liabilities:		
Accounts receivable, net	(66,304)	(50,266)
Pledges receivable, net	(3,592)	41,607
Other assets	(36,070)	6,198
Accounts payable and accrued expenses	30,778	41,259
Deferred revenue and other prepayments	(20,745)	11,920
Accrued employee benefit liabilities	38,636	(37,012)
Conditional asset retirement obligations and other long-term liabilities	(3,101)	(11,651)
Net cash provided by operating activities	298,819	911,028
Cash flows from investing activities		
Proceeds from sales of investments	3,304,572	3,489,217
Purchases of investments	(3,895,822)	(3,966,980)
Collections from student notes	19,036	9,715
Student notes issued	(4,746)	(3,353)
Investment in cash and securities held in trust by others	(25,797)	(85)
Purchases of institutional real estate	(95,189)	(127,239)
Purchases of plant and equipment	(252,447)	(377,281)
Net cash used by investing activities	(950,393)	(976,006)
Cash flows from financing activities		
Proceeds from contributions for:		
Investment in endowment	185,312	184,585
Investment in plant	48,808	57,159
Investment in split-interest agreements	2,735	4,332
Investment income on split-interest agreements	3,736	3,270
Payments on split-interest agreements	(5,957)	(6,018)
Payments on finance lease obligations	(14,074)	(16,796)
Repayment of taxable commercial paper	(99,865)	
Proceeds from taxable commercial paper issuance		25
Repayment of bonds and notes payable	(122,055)	(146,855)
Proceeds from bond and note issuance	330,662	
Net change in federal student loan funds	(14,819)	(10,597)
Net cash provided by financing activities	314,483	69,105
Net change in cash and cash equivalents	(337,091)	4,127
Cash and cash equivalents at beginning of year	858,432	854,305
Cash and cash equivalents at end of year	\$521,341	\$858,432
Supplemental disclosures of cash flow information:		
Cash and cash equivalents as shown in the Statements of Financial Position	\$518,647	\$714,875
Cash included in Investments, at fair value (see Note 5)	2,694	143,557
Total cash and cash equivalents as shown on the Consolidated Statements of Cash Flows	\$521,341	\$858,432
Change in accounts payable for land, buildings, and equipment	\$13,712	\$37,315
Equipment and space acquired through finance lease obligations	\$5,862	\$2,537
Right of use, lease assets acquired through new right of use lease obligations	\$16,348	\$1,962
Cash paid during the year for interest	\$83,802	\$92,540
Noncash debt extinguishment		(\$15,235)

See accompanying notes to the consolidated financial statements.

The Trustees of Columbia University in the City of New York
Notes to the Consolidated Financial Statements
For the Years Ended June 30, 2023 and 2022
(in thousands of dollars, unless otherwise noted)

1. Organization

The Trustees of Columbia University in the City of New York (the “University”) is a private, nonsectarian, nonprofit institution of higher education, recognized as tax exempt under Section 501(c)(3) of the Internal Revenue Code, whose activities are concentrated at three locations in New York City and extend around the globe. The University provides instruction through seventeen undergraduate, graduate, and professional schools. It operates a variety of research institutes and a library system to support its teaching, learning, and research activities. The University performs research, training, and other services under grants and contracts with agencies of the federal government and other sponsoring organizations. The University enrolls approximately 36,649 full-time and part-time students.

Columbia University Irving Medical Center

Columbia University Irving Medical Center (“CUIMC”), a division of the University, located in the Washington Heights section of northern Manhattan, is one of the largest academic medical centers in the United States. It is composed of four schools: Vagelos College of Physicians and Surgeons, Mailman School of Public Health, College of Dental Medicine, and School of Nursing.

CUIMC has three primary areas of focus: patient care, scientific research, and education. CUIMC offers a wide variety of degrees, certifications, and continuing education in health sciences. CUIMC’s revenues are comprised primarily of faculty patient care services, sponsored research, tuition, endowment income, patent royalties, and gifts. The majority of CUIMC’s full-time faculty hold clinical appointments and have admitting privileges at New York-Presbyterian (“NYP”)/CUIMC Campus.

Patient care activities include patient visits performed by Columbia faculty through its medical faculty practice plan, as well as clinical, educational and administration services provided to hospitals and other health care institutions through contractual agreements for services.

CUIMC maintains several clinical and education affiliation agreements with other organizations. The most significant affiliation agreements are with NYP, Lawrence Hospital, and Harlem Hospital. Certain faculty physicians also provide patient care and supervision of residents at NYP network hospitals and other affiliates. In addition, through interinstitutional professional service agreements and medical service agreements, CUIMC faculty provide patient care in specialty and subspecialty areas at hospitals in the tristate area and in other parts of the country and the world.

Other Activities

The University holds a number of limited liability companies, not-for-profit corporations and international organizations, which are established to facilitate various program and research objectives, and the results of which are included in the University’s consolidated financial statements, including:

- Columbia Investment Management Company, LLC, a New York limited liability company formed by the University to manage the University’s investment assets under the supervision of a Board appointed by the Trustees of the University and subject to the oversight of the Committee on Finance of the Trustees.
- Reid Hall Inc., located in Paris, France, which was donated to the University in 1964. Reid Hall, Inc., a corporation organized under New York membership corporation law as an

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educational and charitable organization, operates Reid Hall to promote, facilitate, and aid the educational, cultural, and social interests of students studying in France.

- Columbia University Healthcare, Inc., a not-for-profit practice entity in which the University is the sole corporate member.
- Columbia Doctors of New Jersey, P.C, Columbia Doctors of Bergen County, P.C. and Columbia Doctors of Connecticut, which are professional corporations in which the University is the sole corporate member.

2. Summary of Significant Accounting Policies

The significant accounting policies of the University are as follows:

Basis of Consolidation

The consolidated financial statements of the University include the accounts of all academic and administrative departments of the University.

All significant intercompany accounts have been eliminated in consolidation.

Basis of Presentation

The University maintains its accounts in accordance with the principles of fund accounting. Under this method of accounting, resources for various purposes are classified into funds that are consistent with activities or objectives specified by donors. Separate accounts are maintained for each fund.

For reporting purposes, the University prepares its consolidated financial statements in accordance with accounting principles generally accepted in the United States of America (“GAAP”), including the provisions of Financial Accounting Standards Board (“FASB”) Accounting Standards Codification (“ASC”) Topic 958 Not-for-Profit Entities that requires resources be classified for reporting purposes based on the existence or absence of donor-imposed restrictions. Accordingly, the University classifies fund balances as without donor restrictions or with donor restrictions.

The consolidated financial statements of the University have, in all material respects, been prepared on an accrual basis.

Revenues and Expenses

Revenues are reported as increases in net assets without donor restrictions unless the use of those assets is limited by donor-imposed restrictions. Expenses are reported as decreases in net assets without donor restrictions. Gains and losses on investments are reported as increases or decreases in net assets without donor restrictions, unless their use is restricted by explicit donor stipulation or by law.

Revenue Recognition

Revenue related to exchange transactions is recognized under the provisions of the applicable ASC Topic, which is typically ASC Topic 606, Revenue from Contracts with Customers.

The University recognizes contributions in accordance with the revenue recognition provisions of ASC Topic 958-605, Not-for-Profit Entities. Revenue is considered a contribution if it is determined not to be an exchange transaction.

The Trustees of Columbia University in the City of New York
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For the Years Ended June 30, 2023 and 2022
(in thousands of dollars, unless otherwise noted)

Revenue recognition for the University's significant types of revenue is discussed below.

Tuition, Fees, Room and Board, and Financial Aid

Student related income includes Tuition and fees revenue derived from degree programs as well as executive and continuing education programs and room and board revenue derived from the provision of such related services to students; these revenues are recorded in "Tuition and fees" and "Sales and services of auxiliary enterprises", respectively. Gross revenue is based on published rates and is recorded net of explicit price concessions such as financial aid grants which are applied to tuition and fees. Revenue is recognized in the period in which the University satisfies its performance obligations to its students. Given the timing of each year's academic sessions, nearly all performance obligations on behalf of the University are completed within the fiscal year.

The timing(s) of billings, cash collections and revenue recognition results in accounts receivable and deferred revenue and student deposits on the consolidated statements of financial position. Receivables are recognized only to the extent that it is probable that the University will collect substantially all of the consideration to which it is entitled in exchange for goods and services transferred to the student. Receipts received in advance of goods and services performed are recorded as deferred revenue or student deposits.

Contributions and Pledges Receivable

Contributions for University operations and plant, including unconditional promises to give ("pledges"), are recognized as operating revenue in the period earned. Contributions to endowment are recognized as nonoperating revenue in the period earned. Amounts expected to be collected in future years are recorded at the present value of estimated future cash flows, net of an allowance for uncollectable pledges. The discounts on those pledges are computed using an interest rate for the year in which the promise was received and considers market and credit risk as applicable. Subsequent years' accretion of the discount is included in contribution revenue. Conditional promises to give are not recognized as revenue until such time as the conditions are met.

Grant and Contract Income

The University receives sponsored program grant and contract income from governmental and private sources. The funding may represent a nonreciprocal transaction in which the resources provided are for the benefit of the University, the funding organization's mission, or the public at large or it may be a reciprocal transaction in exchange for an equivalent benefit in return.

Revenues from exchange transactions are recognized as performance obligations are satisfied which in most cases mirrors the timing of when related costs are incurred. Revenues from non-exchange transactions may be subject to conditions in the form of both a barrier to entitlement and a refund of amounts paid (or a release from obligation to make future payments). The University recognizes revenue earned from conditional non-exchange transactions when the barrier is satisfied, typically as related costs are incurred. At June 30, 2023, the University has grants or contracts for which it has not yet met all obligations to recognize revenue, or the right to recognize revenue is dependent on future events. These open commitments total \$3.4 billion and it is expected that revenue will be recognized as the University fulfills its obligations over several years. In addition, the University has elected the simultaneous release option for conditional contributions that are also subject to purpose restrictions. Under this option, net assets without donor restrictions will include the donor-restricted contributions if the purpose restrictions are met in the same reporting year as the revenue is recognized.

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(in thousands of dollars, unless otherwise noted)

Indirect cost recoveries on federally sponsored programs, such as the recovery of facilities and administrative (F&A) costs, are at reimbursement rates negotiated with the University's cognizant agency, the Department of Health and Human Services. Amounts totaled \$323.0 million and \$307.6 million in fiscal years 2023 and 2022, respectively, and are included in Government Grants and Contracts.

Patient Care Revenue and Expense

Patient care revenue relates to four distinct areas: medical faculty practice plans, affiliation agreements, medical and professional service agreements, and dental clinic.

The University recognizes "Patient care revenue" when then performance obligations under contracts are satisfied. Revenue related to the unsatisfied obligations will be deferred into the following fiscal year. The University determines transaction price based on gross charges for services provided, reduced by explicit price concessions, which are reflected as an allowance for doubtful accounts. Allowance for doubtful accounts is determined based on its historical collection experience with these classes of patients using a portfolio approach, as well as current and future conditions that may further impact collectability.

- Medical faculty practice and Dental Clinic revenues are reported at the estimated net realizable amounts from patients, third-party payers, and others for services rendered. These revenues are \$1,007.6 million and \$944.4 million for the years ended June 30, 2023 and 2022, respectively, derived mainly from third-party payers, including commercial insurance and managed care companies (58 percent), Medicare (16 percent), Medicaid (14 percent), direct patient payment (11 percent), and other (1 percent). As of June 30, 2023 and 2022, patient accounts receivable amounts to \$104.9 million and \$115.2 million, respectively.
- The University's affiliation agreements with area hospitals generated \$508.6 million and \$446.4 million of revenue for the years ended June 30, 2023 and 2022, respectively. As of June 30, 2023 and 2022, "Accounts receivable, net" includes \$171.7 million and \$127.2 million, respectively, relating to these agreements.
- Medical service agreements generated \$47.0 million and \$41.5 million of revenue for the years ended June 30, 2023 and 2022, respectively, and other patient care activities generated \$96.8 million and \$79.2 million of revenue for the years ended June 30, 2023 and 2022, respectively.

Patient care expenses include direct expenses associated with providing patient care services, as well as administrative functions within the University's faculty practice organization. Patient care expense does not include rent or utilities in clinical space, as those costs are aggregated with all University space costs within "Operation and maintenance of plant" in the consolidated statements of activities.

Research and Development

The University engages in numerous research and development projects, which may be partially or fully sponsored by governmental and private funds. These costs are charged to operating expense as incurred. The University periodically funds and develops patents for certain technologies, then licenses the usage of these patents to companies for a specified period of time. The revenue, net of payments due to third parties, is recorded in "Revenue from other educational and research

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(in thousands of dollars, unless otherwise noted)

activities” in the consolidated statements of activities. Costs incurred with developing and maintaining these patents are expensed as incurred.

Institutional Support

Institutional support expense includes central administrative functions and expenses that support the management of the University. This category also includes any net operating surplus or deficit of the University’s benefit pool, as recoveries from units across the University may be less than or greater than benefits paid in a given year.

Cash and Cash Equivalents

Cash and cash equivalents are recorded at fair value and include several depository accounts, checking accounts, institutional money market funds, and similar temporary investments with maturities of three months or less at the date of purchase. The University has elected to classify cash equivalents that are part of the University’s investment portfolio as short-term investments.

Investments

The University’s investments, consisting primarily of publicly traded fixed income and equity securities, alternative investments, and cash held for reinvestment, are stated at fair value as of June 30, 2023 and 2022. Alternative investments include investments in absolute return strategy funds, private equity funds, and real asset funds. The management of each respective fund provides the fair value of the investment. The University reflects its share of the partnerships or corporations in the consolidated financial statements.

Fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. The University believes that the net asset value of its alternative investments is a reasonable estimate of fair value as of June 30, 2023 and 2022. Because alternative investment funds are not marketable, the estimated value is subject to uncertainty and, therefore, may differ from the value that would have been used had a ready market for the investment existed. Such differences could be material. The amount of gain or loss associated with these investments is reflected in the consolidated financial statements based on the University’s proportionate share in the net assets of these investments.

The University’s presentation in the consolidated statements of cash flows for limited liability partnerships, limited liability corporations, and other similarly structured investments is consistent with the accounting for equity method investments as it represents the underlying nature of these investments in which the University has a capital account.

The University records purchases and sales of securities on a trade-date basis. Realized gains and losses are determined on the basis of average cost of securities sold and are reflected in the consolidated statements of activities. Dividend income is recorded on the ex-dividend date, and interest income is recorded on an accrual basis.

Split-Interest Agreements

The University’s split-interest agreements with donors consist primarily of charitable gift annuities, pooled income funds, and irrevocable charitable remainder trusts for which the University serves as custodian and trustee. Assets are invested and payments are made to donors and/or other beneficiaries in accordance with the respective agreements. In the case of irrevocable split-interest agreements whose assets are held in trusts not administered by the University (third-party charitable

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trusts), the University will recognize its beneficial interest when it receives sufficient reliable information and documentation that establishes the trust's existence, the University's beneficial interest, and the value of that interest.

Contribution revenues for split-interest agreements are recognized at the dates the agreements are established net of the present value of the estimated future payments to be made to the beneficiaries, if applicable, under these agreements. The discounts on those agreements are computed using an interest rate for the year in which the contribution was received and considers market and credit risk as applicable. Assets related to these agreements are recorded in "Investments, at fair value" and the liability for the present value of the estimated future payments to be made to the beneficiaries is recorded in "Other long-term liabilities" in the consolidated statements of financial position. Adjustments to the fair value of these agreements are recorded in the consolidated statements of activities under "Present value adjustment to split-interest agreements".

Institutional Real Estate

Institutional real estate consists primarily of properties proximate to the University's campuses, the primary purpose of which is to house faculty, staff, and graduate students. The income earned on this investment is used primarily to finance operating expenditures. The properties are valued at cost and depreciated over useful lives ranging from twelve and one half to fifty years.

Land, Buildings, and Equipment

Land, buildings, and equipment are stated at cost net of accumulated depreciation. Depreciation is calculated on a straight-line basis over useful lives ranging from ten to one hundred years for buildings and building improvements and two to twenty years for equipment, consistent with the method used for government cost reimbursement purposes. Capitalized software costs are amortized over seven years. Upon disposal of assets, the costs and accumulated depreciation are removed from the accounts, and the resulting gain or loss is included in the consolidated statements of activities.

Collections

The University's collections include works of art, literary works, historical treasures and artifacts maintained in the University's libraries and museums. These collections are protected and preserved for public exhibition, education, research, and the furtherance of public service. Proceeds realized from deaccessioning collection items are to be used for the acquisition of new items for the University's collection and/or enhancing the life, usefulness or quality of the existing collection through long-term direct care and preservation, which includes conservation care, cataloging and documenting and proper access and use of the collection. Accordingly, such collections are not capitalized and contributed items are not recognized as revenue for financial statement purposes.

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Interest in Perpetual Trusts Held by Others

The University is the beneficiary of certain perpetual trusts administered by others. These trusts are recognized as contributions with donor restrictions when the University receives sufficient reliable information and documentation that establishes the trust's existence, the University's beneficial interest, and the value of that interest. The fair value of the interest in these perpetual trusts is based on the University's proportional share of the fair value of assets reported by the trust, and is recorded in "Other assets" in the consolidated statements of financial position. Adjustments to the fair value of the University's interest are reported as "Change in funds held by others in perpetuity" in nonoperating activity in the consolidated statements of activities.

Leases

The University enters into lease arrangements for space and equipment and, upon entering in an arrangement, determines the appropriate treatment in accordance with ASU 2016-02, Leases (Topic 842). Arrangements in which substantially all of the risks of ownership have been transferred to the University are accounted for as finance leases and extend up to seven years for equipment and up to 50 years for space.

Arrangements which do not qualify for finance lease treatment but still provide the University the right to use the underlying asset are deemed to be operating leases. These leases are recorded on the statements of financial position as "Right of use, lease assets" and "Right of use, lease obligations". The University has elected the short-term lease exemption policy which permits an entity to not capitalize short-term Right of use, lease assets in its statements of financial position. The University uses an incremental borrowing rate for discounting leases, as applicable, and has elected to separate lease and non-lease components in the calculation of the Right of use, lease assets and lease obligations. Right of use leases typically extend up to five years for equipment and up to 20 years for space.

Conditional Asset Retirement Obligations

Conditional asset retirement obligations are recognized for remediation or disposal of asbestos, underground storage tanks, soil, and radioactive sources and equipment as required by law. The fair value of the liability is recognized in the period in which it occurred, provided that it can be reasonably estimated.

Other Long-Term Liabilities

Other long-term liabilities are obligations that extend beyond one year, or operating cycle, whichever is longer. The obligations for medical malpractice liabilities, self-insurance reserves, the fixed payer interest rate swap agreement, split-interest agreement liabilities, and other commitments are categorized in other long-term liabilities.

Use of Estimates

Management makes estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates. The most significant estimates include valuation of investments without readily determinable prices in active markets, useful lives of depreciable assets, actuarially determined costs associated with split-interest agreements, pension, postemployment and postretirement benefits, explicit and implicit price concessions for patient and other receivables, insurance obligations, and conditional asset retirement obligations.

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2022 Presentation

Within the consolidated statements of activities, prior year presentation of net asset categorization has been condensed for comparative purposes. Accordingly, such information should be read in conjunction with the University's audited consolidated financial statements for the year ended June 30, 2022. Further, certain prior year information has been reclassified to conform to current year presentation.

New Authoritative Pronouncements

In June 2016, the FASB issued ASU No. 2016-13, Financial Instruments—Credit Losses (Topic 326), Measurement of Credit Losses on Financial Instruments. The ASU improves financial reporting by requiring timelier recording of credit losses on loans and other financial instruments held by financial institutions and other organizations. This ASU is effective for fiscal years beginning after December 15, 2022. The University is evaluating the impact of the new standard on the University's consolidated financial statements.

3. Net Assets

The University classifies its net assets as without donor restrictions or with donor restrictions. Periodically, donor redesignations may result in reclassifications of net assets. Descriptions of the two net asset categories and the types of transactions affecting each category follow.

Without Donor Restrictions—Net assets that are not subject to explicit donor-imposed restrictions. This category includes funds designated by the Board of Trustees to function as endowment and other undesignated funds such as tuition and other current funds, gifts without restrictions (including gifts whose donor-imposed restrictions were met during the fiscal year), net investment in plant, and student loan funds.

With Donor Restrictions—Net assets that are subject to explicit donor-imposed stipulations. This includes net assets with donor restrictions that will be satisfied by actions of the University, the passage of time, or both. These net assets include gifts for which the donor-imposed restriction(s) have not been met in the year of receipt (including gifts for capital projects not yet placed in service), pledges, split-interest agreements, and net assets from donor-restricted endowments not yet appropriated for spending. Once the restrictions are satisfied, or have been deemed to have been satisfied, net assets with donor restrictions are reclassified to net assets without donor restrictions.

Also included in this category are net assets with donor restrictions that require these to be maintained permanently by the University and invested to provide a perpetual source of income. Net assets with donor restrictions that are permanent include (a) the original value of gifts donated to the permanent endowment, (b) the original value of subsequent gifts to the permanent endowment, and (c) realized and unrealized gains and losses to the permanent endowment when stipulated by the donor gift instrument.

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The composition of the University's net assets as of June 30 are as follows:

	<u>2023</u>	<u>2022</u>
With Donor Restrictions		
Endowment funds	\$ 9,139,628	\$ 8,962,550
Unexpended capital and other ^(a)	483,223	474,197
Pledges receivable	584,838	581,246
Annuity and life income funds	126,325	111,912
Total, Net Assets With Donor Restrictions	<u>10,334,014</u>	<u>10,129,905</u>
Without Donor Restrictions		
Board designated endowment	4,503,039	4,317,296
Undesignated	<u>3,880,767</u>	<u>3,986,030</u>
Total, Net Assets Without Donor Restrictions	<u>8,383,806</u>	<u>8,303,326</u>
Total Net Assets	<u>\$ 18,717,820</u>	<u>\$ 18,433,231</u>

^(a) Includes capital gifts not yet released from restriction, unspent gift and endowment income balances, and student loan funds.

4. Operating Measurement

The University divides its consolidated statements of activities into operating and nonoperating activities. The operating activities of the University include all income and expenses related to carrying out its mission focused on education, research, and patient care. Operating revenues include investment income and endowment appreciation utilized to fund current operations, the largest portion of which is the distribution of funds budgeted in accordance with the endowment spending rule.

Nonoperating activities include current year realized and unrealized gains and losses on investments, including realized gain distributions from fund investments, less amounts withdrawn from endowment appreciation to fund operations. Nonoperating activities also include new gifts to donor-restricted endowments that the University must hold in perpetuity, changes in net assets held by CPMC Fund, Inc., changes in funds held by others in perpetuity, present value adjustments to split-interest agreements, net periodic benefit cost other than service cost, changes in pension and postretirement obligations, other items unique or one time in nature, and reclassifications.

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5. Long-Term Investments and Fair Value

The University values its investments at fair value for financial assets and liabilities. Fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. GAAP establishes a hierarchy of valuation inputs based on the extent to which the inputs are observable in the marketplace. Observable inputs reflect market data obtained from sources independent of the reporting entity. Unobservable inputs reflect the entity's own assumptions about how market participants would value an asset or liability based on the best information available. Valuation techniques used to measure fair value utilize relevant observable inputs and minimize the use of unobservable inputs.

The University follows a fair value hierarchy based on three levels of inputs, described below:

Fair value for Level 1 is based on quoted prices in active markets that the University has the ability to access for identical assets and liabilities. Market price data is generally obtained from exchange or dealer markets. The University does not adjust the quoted price for such assets and liabilities.

Fair value for Level 2 is based on quoted prices for similar assets and liabilities in active markets, quoted prices for identical or similar assets and liabilities in markets that are not active, or other significant market-based inputs that are observable, either directly or indirectly.

Fair value for Level 3 is based on valuation techniques that use significant unobservable inputs, as they trade infrequently or not at all. The inputs into the determination of fair value are based upon the best information in the circumstance and may require significant management judgment.

A financial instrument's categorization within the valuation hierarchy is based upon the lowest level of input that is significant to the fair value measurement. In determining the categorization of the University's investments within the fair value hierarchy, the University has considered market information including observable net asset values and the length of time until the investment will become redeemable. Investments for which fair value is measured using net asset values ("NAV") as a practical expedient are excluded from the hierarchy and have been reported separately within the table below. The categorization of a financial instrument within the hierarchy is based upon the pricing transparency of that instrument and does not necessarily correspond to the University's perceived risk of that instrument.

From time to time, the University may hold direct real estate investments. These investments are categorized as Level 3 within the fair value hierarchy. Valuation for material directly held real estate investments is determined from periodic valuations prepared by independent appraisers or broker opinions.

The University holds certain investments for which fair value is determined generally by using the unadjusted NAV per share as provided by the fund management as a practical expedient. Investments categorized as NAV include the University's ownership in funds that invest in alternative assets (i.e. absolute return strategy funds, private equity funds, and real asset funds) and funds that invest in equity and fixed income strategies for which observable net asset values are not available. The value of the University's investments in these funds represents the University's ownership interest in the net asset value of the respective fund. Items classified as NAV do not have a quoted price in an active market place. As a practical expedient, the University estimates

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the fair value of an investment at the measurement date using the NAV reported by the fund manager without further adjustment, provided the NAV has been calculated in accordance with or in a manner consistent with GAAP, and provided further that the University does not expect to sell the investment at a value other than NAV. The University has various processes and controls in place to ensure investment fair value is reasonable and performs various due diligence procedures over its investments including an assessment of applicable accounting policies, a review of the valuation procedures employed, and consideration of redemption features and price transparency.

The following tables present assets measured at fair value and NAV at June 30, 2023 and June 30, 2022.

	2023				
	Level 1	Level 2	Level 3	NAV	Total
Investments:					
Cash and short-term investments	\$ 731,973	\$ 266,142			\$ 998,115
Global equities	928,414	283	\$ 633	\$ 2,765,704	3,695,034
Fixed income	293,761	220,901			514,662
Absolute return strategies				3,939,168	3,939,168
Private equity	11,153		170,759	3,384,362	3,566,274
Real assets	1,669		8,086	1,882,736	1,892,491
Subtotal, Investments	<u>1,966,970</u>	<u>487,326</u>	<u>179,478</u>	<u>11,971,970</u>	<u>14,605,744</u>
Receivables for securities sold					150,876
Liabilities for securities purchased					(7,904)
Investments, at fair value					<u>\$ 14,748,716</u>
	Level 1	Level 2	Level 3	NAV	Total
Other assets:					
Interest in perpetual trusts held by others			\$ 199,317		\$ 199,317
	Level 1	Level 2	Level 3	NAV	Total
2022					
	Level 1	Level 2	Level 3	NAV	Total
Investments:					
Cash and short-term investments	\$ 1,018,503	\$ 376,927			\$ 1,395,430
Global equities	802,015	500,136	\$ 658	\$ 2,105,044	3,407,853
Fixed income	311,057	68,949			380,006
Absolute return strategies		4		4,055,448	4,055,452
Private equity	7,075		151,870	3,139,022	3,297,967
Real assets	4,746	1,742	10,241	2,217,772	2,234,501
Subtotal, Investments	<u>2,143,396</u>	<u>947,758</u>	<u>162,769</u>	<u>11,517,286</u>	<u>14,771,209</u>
Receivables for securities sold					15,593
Liabilities for securities purchased					(511,371)
Investments, at fair value					<u>\$ 14,275,431</u>
	Level 1	Level 2	Level 3	NAV	Total
Other assets:					
Interest in perpetual trusts held by others			\$ 187,676		\$ 187,676

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Cash and Short-Term Investments

Cash and short-term investments include government securities and money market instruments and are valued at amortized cost, which approximates fair value.

Global Equities and Fixed Income

Global equities and fixed income consist of investments in publicly traded U.S. and foreign common and preferred equities, funds that invest in equity and fixed income based strategies, and cash held in separate accounts committed to these strategies. The fair value of these investments is based on quoted market prices. Investments that are listed on an exchange are valued, in general, at the last reported sale price (or, if there is no sales price, at the last reported bid price, or, in the absence of reported bid prices, at the mean between the last reported bid and asked prices thereof). Fund investments in equity and fixed income based strategies are valued in accordance with NAV provided by the investment managers of the underlying funds. If the University has valued the investment based on NAV as a practical expedient, the investment has been excluded from the fair value hierarchy and will be categorized as NAV.

Alternative Investments

Alternative investments include absolute return strategies, private equity, and real assets. Holdings in these strategies may be in funds or in separate accounts with direct investments in listed equities and fixed income, as well as cash committed to fund these investments. Private equity funds include large market, leveraged buyout, and venture capital based strategies. The University values these investments in accordance with valuations provided by the investment managers of the underlying funds. Investments in securities that are publicly traded, whether held by a fund or in a separate account, are generally valued based on observable market prices unless a restriction exists. In addition, investments in a private equity fund may be publicly traded and valued based on observable market prices.

As a general rule, alternative investments are valued based upon the best information available for a given circumstance and may incorporate assumptions that are the best estimate after consideration of a variety of internal and external factors. The fair value of investments categorized as Level 1 are based on quoted prices on a public market. If no public market exists for the investments, the fair value is determined by taking into consideration, among other things, the last reported bid price obtained from pricing sources or broker quotes, the cost of the investment, prices of recent significant placements of similar investments of the same issuer, and subsequent developments concerning the companies to which the investments relate. The University's management may consider other factors in assessing the fair value of these investments. If the University has valued these alternative investments based on NAV as a practical expedient, the investment is excluded from the fair value hierarchy and will be categorized as NAV.

The fair value of the alternative investment funds in the table above represents the amount the University would expect to receive at June 30, 2023 and 2022, if it had liquidated its investments on these dates. The University has performed due diligence around these investments and believes that the NAV of its alternative investments is a reasonable estimate of fair value as of June 30, 2023 and 2022. Alternative investments may allocate a high percentage of their assets in specific sectors of the market in order to achieve a potentially greater investment return. As a result, the investments may be susceptible to economic, political, and regulatory developments in a particular sector of the market, positive or negative, and may experience increased volatility in net asset values.

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Perpetual Trusts

The fair value of interest in perpetual trusts held by others is based on the University's share of the income generated by the trust, ascribed to the fair value of the assets reported by the trust.

Derivatives

Investment fund managers may invest in derivatives, and the value of these positions is reflected in the NAV of the respective funds. Separately, the University employs derivatives primarily to hedge its risks and to rebalance its market exposures. Derivatives used may include futures, swaps, options, and forward contracts and are reflected at fair value following the definition of Level 1 and Level 2 assets as described above. Certain derivative positions held within the endowment portfolio are subject to master netting agreements included within an International Swap and Derivatives Association, Inc. ("ISDA") master agreement with each of the counterparties.

The following positions are reflected on a net basis within "Investments, at fair value" on the consolidated statements of financial position and are summarized below.

Derivative Instruments	Notional Exposure		Gross		Net Fair Value	Collateral Posted
	Long	Short	Asset	Liability		
June 30, 2023						
Equity	\$ 9,425		\$ 293		\$ 293	\$ 2,320
Currency*						
June 30, 2022						
Equity	\$ 625,646			\$ (5,620)	\$ (5,620)	\$ 109,854
Currency*			1,903	(736)	1,167	

*The University held currency derivative contracts with an aggregate notional amount of \$0 million and \$52.6 million as of June 30, 2023 and 2022, respectively.

Outside of the endowment portfolio, the University entered into a fixed payer interest rate swap as described in Note 15. The estimated fair value of the agreement is reported as a liability of \$31.8 million and \$45.9 million at June 30, 2023 and 2022, respectively, and is considered a Level 2 measurement. The derivatives are reflected as a receivable or payable, as appropriate, on the consolidated statements of financial position. Unrealized gain or loss from derivative investments is a component of the "Current year realized and unrealized capital gains (losses)" in the consolidated statements of activities.

The methods described above may produce a fair value calculation that may not be indicative of net realizable value or reflective of future fair values. Furthermore, while the University believes its valuation methods are appropriate and consistent with other market participants, the use of different methodologies or assumptions to determine the fair value of certain financial instruments could result in a different estimate of fair value at the reporting date.

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The following tables roll forward the amounts reported in the consolidated statements of financial position for financial instruments classified by the University within Level 3 of the fair value hierarchy defined above at June 30, 2023 and 2022.

	June 30, 2022	Transfers In/Out	Purchases	Sales	Realized gain/loss	Unrealized gain/loss	June 30, 2023
Global equities	\$ 658					\$ (25)	\$ 633
Fixed income							
Private equity	151,870	(1,419)	15,338	(2,386)		7,356	170,759
Real assets	10,241			(768)		(1,387)	8,086
Total level 3 investments	\$ 162,769	\$ (1,419)	\$ 15,338	\$ (3,154)		\$ 5,944	\$ 179,478

	June 30, 2022	Transfers In/Out	Disburse- ments	Realized/ Unrealized gain/loss, net	June 30, 2023
Interest in perpetual trusts held by others	\$ 187,676		\$ (7,957)	\$ 19,598	\$ 199,317

	June 30, 2021	Transfers In/Out	Purchases	Sales	Realized gain/loss	Unrealized gain/loss	June 30, 2022
Global equities	\$ 1,280					\$ (622)	\$ 658
Fixed income	17			(33)		16	
Private equity	208,449	(12,468)	24,230	(9,681)	5,790	(64,450)	151,870
Real assets	16,348			(2,195)		(3,912)	10,241
Total level 3 investments	\$ 226,094	\$ (12,468)	\$ 24,230	\$ (11,909)	\$ 5,790	\$ (68,968)	\$ 162,769

	June 30, 2021	Transfers In/Out	Disburse- ments	Realized/ Unrealized gain/loss, net	June 30, 2022
Interest in perpetual trusts held by others	\$ 221,506		\$ (7,447)	\$ (26,383)	\$ 187,676

All net realized and unrealized gains (losses) in the tables above are reflected in the consolidated statements of activities. Net unrealized gains (losses) relate to those financial instruments held by the University at June 30, 2023 and 2022. The University's policy is to recognize transfers in and transfers out as of the end of the period. Transfers between Level 3 and Level 1, Level 3 and Level 2 as well as between Level 3 and NAV are reported at gross, due to the criteria described above. There were no significant transfers between Level 1 and Level 2 for the years ended June 30, 2023 and 2022. There were no transfers between NAV and Level 2 for the years ended June 30, 2023 and 2022.

Certain investments in global equities and alternative investments may be subject to restrictions that (i) limit the University's ability to withdraw capital after such investment and (ii) limit the amount that may be withdrawn as of a given redemption date. The redemption terms of the University's investments in absolute return strategy funds vary from daily to triennial, with a portion of these investments designated as "illiquid" in "sidepockets" and that portion may not be available for withdrawal until liquidated by the investing fund and redemption notice periods range from 0 days

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to 180 days. Generally, as noted above, the University has no discretion as to withdrawal of its investment in private equity and real asset funds; distributions are made when sales of assets are made within the funds. In general, the remaining life of these private equity and real asset funds is up to 12 years.

The University is obligated under certain investment fund agreements to advance additional funding up to specified levels over a period of several years. These commitments have fixed expiration dates and other termination clauses. At June 30, 2023, the University had unfunded commitments of approximately \$2.2 billion as follows:

Asset class (\$ in millions)	Remaining life of fund	Unfunded commitments	Timing to draw commitments
Global equities	N/A		1 to 8 years
Absolute return strategies	N/A	\$ 54	1 to 5 years
Private equity	1 to 12 years	1,622	1 to 12 years
Real assets	1 to 12 years	552	1 to 12 years
Total		<u>\$ 2,228</u>	

The University’s estimate of the lives of the funds could vary significantly depending on the investment decisions of the external fund managers, changes in the University’s portfolio, and other circumstances. Furthermore, the University’s obligation to fund the commitments noted above may be waived by the fund manager for a variety of reasons including market conditions and/or changes in investment strategy.

The University has various sources of internal liquidity at its disposal, including cash, short-term investments, marketable debt and equity securities, and lines of credit, which are available to fund the committed drawdowns.

Investment Return

Investment income and gains utilized on the consolidated statements of activities contains endowment appreciation utilized to fund the spending rule, institutional real estate revenue net of operating expenses and depreciation, and other investment income. “Endowment appreciation utilized” was \$679.0 million and \$599.6 million during 2023 and 2022, respectively. “Current year realized and unrealized capital gains (losses)” reported in nonoperating activities reflect investment returns net of external and direct internal investment costs, reduced by endowment appreciation utilized to fund the spending rule.

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6. Endowment Funds

The University's endowment consists of approximately 6,300 separate funds established over many years for a wide variety of purposes, which include support of specific schools or departments of the University, professorships, research, faculty support, scholarships and fellowships, library, building construction, and other purposes. The endowment includes donor-restricted endowments and funds designated by the Board of Trustees to function as endowments. Net assets associated with endowment funds are classified and reported based on the existence or absence of donor-imposed restrictions.

The University employs a market value unit method of accounting for pooled general investments. Each participating fund enters and withdraws from the pooled investment account based on monthly unit market values. Changes in the market value of investments are distributed proportionately to each fund that participates in the investment pool. Net investment income distributed during the year is allocated on a per unit basis to each participating fund.

Relevant Law

Under New York Prudent Management of Institutional Funds Act ("NYPMIFA"), the University may appropriate so much of a donor-restricted endowment fund as it deems prudent, considering the specific factors set forth in NYPMIFA and subject to the intent of the donor as expressed in the gift instrument. Unless stated otherwise in the gift instrument, the earnings in an endowment fund are considered to have donor restrictions until appropriated.

The University continues to classify as net assets with donor restrictions (a) the original value of gifts donated to the permanent endowment, (b) the original value of subsequent gifts to the permanent endowment, and (c) accumulations to the endowment made in accordance with the direction of the applicable donor gift instrument at the time the accumulation is added to the fund. Accumulated appreciation on donor-restricted endowment funds is also included as net assets with donor restrictions until those amounts are appropriated for expenditure by the University in a manner consistent with the standard of prudence prescribed by NYPMIFA.

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The composition and changes in the University's endowment net assets as of June 30, 2023 and 2022, are as follows:

	2023		
	Without Donor Restrictions	With Donor Restrictions	Total
Changes in University endowment net assets			
Opening balance - June 30, 2022	\$ 4,317,296	\$ 8,962,550	\$ 13,279,846
Investment return	210,930	409,543	620,473
New gifts	1,559	193,933	195,492
Appropriation for expenditure	(255,300)	(472,582)	(727,882)
Other changes:			
Transfers	238,162	36,576	274,738
Other / Reclassifications	(9,608)	9,608	
	<u>228,554</u>	<u>46,184</u>	<u>274,738</u>
Closing balance - June 30, 2023	<u>\$ 4,503,039</u>	<u>\$ 9,139,628</u>	<u>\$ 13,642,667</u>
University endowment composition			
Donor-restricted endowment funds:			
Restricted in perpetuity		\$ 4,262,998	\$ 4,262,998
Appreciation		4,198,364	4,198,364
Board designated endowment:			
Departmental funds	\$ 1,974,561	467,169	2,441,730
University funds	1,617,469		1,617,469
Institutional real estate, net	911,009		911,009
CPMC Fund, Inc.		11,780	11,780
Interests in perpetual trusts held by others		199,317	199,317
University's endowment value	<u>\$ 4,503,039</u>	<u>\$ 9,139,628</u>	<u>\$ 13,642,667</u>

Note: The tables above do not include split-interest agreements, net of \$132,568 and pledges receivable, net of \$259,791.

Reconciliation to Investments, at fair value

Investments, at fair value		\$ 14,748,716
Add:		
Interests in perpetual trusts held by others	199,317	
CPMC Fund, Inc.	11,780	
Institutional real estate, net	911,009	
Other receivables and payables	<u>11,962</u>	1,134,068
Subtract:		
Other long-term investments	(1,960,247)	
Split-interest agreements	(192,033)	
Funds held on behalf of others	<u>(87,837)</u>	<u>(2,240,117)</u>
University's endowment value		<u>\$ 13,642,667</u>

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	2022		
	Without Donor Restrictions	With Donor Restrictions	Total
Changes in University endowment net assets			
Opening balance - June 30, 2021	\$ 4,449,457	\$ 9,900,513	\$ 14,349,970
Investment return	(232,424)	(764,852)	(997,276)
New gifts	1,179	210,026	211,205
Appropriation for expenditure	(230,754)	(430,685)	(661,439)
Other changes:			
Transfers	348,730	28,656	377,386
Other / Reclassifications	(18,892)	18,892	
	<u>329,838</u>	<u>47,548</u>	<u>377,386</u>
Closing balance - June 30, 2022	<u>\$ 4,317,296</u>	<u>\$ 8,962,550</u>	<u>\$ 13,279,846</u>
University endowment composition			
Donor-restricted endowment funds:			
Restricted in perpetuity		\$ 4,062,435	\$ 4,062,435
Appreciation		4,242,064	4,242,064
Board designated endowment:			
Departmental funds	\$ 1,879,131	458,860	2,337,991
University funds	1,635,067		1,635,067
Institutional real estate, net	803,098		803,098
CPMC Fund, Inc.		11,515	11,515
Interests in perpetual trusts held by others		187,676	187,676
University's endowment value	<u>\$ 4,317,296</u>	<u>\$ 8,962,550</u>	<u>\$ 13,279,846</u>

Note: The tables above do not include split-interest agreements, net of \$118,223 and pledges receivable, net of \$272,420.

Reconciliation to Investments, at fair value

Investments, at fair value		\$ 14,275,431
Add:		
Interests in perpetual trusts held by others	187,676	
CPMC Fund, Inc.	11,515	
Institutional real estate, net	803,098	
Other receivables and payables	<u>3,599</u>	1,005,888
Subtract:		
Other long-term investments	(1,730,593)	
Split-interest agreements	(180,187)	
Funds held on behalf of others	<u>(90,693)</u>	<u>(2,001,473)</u>
University's endowment value		<u>\$ 13,279,846</u>

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Return Objectives and Risk Parameters

Endowment assets include those assets of donor-restricted funds that the University must hold in perpetuity or for a donor-specified period(s) as well as Board-designated funds. Under the University's investment policies, as approved by the Board of Trustees, the endowment assets are invested in a manner that is intended to produce performance which exceeds that of relevant indices for each asset class while assuming a moderate level of investment risk.

Strategies Employed for Achieving Objectives

The University relies on a total return strategy in which investment returns are achieved through both capital appreciation (realized and unrealized) and current yield (interest and dividends). The University targets a diversified asset allocation to achieve its long-term return objectives within prudent risk constraints.

Endowment Spending Rule

The endowment spending rule utilized by the University is designed to be directly responsive to both investment returns and the current level of price inflation. Its long-term objectives are:

- To protect the corpus of the endowment by spending no more than the real investment return;
- To cushion spending against market volatility; and
- To provide specific spending instructions and multiyear spending projections based on explicit future investment return assumptions.

The current endowment spending rule is based on two factors: first, the market value multiplied by a target spending rate of 4.5 percent, which provides a response to investment market conditions; and second, the prior year's spending plus inflation, which ties spending increases to operating needs and cushions spending against market volatility. This allows the University to maintain the purchasing power of the endowment assets held in perpetuity or for a specified term as well as to provide additional real growth through new gifts and investment return.

As a general policy, each fiscal year's distribution is calculated by adding together the following:

- a. The market value of the endowment at a point twelve months prior to the beginning of the given fiscal year, multiplied by the target spending rate, multiplied by a 40 percent weighting; and
- b. Endowment spending in the year immediately preceding the given fiscal year, grown or reduced by an inflation factor, which is defined as the Higher Education Price Index ("HEPI"), multiplied by a 60 percent weighting.

The Trustees conduct a special review in any year in which either projected endowment distributions are 0.5 percent higher or lower than the target spending rate, or if the increase in endowment distributions over the previous year is more than 3 percentage points higher or lower than HEPI. Additionally, from time to time, management may recommend and the Trustees may approve a temporary override of the spending rule to ensure the University's ability to sustain the permanent nature of the endowment.

In addition to the base spending rate described above, an additional payout component was approved as a temporary measure by the Trustees in 2008, applied as a percentage of the prior year beginning market value for certain endowments in categories key to the University's current

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development efforts, primarily endowments for purposes core to the University’s educational and research mission, including financial aid and faculty support. For the years ended June 30, 2023 and 2022 the additional payout rate was 0.55 percent and 0.65 percent, respectively. The additional payout component is reviewed by the Trustees regularly and has currently been extended through the end of fiscal year 2024.

Underwater Endowment Funds

From time to time, the fair value of assets associated with individual donor-restricted endowment funds may fall below the original gift value, which represents the total of the initial and subsequent donor contribution amounts. When this occurs, the deficit is classified as a reduction of donor-restricted net assets. As of June 30, 2023, deficits totaling \$10.8 million existed in funds which combined had an original gift value of \$257.9 million and a current market value of \$247.1 million. As of June 30, 2022, deficits totaling \$13.6 million existed in funds which combined had an original gift value of \$227.0 million and a current market value of \$213.4 million. The deficits resulted from market fluctuations that occurred after the investment of recent contributions and authorized appropriation from an endowment that was deemed prudent.

7. Accounts Receivable

Accounts receivable, net, consists of the following as of June 30:

	<u>2023</u>	<u>2022</u>
Patient receivables, net of contractual allowances	\$ 156,435	\$ 175,160
Government agencies	121,949	131,832
New York-Presbyterian Hospital	189,534	140,567
Patent and licensing	9,107	7,649
Student receivables	100,110	88,174
Investment income receivable	6,122	3,951
Other receivables	198,262	174,253
	<u>781,519</u>	<u>721,586</u>
Less: Allowance for doubtful accounts	(77,261)	(83,632)
Accounts receivable, net	<u>\$ 704,258</u>	<u>\$ 637,954</u>

Patient receivables for medical services are net of an allowance for contractual reserves in the amount of \$308.5 million and \$345.4 million at June 30, 2023 and 2022, respectively.

8. Student Loans Receivable and Financial Aid

The University participates in various federal loan programs, in addition to administering institutional loan programs.

Loans receivable from students are recorded in “Other Assets” and as of June 30 are as follows:

	<u>2023</u>	<u>2022</u>
Government revolving loans	\$ 23,732	\$ 37,046
Institutional loans	22,118	23,340
Gross student loans	45,850	60,386
Less: Allowance for doubtful collections	(2,276)	(2,444)
Student loans receivable, net	<u>\$ 43,574</u>	<u>\$ 57,942</u>

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Government revolving loan programs include the Federal Perkins Loan Program and certain other programs. The total loans outstanding totaled \$12.4 million and \$27.2 million under the Federal Perkins Loan Program and \$11.3 million and \$9.9 million under the other programs as of June 30, 2023, and 2022, respectively. The Federal Perkins Loan Program expired on September 30, 2017 and no new disbursements were permitted after June 30, 2018, but there are outstanding balances from loans awarded in previous years.

Management regularly assesses the adequacy of the allowance for doubtful collections by performing ongoing evaluation of the student loan and student accounts receivable portfolios. Loans receivable under federally guaranteed student loan programs are subject to significant restrictions.

Government revolving loans are funded principally with federal advances to the University, which are classified as liabilities on the consolidated statements of financial position. Balances advanced totaled \$16.6 million and \$32.1 million under the Federal Perkins Loan Program, and \$12.4 million and \$11.7 million under the other programs as of June 30, 2023 and 2022, respectively. Interest earned on the revolving and institutional loan programs is reinvested to support additional loans. The repayment and interest rate terms of the institutional loans vary considerably.

In addition to the loans identified above, the University processes and authorizes loans to students through the William D. Ford Federal Direct Loan Program. The amounts due under this loan program are not recorded in the University's consolidated financial statements since the University does not guarantee any federal loan funds related to this program. Loans issued under this program were \$320.2 million and \$322.1 million for the years ended June 30, 2023 and 2022, respectively.

Undergraduate financial aid represents grants and awards for all or part of a student's tuition and fees, and in certain other instances, items such as room and board. Graduate financial aid represents grants and awards for all or part of a student's tuition and fees.

Financial aid granted to students is summarized as follows for the year ended June 30:

	<u>2023</u>	<u>2022</u>
Undergraduate	\$ 244,497	\$ 222,551
Graduate	312,231	302,085
Total financial aid grants	<u>\$ 556,728</u>	<u>\$ 524,636</u>

Agency activities such as tuition aid grants and Federal Pell Grant Program awards are not included in the University's consolidated financial statements. Both receipts and disbursements for these agency transactions were \$13.6 million and \$12.5 million in years ended June 30, 2023 and 2022, respectively.

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9. Pledges Receivable

Unconditional promises to give appear as pledges receivable and revenue of the appropriate net asset category. Pledges are recorded net of an allowance for uncollectible contributions and a discount to reflect the net present value based on projected cash flows. Periodically unconditional promises to give are reviewed for collectability. As a result, the allowance for uncollectible contributions may be adjusted and some contributions may be adjusted or cancelled. Such changes will be reflected in "Pledges Receivable, net" in the consolidated statements of financial position.

Unconditional promises, and their expected collection dates, were as follows at June 30:

	<u>2023</u>	<u>2022</u>
Less than one year	\$ 184,480	\$ 204,267
One to five years	345,862	339,810
More than five years	<u>205,760</u>	<u>151,774</u>
Total unconditional promises	736,102	695,851
Less: Allowance for doubtful contributions	(40,721)	(35,628)
Less: Net present value discount	<u>(110,543)</u>	<u>(78,977)</u>
Net pledges receivable	<u>\$ 584,838</u>	<u>\$ 581,246</u>

New pledges recorded in the years ended June 30, 2023 and 2022, were discounted at an average annual rate of 4.60 percent and 3.47 percent, respectively, using a rate that considers market and credit risk. Credit risk is also considered in the allowance for doubtful contributions.

Pledges receivable were intended for the following purposes as of June 30:

	<u>2023</u>	<u>2022</u>
Endowment for educational and general purposes	\$ 259,791	\$ 272,420
New construction and modernization of plant	107,771	136,520
Support of University operations	<u>217,276</u>	<u>172,306</u>
Net pledges receivable	<u>\$ 584,838</u>	<u>\$ 581,246</u>

The University also has other outstanding pledges of \$105.6 million as of June 30, 2023. These pledges represent either gifts with donor-imposed conditions, containing both a barrier and a right of return/release, or other pledges that have not met the requirements for recognition.

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10. Land, Buildings, and Equipment

Investments in land, buildings, and equipment, net, consisted of the following at June 30:

	2023			2022		
	Total Land, Buildings, and Equipment	Accumulated Depreciation	Net Land, Buildings, and Equipment	Total Land, Buildings, and Equipment	Accumulated Depreciation	Net Land, Buildings, and Equipment
Land	\$ 536,855		\$ 536,855	\$ 523,294		\$ 523,294
Building and building improvements	8,022,987	(4,042,214)	3,980,773	7,853,721	(3,765,403)	4,088,318
Construction in progress	174,598		174,598	159,996		159,996
Equipment	744,451	(523,404)	221,047	745,719	(517,177)	228,542
Total	\$ 9,478,891	\$ (4,565,618)	\$ 4,913,273	\$ 9,282,730	\$ (4,282,580)	\$ 5,000,150

The University uses componentized depreciation to calculate depreciation expense for buildings and building improvements for research facilities included in operations. The costs of research facilities are separated into the building shell, building service systems, and fixed equipment, and each component is separately depreciated.

Equipment includes physical assets owned by the University as well as software costs and moveable equipment acquired through finance leases.

Building and building improvements include physical assets owned by the University as well as leasehold improvements, financed space leases, and construction in progress. The net book value of financed space leases at June 30, 2023 and 2022, was \$71.6 million and \$74.6 million, respectively.

11. Accrued Employee Benefit Liabilities

Accrued employee benefit liabilities arise from employment at the University. These include liabilities for pension, postretirement benefits, postemployment benefits, unused vacation, and deferred compensation.

Postemployment benefits relating to workers' compensation, short-term disability, and continuation of medical benefits for those on long-term disability are provided to former or inactive employees after employment but before retirement. The University records the costs of such benefits on an accrual basis if the employee has provided the services from which those benefits are derived. As of June 30, 2023 and 2022, the actuarially computed liabilities on the University's consolidated statements of financial position are \$58.5 million and \$59.3 million, respectively and included in "Accrued employee benefit liabilities" in the consolidated statements of financial position.

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12. Pension and Other Postretirement Benefit Costs

Pension Plan Benefits

The University has two non-contributory pension plans (the “pension plans”) for supporting staff employees. Both pension plans include defined benefits for past and future service, and are subject to collective bargaining agreements.

During 2022, the University had two additional non-contributory pension plans which were terminated in December 2021; these plans provided defined benefits for service prior to January 1 and July 1, 1976, respectively. For these two pension plans, future benefits are provided by defined contribution plans.

In addition, the University provides retirement benefits for full-time faculty, officers, certain other employees, and supporting staff under various defined contribution plans. University contributions for the plans reported in operating expenses were \$195.3 million and \$178.0 million for the years ended June 30, 2023 and 2022, respectively.

Postretirement Health Care and Life Insurance Benefits

The University provides postretirement health care and life insurance benefits for certain employees. The University accrues the estimated cost of these benefits over the years that eligible employees render service.

Obligations and Funded Status

The University follows authoritative guidance, which requires recognition on the consolidated statements of financial position of the difference between benefit obligations and any plan assets of the University’s defined benefit and other postretirement benefit plans. In addition, the authoritative guidance requires unamortized amounts (e.g., net actuarial gains or losses and prior service cost or credits) to be recognized as changes to net assets without donor restrictions and that those amounts be adjusted as they are subsequently recognized as components of net periodic pension cost.

Amounts recognized in net assets without donor restrictions are as follows:

	Pension Plan Benefits		Other Postretirement Benefits	
	2023	2022	2023	2022
Net actuarial (gain) / loss	\$ 17,115	\$ 21,109	\$ (72,657)	\$ (66,802)
Prior service cost		52	(2,140)	
Total amount recognized	<u>\$ 17,115</u>	<u>\$ 21,161</u>	<u>\$ (74,797)</u>	<u>\$ (66,802)</u>

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The components of accrued benefit costs for pension benefits and other postretirement benefits are as follows:

	Pension Plan Benefits		Other Postretirement Benefits	
	2023	2022	2023	2022
Change in benefit obligation:				
Benefit obligation, beginning of year	\$ 212,764	\$ 277,208	\$ 116,626	\$ 147,211
Service cost	7,500	10,840	4,917	7,267
Interest cost	10,823	8,830	5,636	4,575
Plan participants' contributions			4,014	6,166
Actuarial gain	(9,732)	(65,195)	(10,630)	(35,429)
Federal subsidy			124	462
Plan Amendments			(2,581)	
Plan termination		(9,654)		
Net disbursements and transfers	(9,386)	(9,265)	(11,151)	(13,626)
Benefit obligation, end of year	<u>211,969</u>	<u>212,764</u>	<u>106,955</u>	<u>116,626</u>
Change in plan assets:				
Fair value of assets, beginning of year	196,198	245,598	221,624	260,243
Actual return on plan assets	6,592	(43,168)	13,051	(31,159)
Employer contributions	11,496	12,687		
Plan participants' contributions			4,014	6,166
Plan termination		(9,654)		
Net disbursements and transfers	(9,386)	(9,265)	(11,151)	(13,626)
Fair value of assets, end of year	<u>204,900</u>	<u>196,198</u>	<u>227,538</u>	<u>221,624</u>
Net amount recognized	<u>\$ (7,069)</u>	<u>\$ (16,566)</u>	<u>\$ 120,583</u>	<u>\$ 104,998</u>

Weighted-average assumptions used to determine end of year benefit obligation

	2023	2022
Discount rate	5.40%	4.95%
Rate of compensation increase	3.00%	3.00%

For pension plans, actuarial gains for the year ended June 30, 2023 were the result of an increase in the discount rate, offset by lower than assumed asset returns. Actuarial gains for the year ended June 30, 2022 were the result of an increase in the discount rate and changes in demographic assumptions, offset by lower asset returns than assumed and two plan terminations.

For postretirement plans, actuarial gains for the year ended June 30, 2023 resulted from an increase in the discount rate, plan design amendment, lower than expected participation, and offset by increasing per capita claims trend rates. Actuarial gains for the year ended June 30, 2022 resulted from an increase in the discount rate and plan experience through the mortality table, offset by lower asset returns than assumed and higher claims.

The accumulated benefit obligations for the two underfunded pension plans at June 30, 2023 and 2022, were \$195.9 and \$196.4 million, respectively.

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At June 30, 2023 and 2022, the projected benefit obligation exceeded the pension plan assets for two plans. The projected benefit obligation for the pension plans were as follows:

End of year	2023	2022
Projected benefit obligation	\$ 211,969	\$ 212,764
Fair value of plan assets	204,900	196,198

The accumulated postretirement benefit obligation for the other postretirement benefit plan and the fair value of plan assets with plan assets in excess of the accumulated postretirement benefit obligation was as follows:

End of year	2023	2022
Accumulated postretirement benefit obligation	\$ 106,955	\$ 116,626
Fair value of plan assets	227,538	221,624

The University is currently pursuing enhancements to the postretirement health care benefits for certain employees and retirees. Subsequent to June 30, 2023 and before the issuance of these statements, the University announced the first enhancement in the form of an increase in subsidies provided to certain employees and retirees effective January 1, 2024. This 2024 increase is not included in the valuation of the plan as of June 30, 2023 and is expected to increase the plan's benefit obligation. The increase is not material to the University's financial statements.

A 6.50 percent annual rate of increase in the per capita cost of covered health care benefits for the other postretirement benefit plan was assumed for 2024. The rate was assumed to decrease gradually to 4.75 percent for year ended June 30, 2031 and remain at that level thereafter. Assumed health care cost trend rates have a significant effect on the amounts reported for the health care plans.

The asset allocation for the two defined benefit plans for both past and future service at June 30, 2023 and 2022, and the target allocation for 2024, by asset category, follows:

Asset category	Target allocation	Percentage of plan assets at year end	
	2024	2023	2022
U.S. large cap equity and global equity funds	11%	8%	17%
International equities (non-U.S.)	17%	23%	21%
High yield fixed income securities	7%	7%	10%
U.S. core fixed income	65%	62%	52%
	<u>100%</u>	<u>100%</u>	<u>100%</u>

The investments of the pension plans at June 30, 2023 and 2022, were \$204.9 million and \$196.2 million, respectively. The Plans' investments in common collective trusts are valued at NAV as a practical expedient and are therefore excluded from the fair value hierarchy and are reported as NAV.

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The asset allocation for the other postretirement benefit plan at June 30, 2023 and 2022, and the target allocation for 2024, by asset category, follows:

Asset category	Target allocation	Percentage of plan assets at year's end	
	2024	2023	2022
U.S. large cap equity and global equity funds	36%	36%	38%
International equities (non-U.S.)	14%	14%	30%
U.S. fixed income	50%	50%	32%
	100%	100%	100%

The investments of the other postretirement benefit plan at June 30, 2023 and 2022, were \$227.5 million and \$221.6 million, respectively. The Plans' investments in common collective trusts are valued at NAV as a practical expedient and are therefore excluded from the fair value hierarchy and reported as NAV.

Net Periodic Benefit Cost

The components of net periodic benefit cost for pension benefits and other postretirement benefits are as follows:

	Pension Plan Benefits		Other Postretirement Benefits	
	2023	2022	2023	2022
Components of net periodic benefit cost				
Service cost	\$ 7,500	\$ 10,840	\$ 4,917	\$ 7,267
Interest cost on projected benefit obligation	10,823	8,830	5,636	4,575
Expected return on assets	(12,330)	(12,160)	(13,695)	(16,098)
Amortization of prior service cost	52	65	(441)	
Settlement loss		6,636		
Amortization of unrecognized net losses/(gain)		3,999	(4,514)	(5,296)
Net periodic benefit cost	\$ 6,045	\$ 18,210	\$ (8,097)	\$ (9,552)

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Amounts recognized in the Consolidated Statements of Activities

A summary of changes in plan assets and benefit obligations recognized in the consolidated statements of activities is as follows:

	Pension Plan Benefits		Other Postretirement Benefits	
	2023	2022	2023	2022
Summary of changes in plan assets and benefit obligations recognized in the Consolidated Statements of Activities				
Net periodic benefit cost - service cost	\$ 7,500	\$ 10,840	\$ 4,917	\$ 7,267
Total recognized in operating	<u>7,500</u>	<u>10,840</u>	<u>4,917</u>	<u>7,267</u>
Net periodic benefit cost other than service cost	(1,455)	7,370	(13,014)	(16,819)
Current year actuarial (gain)/loss	(3,994)	(9,868)	(10,369)	11,984
Amortization of actuarial gain/(loss)		(3,999)	4,514	5,296
Settlement cost		(6,636)		
Current year prior service cost/(credit)			(2,581)	
Amortization of prior service cost	(52)	(65)	441	
Total recognized in nonoperating	<u>(5,501)</u>	<u>(13,198)</u>	<u>(21,009)</u>	<u>461</u>
Total recognized in operating and nonoperating	<u>\$ 1,999</u>	<u>\$ (2,358)</u>	<u>\$ (16,092)</u>	<u>\$ 7,728</u>

Weighted-average assumptions used to determine net periodic pension cost

	2023	2022
Discount rate	4.95%	2.25% to 3.10%
Expected return on plan assets	5.50%	3.75% to 5.50%
Rate of compensation increase	3.00%	3.00%

To arrive at assumptions for expected long-term rates of return on assets in the pension plans and the postretirement benefit plan, the University considered historical returns and future expectations for returns in each asset class in the asset allocation for the previously described pension and postretirement benefit portfolios.

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Expected Cash Flows

Information about the expected cash flows for the plans is as follows:

	<u>Pension Plan Benefits</u>	<u>Other Postretirement Benefits</u>
Expected University contributions		
2024	\$ 6,045	
Expected benefit payments		
2024	\$ 9,705	\$ 5,123
2025	10,231	5,315
2026	10,742	5,497
2027	11,320	5,794
2028	11,856	6,050
2029-2033	68,344	34,671
Total	<u>\$ 122,198</u>	<u>\$ 62,450</u>

Total benefits expected to be paid include the University's share of the benefit cost net of Medicare subsidies and the participants' share of the cost, which is funded by participant contributions to the other postretirement benefit plan. The University receives a Medicare Part D subsidy from the federal government as reimbursement for certain retiree health benefits paid to plan participants, which was approximately \$0.1 million in fiscal year 2023.

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13. Lease Obligations

The University is the lessee of various equipment and space under noncancelable right of use and finance leases. Finance lease obligations at June 30, 2023 and 2022, were \$133.7 million and \$136.1 million, respectively. Right of use lease obligations at June 30, 2023 and 2022 were \$279.4 million and \$290.7 million, respectively.

Rental expense related to operating leases totaled \$38.0 million and \$38.5 million for fiscal years ended 2023 and 2022, respectively. Future minimum rental payments under right of use and finance leases are as follows:

	<u>Right of use</u>	<u>Finance</u>
Future minimum rental payments:		
2024	\$ 37,487	\$ 10,920
2025	36,413	9,837
2026	32,500	8,456
2027	31,226	6,992
2028	28,239	6,837
Thereafter	177,414	210,131
Total lease payments	<u>343,279</u>	<u>253,173</u>
Less: Imputed Interest	(63,856)	(119,523)
Present value of lease obligations at June 30, 2023	<u>\$ 279,423</u>	<u>\$ 133,650</u>

Weighted-average remaining lease term and discount rate for right of use and finance leases are as follows:

	<u>2023</u>	<u>2022</u>
Weighted average remaining lease term (in years)		
Right of use leases	6.6	7.2
Finance leases	16.6	17.1
Weighted average discount rate		
Right of use leases	3.57%	3.54%
Finance leases	4.48%	4.41%

Cash paid for amounts included in the measurement of lease obligations is presented in the Statements of Cash Flows as follows:

	<u>2023</u>	<u>2022</u>
Operating cash flows for right of use leases	\$39,459	\$39,125
Operating cash flows for finance leases	\$5,775	\$9,294
Financing cash flows for finance leases	(\$14,074)	(\$16,796)

The University leases properties to customers under agreements that are classified as right of use leases. The University's lessor arrangements are all operating leases and do not include any sales-type or direct finance leases. Space and equipment leased to others are included in "Land, buildings, and equipment, net" and "Institutional real estate" in the consolidated statements of financial positions.

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14. Conditional Asset Retirement Obligations

Conditional asset retirement obligations are a legal obligation to perform an asset retirement activity in which the timing and/or method of settlement are conditioned on a future event that may or may not be within the control of the University. The University recognizes the fair value of this obligation in the period in which it occurred if a reasonable estimate of fair value can be made. Uncertainty with respect to the timing and/or method of settlement of the asset retirement obligation does not defer recognition of a liability.

Conditional asset retirement obligations related to remediation or disposal of asbestos, underground storage tanks, soil, radioactive sources, equipment, and miscellaneous other items were \$134.8 million and \$130.4 million at June 30, 2023 and 2022, respectively.

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15. Bonds and Notes Payable

Bonds and notes payable outstanding are as follows at June 30:

	<u>2023</u>	<u>2022</u>
Dormitory Authority of the State of New York, tax exempt revenue bonds, Columbia University issues:		
Series 2023 A, 2.59% to 2.68%, maturing FY2033 to FY2035	\$ 275,000	
Series 2020 A, 2.11%, maturing FY2051	150,000	\$ 150,000
Series 2018 A, 2.45% to 3.41%, maturing FY2029 to FY2049	150,000	150,000
Series 2018 B, 2.98%, maturing FY2039	175,185	175,185
Series 2017 A, 2.40% to 3.49%, maturing FY2028 to FY2048	150,000	150,000
Series 2017 B, 1.96% to 2.61%, maturing FY2025 to FY2030	40,475	40,475
Series 2016 A-1, 1.67%, maturing FY2027	50,000	50,000
Series 2016 A-2, 1.35% to 2.89%, maturing FY2024 to FY2047	130,000	130,000
Series 2016 B, 1.35% to 2.04%, maturing FY2024 to FY2032	93,550	105,885
Series 2015 A, 1.95% to 3.00%, maturing FY2026 to FY2046	92,535	92,535
Series 2015 B, 1.78% to 1.88%, maturing FY2024 to FY2025	9,210	15,525
Series 2012 A, 1.92%, maturing FY2023		52,005
Series 2009 A, variable rate, 3.40%, maturing FY2039	117,000	117,000
Series 2003 B, variable rate, 3.75%, maturing FY2024 to FY2028	30,000	30,000
Series 2002 C, variable rates, 1.15% to 3.38%, maturing FY2025 to FY2027	23,300	23,300
Taxable Series 2021 A, 2.85%, maturing FY2051	125,000	125,000
Taxable Series 2021 B, 2.45%, maturing FY2031 to FY2050	180,000	180,000
Taxable Series 2020 B, 2.34%, maturing FY2024 to FY2030	75,000	75,000
Taxable Series 2020 C, 2.00%, maturing FY2023 to FY2024	50,000	100,000
Taxable Series 2015, 3.46%, maturing FY2046	75,000	75,000
Taxable Series 2012, 3.83%, maturing FY2043	100,000	100,000
New Jersey Economic Development Corporation, tax exempt		
Series 2002, variable rate, 3.15%, maturing FY2028	2,745	3,245
Empire State Development Corporation issues:		
9.00%, maturing FY2029	3,823	4,360
Taxable Commercial Paper, variable rate, 1.30% to 5.20%	25,188	125,053
Subtotal, principal payments	<u>2,123,011</u>	<u>2,069,568</u>
Unamortized bond premium	285,028	250,833
Unamortized cost of issuance	<u>(4,192)</u>	<u>(3,853)</u>
Subtotal, bond premium and cost of issuance	<u>280,836</u>	<u>246,980</u>
Total bonds and notes payable	<u>\$2,403,847</u>	<u>\$2,316,548</u>

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Estimated principal payments on bonds and notes payable and taxable commercial paper are summarized below:

<u>Fiscal Year</u>	<u>Principal</u>
2024	\$ 101,395
2025	64,987
2026	71,625
2027	84,227
2028	52,101
Thereafter (through 2051)	1,723,488
Subtotal, Bonds and Notes Payable	<u>\$ 2,097,823</u>
Taxable Commercial Paper	25,188
Total, Principal Payments	<u><u>\$ 2,123,011</u></u>

The University issues most of its tax-exempt debt through the Dormitory Authority of the State of New York (“DASNY”). On June 7, 2023, the University issued \$275 million of Series 2023A, tax-exempt fixed rate bonds. Series 2023A was issued at a premium of \$56.8 million which will be amortized over nine to eleven years based on the maturity of underlying bonds. The proceeds from Series 2023A were used to finance various construction and renovation projects and to refund \$125 million of taxable commercial paper.

The University has a \$150 million taxable commercial paper program. There was \$25 million and \$125 million of commercial paper outstanding under this program as of June 30, 2023 and 2022, respectively.

The University recorded amortization of bond premium and issuance costs, net, of \$22.6 million and \$26.1 million for the years ended June 30, 2023 and 2022, respectively, as a reduction to interest expense.

As of June 30, 2023, the University had the following operating lines of credit: \$100 million expiring in April 2026; \$200 million expiring in October 2025; \$150 million expiring in May 2025; \$100 million expiring in November 2023. Additionally, the University had two \$100 million standby lines of credit supporting self-liquidity for variable rate debt outstanding, expiring in January 2028 and January 2025. The lines are provided by five different lending institutions, and as of June 30, 2023, no balances were outstanding on the lines of credit. In September 2023, the University renewed the \$100 million operating line of credit, originally set to expire in November 2023, through November 2026.

The University has administrative covenants on its tax-exempt debt and lines of credit, with which it was in compliance as of June 30, 2023 and 2022.

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On October 1, 2008, the University entered into a \$200 million notional value fixed payer interest rate swap agreement to protect against the risk of interest rate changes. The estimated fair value of the swap liability was \$31.8 million and \$45.9 million at June 30, 2023 and 2022, respectively. The fair value of the swap is obtained by taking the present value of all future cash flows on the swap implied by the forward curve.

The University has letters of credit with various financial institutions totaling \$70.5 million and \$70.6 million at June 30, 2023 and 2022, respectively, primarily to secure certain self-insured liabilities in accordance with New York State requirements related to workers' compensation. There have been no draws under the letters of credit.

16. Insurance

In connection with managing financial risks through various third-party insurance programs, the University is self-insured in certain areas. Funded self-insurance liabilities primarily cover deductibles on general liability, trustees and officers' liability, and property insurance claims. Self-insurance liabilities are actuarially calculated on an annual basis. The University's core liability coverage is purchased through Pinnacle RRG, a Vermont-based risk retention group with seventeen other universities.

The University obtains medical malpractice insurance through MCIC and MLMIC. MCIC is a group-captive insurance company owned by the University, The Johns Hopkins Hospital, The Johns Hopkins University, University of Rochester Medical Center, Weill Cornell Medical College, Yale New Haven Health, Yale University School of Medicine, and NYP. MLMIC is a mutual company where policyholders are owners with full voting rights to elect the company's Board of Directors, thereby having direct input into vital areas of operation. The governing Board is comprised primarily of practicing physicians, dentists, and hospital administrators. More than 2,000 of the University's faculty physicians and dentists are enrolled in MCIC or MLMIC. The University has recorded self-insurance and medical malpractice liabilities of approximately \$384.0 million and \$374.7 million as of June 30, 2023 and 2022, respectively; amounts are reported in both "Other long-term liabilities" and "Accrued employee benefit liabilities" in the consolidated statements of financial position. The medical malpractice liabilities of approximately \$233.0 million and \$221.8 million as of June 30, 2023 and 2022, respectively, are reported gross with an offsetting receivable for anticipated recoveries of \$159.8 million and \$153.3 million, respectively, recorded in "Other assets" in the consolidated statements of financial position.

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17. Affiliations and Related Party Transactions

The University maintains several clinical and education affiliation agreements with other organizations. Revenues and expenses from these agreements are accounted for in the operating activities section of the consolidated statements of activities. The most significant affiliation agreement is with NYP.

The University receives reimbursement from NYP for the provision of medical, professional, and supervisory staff services as well as other technical assistance. NYP provides funding to clinical departments for specific purposes including administration, supervision, and teaching of the NYP resident staff and salary support for faculty and staff providing services to NYP. In addition, NYP provides funding for clinical programs that the University and NYP would like to see developed or expanded. NYP also provides the departments with certain facilities and services (outpatient faculty practice offices, nursing, telecommunications, etc.) for which the University is invoiced on a monthly basis. Finally, the University and NYP collaborate and fund joint projects for which specific agreements are negotiated.

In addition, the University and NYP negotiate a funds flow, which forms the basis for the affiliation agreement. The fiscal year 2023 funds flow was approximately \$437.2 million. The payments to NYP for goods and services were \$115.7 million and \$106.6 million for the years ended Jun 30, 2023 and 2022, respectively. The majority of revenues received pursuant to this agreement are reflected in the consolidated statements of activities as a portion of “Patient care revenue” and the majority of the expenses related to this agreement are reflected in “Patient care expense”.

The University records both receivables from and payables to NYP on the consolidated statements of financial position. The University has no liability for obligations and debt incurred by NYP. The University and NYP operate a radiological imaging center, ColumbiaDoctors/NewYork-Presbyterian Imaging, Inc. (CDNYPI). CDNYPI is a not-for-profit membership corporation, which was incorporated to operate pursuant to the terms and provisions of Article 28 of the New York Public Health Law, whereby it provides a full range of general radiology and interventional radiology services. In order to provide for efficient delivery of services and to secure a high level of expertise from existing resources, CDNYPI has entered into clinical and administrative agreements with the University and NYP. The revenue generated from these agreements was \$42.5 million and \$40.6 million for the years ended June 30, 2023 and 2022, respectively. In addition, the University recorded an interest in CDNYPI in the amount of \$29.2 million and \$20.7 million as of June 30, 2023 and 2022, respectively.

The University controls a not-for-profit practice entity and three professional corporations and, as such, consolidates these entities into the University’s consolidated financial statements.

From time to time endowment funds held for the benefit of the University may be transferred from the CPMC Fund, Inc. to the University pursuant to the consent of the Trustees of the CPMC Fund, Inc. There were no transfers during the year ended June 30, 2023. During the year ended June 30, 2022, the CPMC Fund, Inc. transferred one endowment to the University. The value of the endowment at the time of transfer was \$5.3 million, with \$0.7 million being donor-restricted funds that the University must hold in perpetuity.

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18. Liquidity and Availability of Resources

As part of the University's liquidity management, financial assets are structured to be available as its general expenditures, liabilities, and other obligations come due. In addition, the University may invest cash in excess of daily requirements in short-term and/or liquid investments. To further help manage unanticipated liquidity needs, the University has committed bank lines of credit along with a taxable commercial paper program.

The University's financial assets and liquidity resources available for general expenditures within one year of the date of the consolidated statements of financial position are as follows:

	<u>2023</u>	<u>2022</u>
Financial Assets:		
Cash and cash equivalents	\$ 518,647	\$ 714,875
Accounts receivable, net	651,570	593,353
Pledges receivable for operations and plant, net	100,072	106,031
Operating investments	1,779,499	1,533,215
Approved endowment payout for subsequent year	644,360	629,050
Other financial assets	40,220	17,786
Total financial assets available within one year	<u>3,734,368</u>	<u>3,594,310</u>
Liquidity resources:		
Taxable commercial paper program	150,000	150,000
Less: Taxable commercial paper issued	(25,188)	(125,053)
Bank lines of credit (undrawn)	750,000	750,000
Total liquidity resources available	<u>874,812</u>	<u>774,947</u>
Total financial assets and liquidity resources available within one year	<u>\$ 4,609,180</u>	<u>\$ 4,369,257</u>

Additionally, the University has board-designated funds functioning as endowments of \$4.1 billion and \$4.0 billion as of June 30, 2023 and 2022, respectively. Although the University does not intend to spend from these endowments beyond the amounts appropriated for general expenditure as part of its annual appropriation process, \$3.6 billion and \$3.5 billion, respectively, is without donor restrictions and could be made available if necessary as of June 30, 2023 and 2022. However, both the funds functioning as endowment and donor-restricted endowments contain investments with lock-up provisions that reduce the total investments that could be made available (see Note 5 for disclosures about investments).

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19. Contingencies and Commitments

From time to time, various claims and suits generally incident to the conduct of normal business are pending or may arise against the University.

In the opinion of counsel and management of the University, after taking into account insurance coverage, losses, if any, from the resolution of pending legal matters, including malpractice claims, should not have a material adverse effect on the University's operations or financial condition.

Events subsequent to October 2023 issuance of financial statements: The University and NYP have previously settled malpractice claims with former patients of Robert Hadden. As part of the New York State Adult Survivors Act, which allowed for claims to be made through November 24, 2023 that would otherwise be deemed outside of a statute of limitations, additional claims were filed against the University and NYP, which are currently under review. Separate from the aforementioned additional claims and in connection with outreach to former patients, a settlement fund of \$100 million was announced in November 2023. While the University's ultimate liability in connection with this matter is not fully determinable at present, the pending proceedings in connection with these claims, in management's opinion, would not be likely to have a material adverse effect on the University's operations or financial condition.

All funds expended in connection with government grants and contracts are subject to audit by government agencies. While the ultimate liability, if any, from audits of government grants and contracts by government agencies, claims, and suits is presently not determinable, it should not, in the opinion of counsel and management, have a material effect on the University's financial position or results of activities.

The University is subject to laws and regulations concerning environmental remediation and will, from time to time, establish reserves for potential obligations that management considers probable and for which reasonable estimates can be made (see Note 14 for disclosures about conditional asset retirement obligations). These estimates may change depending upon the nature and extent of contamination, appropriate remediation technologies, and regulatory approvals. The University is not aware of any existing conditions that it currently believes are likely to have a material adverse effect on the University's financial position, changes in net assets, or cash flows.

The University's capital improvement program and related commitments include projects that address the major strategic objectives of the University. As part of the capital improvement program, the University has entered into contracts to purchase properties with an aggregate value of \$43.8 million. As of June 30, 2023, approximately \$43.8 million is still outstanding.

The University has made commitments related to its expansion in Manhattanville, certain of which are based upon events in the future which would result in cash and in-kind payments from the University. Those that are probable and estimable have been recorded as liabilities.

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20. Expenses by Functional and Natural Classification

Expenses are reported for the University's primary program activities. The consolidated statements of activities also report certain categories of expenditures that support more than one major program of the University. These expenses include operation and maintenance of plant, depreciation expense, and interest expense.

Expenses by functional and natural classification for the years ended June 30, 2023 and 2022 are as follows:

	2023				
	Expenses per Statement of Activities		Natural Classification post Allocation		
	Allocation	Compensation and Benefits	Other	Final Allocated Expenses	
Instruction and educational administration	\$ 2,287,931	\$ 342,033	\$ 1,822,554	\$ 807,410	\$ 2,629,964
Research	883,165	126,213	531,808	477,570	1,009,378
Patient care expense	1,440,772	91,092	1,213,502	318,362	1,531,864
Operation and maintenance of plant	351,777	(351,777)			
Institutional support	337,618	56,032	226,482	167,168	393,650
Auxiliary enterprise	216,410	135,433	128,454	223,389	351,843
Depreciation expense	331,843	(331,843)			
Interest expense	67,183	(67,183)			
Total operating expenses	5,916,699		3,922,800	1,993,899	5,916,699
Net periodic benefit cost other than service cost	(14,469)		(14,469)		(14,469)
Total expenses	\$ 5,902,230		\$ 3,908,331	\$ 1,993,899	\$ 5,902,230
	2022				
	Expenses per Statement of Activities		Natural Classification post Allocation		
	Allocation	Compensation and Benefits	Other	Final Allocated Expenses	
Instruction and educational administration	\$ 2,093,132	\$ 320,443	\$ 1,655,687	\$ 757,888	\$ 2,413,575
Research	812,624	114,250	489,141	437,733	926,874
Patient care expense	1,317,600	89,992	1,095,933	311,659	1,407,592
Operation and maintenance of plant	322,252	(322,252)			
Institutional support	360,300	55,595	254,638	161,257	415,895
Auxiliary enterprise	184,638	129,401	113,576	200,463	314,039
Depreciation expense	329,390	(329,390)			
Interest expense	58,039	(58,039)			
Total operating expenses	5,477,975		3,608,975	1,869,000	5,477,975
Net periodic benefit cost other than service cost	(16,085)		(16,085)		(16,085)
Total expenses	\$ 5,461,890		\$ 3,592,890	\$ 1,869,000	\$ 5,461,890

The allocation of operation and maintenance of plant is based on square footage occupancy. Depreciation expense includes depreciation of buildings, building improvements, and equipment. The allocation of depreciation on buildings and building improvements is based on square footage occupancy. Depreciation on equipment is allocated to the programs for which the equipment was purchased. Interest expense is allocated according to the same methodologies used for building depreciation.

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21. Subsequent Events

In connection with the reissuance of the consolidated financial statements, the University has performed an evaluation of subsequent events through March 25, 2024, which is the date the consolidated financial statements were reissued. Refer to Note 19 for additional information.

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22. Financial Responsibility Standards

The University participates in federal Title IV student financial assistance programs, which require it to meet standards of financial responsibility based on criteria determined by the U.S. Department of Education (ED), as set forth in 34 CFR 668.171. The criteria for private institutions include the annual calculation by ED of a financial responsibility composite score, as further outlined in 34 CFR 668.172, using audited financial statements submitted through ED's eZ-Audit system. The composite score has been and will continue to be based on three ratios: Primary Reserve, Equity, and Net Income. These ratios utilize the following financial data of the Institution, which are not otherwise presented in the financial statements or other notes to the financial statements, as of and for the year ended June 30, 2023:

Required input per standards	Ratio(s) Uses	Input Amount	Related financial statement amount not used as input on supplementary schedule
Property, plant and equipment, net - pre-implementation	Primary reserve	\$ 4,475,279	
Property, plant and equipment, net - post-implementation with outstanding debt for original purchase	Primary reserve	1,322,303	
Property, plant and equipment, net - post-implementation with outstanding debt for original purchase	Primary reserve	21,739	
Construction in progress	Primary reserve	231,150	
Total property, plant, and equipment, net	N/A		\$ 6,050,471
Institutional real estate			\$ 1,137,198
Land, buildings, and equipment, net			4,913,273
Total property, plant, and equipment, net			\$ 6,050,471
Long-term debt - for long-term purposes pre-implementation	Primary reserve	\$ 1,494,897	
Long-term debt - for long-term purposes post-implementation	Primary reserve	446,070	
Subtotal long-term debt for the purchase of PPE	Primary reserve		\$ 1,940,967
Other long-term debt	N/A		596,530
Total long-term debt	N/A		\$ 2,537,497
Bonds and notes payable			\$ 2,403,847
Capital leases			133,650
Total long-term debt			\$ 2,537,497
Net assets with donor restrictions: restricted by purpose or time			
Annuities and life income funds with donor restrictions	Primary reserve	\$ 82,389	
Term endowments with donor restrictions	Primary reserve	4,670,926	
Pledges	N/A		\$ 325,047
Unexpended capital and other	N/A		483,220
Net assets with donor restrictions: restricted in perpetuity	Primary reserve	4,772,432	
Total net assets with donor restrictions			\$ 10,334,014
Unsecured related party receivable	Primary reserve; Equity	\$ 11,396	
Inputs directly from the statement of activities			
Total expenses without donor restrictions (operating)	Primary reserve	\$ 5,916,699	
Plus: non-operating expenses and other losses	Primary reserve	153,408	
Total expenses and losses without donor restrictions	Primary reserve	\$ 6,070,107	
Total operating revenue and other additions	Net income	\$ 6,124,933	
Less: investment return appropriated for spending	Net income	(216,952)	
Plus: non-operating revenues and other gains	Net income	230,565	
Total revenue and gains without donor restrictions	Net income	\$ 6,138,546	

Supplemental Schedule

The Trustees of Columbia University in the City of New York
Schedule of Expenditures of Federal Awards
For year ended June 30, 2023

<u>Federal Grantor / Pass-through Grantor</u>	<u>Assistance Listing No.</u>	<u>Award Identification No.</u>	<u>Pass-through Contract Number</u>	<u>Passthrough Name</u>	<u>Subrecipients</u>	<u>Total Expenditures (Includes Subrecipients)</u>	R&D Cluster
RESEARCH AND DEVELOPMENT							
U.S. Department of Health and Human Services							
Direct Awards							
Covid 19 Related Funding							
COVID-19-A Prospective Observational Study to Evaluate the Safety of COVID-19 Vaccination in Children and Adolescents (Contributing Site 2)	93.RD	CDC 200-2012-53665			\$0	\$239,863	
COVID-19-Analysis and Simulation of Bacterial Infections and Resource Strain in Hospitals during the COVID-19 Pandemic	93.084	6U01CK000592-02-00			\$0	\$443,599	
COVID-19-Essential Nurse Documentation: Studying EHR Burden during COVID-19 (END-Burden)	93.226	5R01HS28454-02			\$82,740	\$278,884	
COVID-19-Ryan White HIV/AIDS Program AIDS Education and Training Centers Program COVID 19 Response	93.914	1H1LHA37344-01-00			\$86	\$93	
Covid 19 Related Funding for U.S. Department of Health and Human Services Totals					\$82,826	\$962,439	
Biomedical Advanced Research and Development Authority	93.RD	ASPR 75A50122C00012			\$558,657	\$2,994,181	
Training in General, Pediatric, and Public Health Dentistry	93.059	5D88HP37554 -02-00			\$0	\$912,668	
Prevention of Disease, Disability, and Death by Infectious Diseases	93.084	5U01CK000592-04-00			\$0	\$616,072	
Food and Drug Administration Research	93.103	5R01FD006372-04			\$20,880	\$1,346,948	
Maternal and Child Health Federal Consolidated Programs	93.110	5 H17MC40192 03 00			\$0	\$50,172	
Emergency Medical Services for Children	93.127	5U03MC00007 22 00			\$613,562	\$985,380	
Injury Prevention and Control Research and State and Community Based Programs	93.136	5R49CE003094-05-00			\$106,982	\$622,467	
Community Programs to Improve Minority Health Grant Program	93.137	5CPIMP211308-02-00			\$54,656	\$234,168	
National Research Service Award in Primary Care Medicine	93.186	5T32HP10260 16 00			\$0	\$256,722	
National Research Service Awards Health Services Research Training	93.225	5T32HS026121-04			\$0	\$334,766	
Research on Healthcare Costs, Quality and Outcomes	93.226	5R01HS024274-05			\$553,156	\$2,577,294	
Occupational Safety and Health Program	93.262	5R01OH012312-02-00			\$0	\$348,272	

The accompanying footnotes are an integral part of the Schedule of Expenditures of Federal Awards

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<u>Federal Grantor / Pass-through Grantor</u>	<u>Assistance Listing No.</u>	<u>Award Identification No.</u>	<u>Pass-through Contract Number</u>	<u>Passthrough Name</u>	<u>Subrecipients</u>	<u>Total Expenditures (Includes Subrecipients)</u>	R&D Cluster
Centers for Disease Control and Prevention Investigations and Technical Assistance	93.283	5U01DP006436-04-00			\$164,789	\$1,064,467	
CDC Undergraduate Public Health Scholars Program (CUPS): A Public Health Experience to Expose Undergraduates Interested in Minority Health to Public Health and the Public Health Professions	93.456	5NU50MN000003-05-00			\$0	\$900,392	
Public Health Training Centers Program	93.516	5UB6HP31686 06			\$303,552	\$727,796	
Mental and Behavioral Health Education and Training Grants	93.732	5MC1HP42105 03 00			\$0	\$464,464	
Ryan White HIV/AIDS Dental Reimbursement and Community Based Dental Partnership Grants	93.924	5H65HA00014 -21 -00			\$157,818	\$592,579	
HIV Demonstration, Research, Public and Professional Education Projects	93.941	5U01PS005229-03			\$62,833	\$555,697	
Primary Care Medicine and Dentistry Clinician Educator Career Development Awards	93.976	5K02HP30811 -04-00			\$0	\$86,850	
Sexually Transmitted Diseases (STD) Provider Education Grants	93.978	5NU62PS924586-04-00			\$0	\$944,933	
U.S. Department of Health and Human Services Totals					<u>\$2,596,885</u>	<u>\$16,616,288</u>	
Total U.S. Department of Health and Human Services Direct Award Programs					<u>\$2,679,711</u>	<u>\$17,578,727</u>	
Pass-through Awards							
Covid 19 Related Funding							
Biomedical Advanced Research and Development Authority							
COVID-19-An AI-Based Multi-Functional Hand-Held Lumify Ultrasound for Automatic & Intelligent Quantitative Assessment of Lung Injuries, Diseases and Traumatic Injuries in a Mass-Casualty Incident	93.RD	ORSHUN 1019000 COLUMBIA	75A50120C000097	OREGON HEALTH & SCIENCES UNIVERSITY	\$0	\$288,312	
COVID-19-Monitoring Diversity in SARS-CoV-2 Genomes for Tracking Emerging Variants, Measuring Impact of Mitigation Strategies, and Gauging Clinical Outcomes	93.RD	CHOP GRT-00001190	75D30121C11102	CHILDREN'S HOSPITAL OF PHILADELPHIA	\$0	\$65,812	
Covid 19 Related Funding for Centers for Disease Control and Prevention/DHHS Totals					<u>\$0</u>	<u>\$354,124</u>	
Centers for Disease Control and Prevention Investigations and Technical Assistance							
COVID-19-Virtual Network to Investigate the Trajectory of COVID-19-Related Severe Outcomes	93.283	Westat 6765-00-SA010	75D30120C07986	WESTAT	\$0	\$377,779	
Covid 19 Related Funding for Centers for Disease Control and Prevention Investigations and Technical Assistance Totals					<u>\$0</u>	<u>\$377,779</u>	
Protecting and Improving Health Globally: Building and Strengthening Public Health Impact, Systems, Capacity and Security							
COVID-19-Decrease Emerging Resistant Infection through Surveillance and Control In Networks Globally	93.318	JH 2005831575	5NU3HCK000001-02-00	JOHNS HOPKINS UNIVERSITY	\$0	\$48,114	
COVID-19-COVID-19 Vaccination Program Support in Eswatini-Digitizing Port of Entry Vaccination Data	93.318	TFGH RVD-ARP-GVX 02-6045-04	NU2RGH001916	TASK FORCE FOR GLOBAL HEALTH INC	\$0	\$178,698	
Covid 19 Related Funding for Protecting and Improving Health Globally: Building and Strengthening Public Health Impact, Systems, Capacity and Security Totals					<u>\$0</u>	<u>\$226,812</u>	

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Strengthening Public Health Systems and Services through National Partnerships to Improve and Protect the Nation's Health							
COVID-19-Modeling and forecast of COVID 19 at state and county scales	93.421	CSTE 7727	5NU38OT000297	COUNCIL OF STATE AND TERRITORIAL EPIDEMIOLOGISTS	\$0	\$159,880	
COVID-19-COVID-19 Electronic Health Data Initiative	93.421	TFGH CD33-PCOR	NU38OT000316-03-02	TASK FORCE FOR GLOBAL HEALTH INC	\$0	\$99,371	
Covid 19 Related Funding for Strengthening Public Health Systems and Services through National Partnerships to Improve and Protect the Nation's Health Totals					\$0	\$259,251	
Covid 19 Related Funding for U.S. Department of Health and Human Services Totals					\$0	\$1,217,966	
Biomedical Advanced Research and Development Authority							
An AI-Based Multi-Functional Hand-Held Lumify Ultrasound for Automatic & Intelligent Quantitative Assessment of Lung Injuries, Diseases and Traumatic Injuries in a Mass-Casualty Incident	93.RD	ORSHUN 1019000 COLUMBIA	75A50120C000097	OREGON HEALTH & SCIENCES UNIVERSITY	\$0	\$50,715	
Applied Research to Address the Coronavirus (COVID-19) Emerging Public Health Emergency, BAA NOTICE ID 75301-20-R-67897	93.RD	ABTAI 51352	75D30120C08150	ABT ASSOCIATES INC.	\$0	\$45,993	
Respiratory Virus Transmission Network	93.RD	VUMC 96462	75D30121C11656	VANDERBILT UNIVERSITY MEDICAL CENTER	\$0	\$803,991	
QUANTIFYING PATIENTS' BENEFIT-RISK TRADEOFFS ASSOCIATED WITH PERCUTANEOUS REVASCULARIZATION OPTIONS FOR PERIPHERAL ARTERIAL DISEASE: A COLLABORATIVE EFFORT WITH THE RAPID PATHWAYS PATIENT SCIENCE WORK	93.RD	DUMC A034238	75F40120C00179	DUKE UNIVERSITY MEDICAL CENTER	\$0	\$29,167	
Account For Account for RiskSurve Towards a holistic riskbased Site Surveillance An approach for remote, data-based site risk identification and inspection preparation in a (post-) Covid Environment	93.RD	USG 11-21	75F40121C00161	UNIVERSITY OF ST GALLEN	\$0	\$53,425	
National Survey on Drug Abuse and Health (NSDUH)	93.RD	RTI 4-312-0218596-66941L	75S20322C00001	RESEARCH TRIANGLE INSTITUTE	\$0	\$11,124	
ABTAI 44717-50759 Pandemic Influenza Study TASK ORDER NO. 50759	93.RD	ABTAI 44717-50759	HHSD200002013M53890B	ABT ASSOCIATES INC.	\$0	\$853	
ABTAI 44717-50886 Pandemic Influenza Study TASK ORDER NO. 50886	93.RD	ABTAI 44717-51238	HHSD20002013M53890B/75D30119F0	ABT ASSOCIATES INC.	\$0	\$34,916	
Biodosimetry After Radiologic and Nuclear Events	93.RD	ASELL PO 20170003	PO 20170003	ASELL LLC.	\$0	\$16,052	
Biomedical Advanced Research and Development Authority Totals					\$0	\$1,046,236	
Prevention of Disease, Disability, and Death by Infectious Diseases							
Northeast Regional Center for Excellence in Vector Borne Diseases	93.084	CU 81477-10822	6U01CK000509-01-11	CORNELL UNIVERSITY	\$0	\$154,721	
Suppression of Host-Seeking Ixodes scapularis Abundances and Interruption of Pathogen Transmission Through Orally Delivered Systemic Acaricide Treatment of White-tailed Deer and Peromyscus spp	93.084	CAES-2023-23140-2	6U01CK000665-01-01	CONNECTICUT AGRICULTURAL EXPERIMENT STATION	\$0	\$14,906	
Centers for Disease Control and Prevention/DHHS Totals					\$0	\$169,627	
Food and Drug Administration Research							
Analgesic, Anesthetic, and Addiction Clinical Trial Translations, Innovations, Opportunities, and Networks (ACTION) Public-Private Partnership	93.103	URMC SUB00000201	1U01FD007474-01	UNIVERSITY OF ROCHESTER MEDICAL CENTER	\$0	\$9,279	
Analgesic, Anesthetic and Addiction Clinical Trial Translations, Innovations, Opportunities, and Networks and Pediatric Anesthesia Safety Initiative (ACTION/PAS)	93.103	SUB00000442	1U01FD007702-01	UNIVERSITY OF ROCHESTER MEDICAL CENTER	\$0	\$43,329	

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I-ACT for children, Global Pediatrics Clinical Trials Network	93.103	IACT CU18-2768	1U18FD006297-01	INSTITUTE FOR ADVANCED CLINICAL TRIALS	\$0	\$7,345	
Covered Cheatham Platinum Stent for Prevention or Treatment of Aortic Wall Injury Associated with Ao	93.103	JU PO#2001286995	R01FD003898-01	JOHNS HOPKINS UNIVERSITY	\$0	\$169	
Advance tumor-volume change as measured by CT as a pharmacodynamic biomarker for new oncologic drug clinical trial therapy of solid tumors to Stage 2 of FDA biomarker qualification.	93.103	CCSA CU23-2071	U01FD007470	CCS Associates, Inc.	\$0	\$64,392	
Food and Drug Administration Research Totals					\$0	\$124,514	
Maternal and Child Health Federal Consolidated Programs							
Hereditary Hemorrhagic Telangiectasia (HHT) Program	93.110	CHHT CU23-1735	1UP4MC46404-01-00	Cure HHT	\$0	\$48,006	
Maternal and Child Health Federal Consolidated Programs Totals					\$0	\$48,006	
Injury Prevention and Control Research and State and Community Based Programs							
Capital Connect	93.136	RFMH 28225	1 NU50CE002601-01-00	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$17,064	
Studying the Philadelphia Resilience Project as a Response to Overdose	93.136	UPENN 580641	6R01CE003143-01-01	UNIVERSITY OF PENNSYLVANIA	\$0	\$31,039	
Injury Prevention and Control Research and State and Community Based Programs Totals					\$0	\$48,103	
Health Program for Toxic Substances and Disease Registry							
PEDIATRIC ENVIRONMENTAL HEALTH SPECIALTY UNITS NETWORK	93.161	CHMCB GENFD0002281509	5NU61TS000296-04-00	CHILDREN'S HOSPITAL BOSTON	\$0	\$2,903	
Health Program for Toxic Substances and Disease Registry Totals					\$0	\$2,903	
Research on Healthcare Costs, Quality and Outcomes							
Improving Quality and Outcomes for Low Income Children with Depression	93.226	RINCH 710074-0523-00	1R01HS028413-01A1	Research Institute at Nationwide Childrens Hospital	\$0	\$8,553	
Effects of integration of advanced practice providers into surgical group practice	93.226	UM SUBK00017817	1R01HS028975-01A1	UNIVERSITY OF MICHIGAN	\$0	\$2,234	
Improving Maternal and Child Health in the Year After Birth: An Early Evaluation of Postpartum Medicaid Eligibility Extensions	93.226	SUBK00016960	1R01HS029159-01	UNIVERSITY OF MICHIGAN	\$0	\$62,843	
IMProving Outcomes Related to patients Through Advanced Nursing Technology (IMPORTANT)	93.226	RFCUNY CM00005857-00	1R03HS027006-01A1	RESEARCH FOUNDATION OF CITY UNIVERSITY OF NEW YORK	\$0	\$4,237	
SNEPT and SPLIT Network Implementation of a QoI measure in pediatric transplant recipients	93.226	UAP 138102-3	1U18HS028380-01	UNIVERSITY OF PITTSBURGH	\$0	\$13,999	
Consumer Assessment of Healthcare Providers and Systems (CAHPS) VI	93.226	CON-80004136 (GR118191)	1U18HS029307-01	YALE UNIVERSITY	\$0	\$43,646	
Consumer Assessment of Healthcare Providers and Systems CAHPS V	93.226	YU GR112701 (CON-80002977)	5U18HS016978-13	YALE UNIVERSITY	\$0	\$-2	
Preventing Wrong Drug and Wrong Patient Errors with Indication Alerts in CPOE Systems	93.226	NWU SP0037488-PROJ0010282	R01HS024945	NORTHWESTERN UNIVERSITY	\$0	\$93,887	

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Homecare-CONCERN: Building risk models for preventable hospitalizations and emergency department visits in homecare	93.226	VNSNY 4629 2020 CUSON	R01HS027742	VISITING NURSE SERVICE OF NEW YORK	\$0	\$8,466	
Research on Healthcare Costs, Quality and Outcomes Totals					\$0	\$237,863	
Substance Abuse and Mental Health Services Projects of Regional and National Significance							
Mental Disorders Prevalence Study	93.243	RTI 2-312-0217186-65729L	1H79FG000030-01	RESEARCH TRIANGLE INSTITUTE	\$0	\$81,965	
SAMHSA s Suicide Prevention Resource Center Grant	93.243	CUOHSC RS20201621-01	1H79SM083028-01	UNIVERSITY OF OKLAHOMA HEALTH SCIENCES CENTER	\$0	\$19,303	
2019 Providers Clinical Support System-Medicated Assisted Treatment	93.243	AAAP PCSSMAT19-15-NCÉ	1H79TI081968-01	AMERICAN ACADEMY OF ADDICTION PSYCHIATRY	\$0	\$112,256	
Increasing Community Access to Early Childhood EBT Services at the Family PEACE Trauma Treatment Program	93.243	NYPH CU19-3449	U79SM063220-01	PRESBYTERIAN HOSPITAL IN THE CITY OF NEWYORK	\$0	\$-18,892	
Substance Abuse and Mental Health Services Projects of Regional and National Significance Totals					\$0	\$194,632	
Advanced Nursing Education Workforce Grant Program							
Advanced Nursing Education Nurse Practitioner Residency Integration Program (ANE-NPRIP)	93.247	CHCNTWK CU20-1905	1T58HP39869-01-00	COMMUNITY HEALTHCARE NETWORK	\$0	\$156,533	
HRSA Advanced Nursing Education Nurse Practitioner Residency (ANE-NPR) Program	93.247	BASSETT CU19-0741	HRSA 1T14HP33198-01-00	BASSETT HEALTHCARE NETWORK	\$0	\$31,497	
Advanced Nursing Education Workforce Grant Program Totals					\$0	\$188,030	
Occupational Safety and Health Program							
Account For Longitudinal Follow-Up of 9/11 Directly Exposed Children in their Age of Transition: Independence, Occupation and Morbidity	93.262	RFMH 27897	1U01OH012264-01-00	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$5,420	
Grief and health-related quality of life in WTC Survivors: Associations with bereavement, trauma exposures, and mental and physical health conditions	93.262	HJFAMM 5984/1055451	1U01OH012485-01-00	Jackson (Henry M.) Foundation for the Advancement of Military Medicine	\$0	\$126,967	
Neuropsychological Profile and Neurocognitive Biomarkers of Attention and Memory in Trauma Exposed Responders at Risk of Premature Cognitive Decline	93.262	RFMH 27896	6U01OH012272-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$50,507	
Prenatal WTC Chemical Exposures, Birth Outcomes and Cardiometabolic Risks	93.262	NYU 17-A1-00-006514	U01OH011299	NEW YORK UNIVERSITY MEDICAL CENTER	\$0	\$77,866	
Occupational Safety and Health Program Totals					\$0	\$260,760	
National Center for Health Workforce Analysis							
Consortium for Public Health Workforce Research (C-WORPH)	93.300	UMINN CU22-0731	U18HP47167-01	UNIVERSITY OF MINNESOTA	\$0	\$71,496	
National Center for Health Workforce Analysis Totals					\$0	\$71,496	
Protecting and Improving Health Globally: Building and Strengthening Public Health Impact, Systems, Capacity and Security							
Ethiopia SI GEEKS Data Triangulation	93.318	TFGH CU21-1643	6NU2GGH002090	TASK FORCE FOR GLOBAL HEALTH INC	\$0	\$6,228	
Protecting and Improving Health Globally: Building and Strengthening Public Health Impact, Systems, Capacity and Security Totals					\$0	\$6,228	

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ACL National Institute on Disability, Independent Living, and Rehabilitation Research							
The Center for Enhancing Neurocognitive Health, Abilities, Networks, and Community Engagement (ENHANCE)	93.433	WCMC 220717	90REGE0012-03-00	WEILL (JOAN AND SANFORD I.) MEDICAL COLLEGE OF CORNELL UNIVERSITY	\$0	\$15,570	
ACL National Institute on Disability, Independent Living, and Rehabilitation Research Totals					\$0	\$15,570	
Opioid STR							
Opioid Response Network: Collaborating, Advancing, Responding, Educating	93.788	AAAP SOR-CARE-40	1H79 TI083343-01	AMERICAN ACADEMY OF ADDICTION PSYCHIATRY	\$0	\$437,212	
Opioid STR Totals					\$0	\$437,212	
Health Careers Opportunity Program (HCOP)							
HCOP Northeast Regional Alliance (NERA) MedPrep Scholars Program	93.822	ISMMS 0253-6648-4609	1D18HP321210100	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	\$0	\$87,533	
Health Careers Opportunity Program (HCOP) Totals					\$0	\$87,533	
Maternal, Infant and Early Childhood Home Visiting Grant							
Maternal, Infant and Early Childhood Home Visiting Research and Development Platform	93.870	JH 2005730694	UD5MC30792	JOHNS HOPKINS UNIVERSITY	\$0	\$53,175	
Maternal, Infant and Early Childhood Home Visiting Grant Totals					\$0	\$53,175	
HIV Emergency Relief Project Grants							
RYAN WHITE PART A CONTRACT 93-EVL-4645 FOR PLANNING AND EVALUATION (BASE)	93.914	93-EVL-4645T-502	6 H89HA00015 31 01	Public Health Solutions	\$0	\$1,126,685	
HIV Emergency Relief Project Grants Totals					\$0	\$1,126,685	
U.S. Department of Health and Human Services Totals					\$0	\$4,118,573	
Total U.S. Department of Health and Human Services Passthrough Award Programs					\$0	\$5,336,539	
Total U.S. Department of Health and Human Services (Excluding NIH)					\$2,679,711	\$22,915,266	
National Institute of Health							
Direct Awards							
Covid 19 Related Funding							
COVID-19-Changes in the public health burden of tobacco use during the COVID-19 pandemic: the C4R Study	93.077	5R21HL165405-02			\$0	\$191,467	
COVID-19-Effects of Prenatal Exposure To Environmental Tobacco Smoke on Brain Function and Academic Skills	93.113	5K23ES026239-05			\$7,590	\$67,261	
COVID-19-Neurocognitive & neuropsychiatric impact of chemosensory alterations: Implications of olfactory dysfunction in COVID-19	93.173	5K23DC019678-03			\$7,447	\$205,416	
COVID-19-ovid-19 Mother Baby Outcomes (COMBO): brain-behavior functioning	93.242	5R01MH126531-03			\$342,630	\$1,696,797	
COVID-19-Impact of Social Cohesion and Social Capital in PrEP Uptake and Adherence Among Transwomen of Color	93.307	5R01MD013554-05			\$0	\$346,047	
COVID-19-Optimizing SARS-CoV-2 wastewater based surveillance in urban and university campus settings	93.310	5U01DA053949-02			\$43,850	\$1,603,606	

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					<u>Subrecipients</u>	<u>Total Expenditures (Includes Subrecipients)</u>
COVID-19-Advancing Palliative Care in Northern Plains American Indians	93.397	3R01CA240080-04S1			\$187,369	\$187,369
COVID-19-SCAN-MP (Screening for Cardiac Amyloidosis with Nuclear imaging in Minority Populations)	93.837	5R01HL139671-05			\$2,225	\$409,421
COVID-19-COVID-19 Lung Microvascular and Parenchymal Sequelae (Lung-MaPS)	93.838	5R01HL157634-03			\$121,223	\$975,553
COVID-19-Fusion inhibitors that block host-to-host transmission of SARS-CoV-2	93.855	5R01AI160953-03			\$1,382,797	\$4,820,812
COVID-19-Prejudices and Discrimination Toward Asians and Hispanics During and After COVID-19	93.865	5R21HD105183-02			\$0	\$28,600
				Covid 19 Related Funding for National Institute of Health Totals	<u>\$2,095,131</u>	<u>\$9,713,507</u>
National Heart, Lung, and Blood Institute/NIH/DHHS	93.RD	75N92020D00002			\$0	\$1,935,577
NAT CTR FOR ADV TRANS SCIENCES/NIH/DHHS	93.RD	5UL1TR001873-08			\$64,944	\$11,179,042
Family Smoking Prevention and Tobacco Control Act Regulatory Research	93.077	5R21HL153700-02			\$0	\$118,246
Environmental Health	93.113	5R35ES031688-03			\$3,131,118	\$17,859,488
Oral Diseases and Disorders Research	93.121	5U01DE026739-05			\$673,100	\$5,967,820
NIEHS Superfund Hazardous Substances Basic Research and Education	93.143	5P42ES033719-02			\$131,353	\$1,350,672
Human Genome Research	93.172	5U01HG008680-08			\$1,410,140	\$7,090,692
Research Related to Deafness and Communication Disorders	93.173	5R01DC018060-05			\$1,208,068	\$6,006,444
Research and Training in Complementary and Integrative Health	93.213	7R34AT010673-02			\$44,783	\$391,882
National Center on Sleep Disorders Research	93.233	5R01HL141494-05			\$41,244	\$2,499,291
Mental Health Research Grants	93.242	1RF1MH128969-01			\$6,828,463	\$33,705,621
Alcohol Research Programs	93.273	5R01AA027916-04			\$1,656,136	\$5,872,294
Drug Abuse and Addiction Research Programs	93.279	5UM1DA049415-04			\$4,830,308	\$24,400,612

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Discovery and Applied Research for Technological Innovations to Improve Human Health	93.286	5P41EB027062-05			\$684,170	\$8,647,591
Minority Health and Health Disparities Research	93.307	5P50MD017341-03			\$1,143,810	\$5,758,694
Trans-NIH Research Support	93.310	3OT2OD026556-01S3			\$6,787,615	\$25,736,543
National Center for Advancing Translational Sciences	93.350	1OT2TR003434-02			\$491,862	\$3,814,359
Research Infrastructure Programs	93.351	1S10OD032447-01			\$0	\$1,404,741
Construction Support	93.352	1C06OD030152-01			\$0	\$92,286
21st Century Cures Act - Beau Biden Cancer Moonshot	93.353	5U01CA274312-02			\$0	\$1,154,785
Nursing Research	93.361	5R01NR019758-04			\$1,307,149	\$5,967,858
Cancer Cause and Prevention Research	93.393	5U01CA164920-10			\$4,412,166	\$17,556,880
Cancer Detection and Diagnosis Research	93.394	1U01CA272610-01			\$463,358	\$3,768,180
Cancer Treatment Research	93.395	5R01CA201788-07			\$155,716	\$5,038,608
Cancer Biology Research	93.396	5R35CA197566-08			\$2,588,152	\$28,047,035
Cancer Centers Support Grants	93.397	5P30CA013696-47			\$204,209	\$5,689,153
Cancer Research Manpower	93.398	5T32CA203703-08			\$0	\$3,465,144
Cancer Control	93.399	5UG1CA189960-09			\$52,287	\$1,198,964
Refugee and Entrant Assistance Wilson/Fish Program	93.583	1F31NS130983-01			\$0	\$26,670
Promoting the Cancer Surveillance Workforce, Education and Data Use	93.832	5K23HL165083-02			\$0	\$151,524
Cardiovascular Diseases Research	93.837	5R01HL139671-05			\$4,607,531	\$38,544,217
Lung Diseases Research	93.838	5UH3HL140177-05			\$4,152,367	\$18,423,816

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						<u>Total Expenditures (Includes Subrecipients)</u>
Blood Diseases and Resources Research	93.839	5R01HL148151-04			\$1,650,874	\$6,507,781
Arthritis, Musculoskeletal and Skin Diseases Research	93.846	5R01AR062947-10			\$1,339,475	\$8,400,943
Diabetes, Digestive, and Kidney Diseases Extramural Research	93.847	5RC2DK116690-05			\$5,518,873	\$41,759,889
Extramural Research Programs in the Neurosciences and Neurological Disorders	93.853	5U01NS095869-05			\$15,883,012	\$65,607,842
Allergy and Infectious Diseases Research	93.855	5U01AI150680-04*			\$7,646,100	\$50,195,472
National Cancer Institute/NIH/DHHS	93.856	5R01CA224428-05			\$164,474	\$539,358
Biomedical Research and Research Training	93.859	5T32GM145440-02			\$354,584	\$35,911,772
Child Health and Human Development Extramural Research	93.865	5R01HD104599-04			\$3,911,375	\$15,380,141
Aging Research	93.866	5R01AG072474-03			\$20,942,683	\$99,300,170
Vision Research	93.867	5R24EY028758-04			\$876,156	\$13,853,643
Medical Library Assistance	93.879	5T15LM007079-32			\$441,537	\$3,426,199
International Research and Research Training	93.989	5R01TW011228-04			\$279,632	\$1,531,778
National Institute of Health Totals					\$106,078,824	\$635,279,717
Total National Institute of Health Direct Award Programs					\$108,173,955	\$644,993,224
Pass-through Awards						
Covid 19 Related Funding						
National Cancer Institute/NIH/DHHS						
COVID-19-Multiplexed in-solution serological test for SARS-COV-2, human coronaviruses and other respiratory pathogens	93.RD	ASU ASUB00000660	75N91019D00024	ARIZONA STATE UNIVERSITY	\$0	\$291,182
COVID-19-In vitro testing and early detection of SARS-CoV-2 variants (supplement)	93.RD	ISMMS 0258-A709-4609	75N93021C00014	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	\$0	\$523,721
COVID-19-Adaptive Platform Treatment Trial for Outpatients with COVID-19 (Adapt Out COVID)	93.RD	PPD CU21-2098	HHSN272201700078C	PPD DEVELOPMENT	\$0	\$-428
Covid 19 Related Funding for National Institute of Allergy and Infectious Diseases/NIH/DHHS Totals					\$0	\$814,475
Research on Healthcare Costs, Quality and Outcomes						
COVID-19-Evaluating and Enhancing Health Information Technology for COVID-19 Emergency Response Workflow in a Specialized COVID-19 Hospital in a Medically Underserved Community	93.226	SUNYRF 100-1165500-90112	1R01HS028220-01	RESEARCH FOUNDATION OF THE STATE UNIVERSITY OF NEW YORK	\$0	\$16,253
Covid 19 Related Funding for Research on Healthcare Costs, Quality and Outcomes Totals					\$0	\$16,253

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<u>Federal Grantor / Pass-through Grantor</u>	<u>Assistance Listing No.</u>	<u>Award Identification No.</u>	<u>Pass-through Contract Number</u>	<u>Passthrough Name</u>	<u>Subrecipients</u>	<u>Total Expenditures (Includes Subrecipients)</u>	R&D Cluster
Mental Health Research Grants							
COVID-19-Adapting Coordinated Specialty Care in the Post COVID-19 Era	93.242	RFMH 27327	3R01MH120597-02S1	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$16,325	
Covid 19 Related Funding for Mental Health Research Grants Totals					\$0	\$16,325	
Alcohol Research Programs							
COVID-19-9/11 Through COVID-19: Mass Disaster and Alcohol	93.273	RFMH 28232	1R01AA029425-01A1	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$5,420	
Covid 19 Related Funding for Alcohol Research Programs Totals					\$0	\$5,420	
Minority Health and Health Disparities Research							
COVID-19-Statistical adjustments of sample representation in community-level estimates of COVID-19 transmission and immunity	93.307	UMICHG SUBK00016555	5U01MD017867-02	UNIVERSITY OF MICHIGAN	\$0	\$30,657	
Covid 19 Related Funding for Minority Health and Health Disparities Research Totals					\$0	\$30,657	
Trans-NIH Research Support							
COVID-19-Direct bioelectronics detection of SARS-CoV-2 from saliva using single-molecule field-effect transistor (smFET) arrays	93.310	QSB R44DE030841-01	1R44DE030841-01	QUICKSILVER BIOSCIENCES	\$0	\$103,052	
COVID-19-Leveraging Social Networks to Increase COVID-19 Testing Uptake: A Comparison of Credible Messenger and Chain Referral Recruitment Approaches	93.310	SRFMH 160046	3UG1DA050071-04S1	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$36,119	
COVID-19-Diagnosing and predicting risk in children with SARS-CoV-2-related illness	93.310	UCSD 706063	4R33HD105590-03	UNIVERSITY OF CALIFORNIA, SAN DIEGO	\$0	\$65,033	
Covid 19 Related Funding for Trans-NIH Research Support Totals					\$0	\$204,204	
Cardiovascular Diseases Research							
COVID-19-Mechanistic registry to study whether infection with Corona Virus Disease 2019 (COVID-19) accelerates atherosclerotic plaque progression	93.837	ISMMS 0255-G151-4609	7R01HL159433-02	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	\$0	\$33,220	
COVID-19-Pediatric Heart Network U24HL135691	93.837	NERI CU17-3862	U24HL135691	NEW ENGLAND RESEARCH INSTITUTES	\$0	\$129,323	
Covid 19 Related Funding for Cardiovascular Diseases Research Totals					\$0	\$162,543	
Lung Diseases Research							
COVID-19-RECOVER Collaborative Cohort of Cohorts for COVID-19 Research (C4R)	93.838	RTI 22-312-0217571-66178	1OT2HL156812-01	RESEARCH TRIANGLE INSTITUTE	\$5,864,156	\$8,073,684	
COVID-19-Integrative genomic, transcriptomic and proteomic studies of pulmonary function and COPD	93.838	UV GB11016.169809	1R01HL153248-01A1	UNIVERSITY OF VIRGINIA	\$0	\$4,204	
COVID-19-NIH RECOVER: A Multi-site Observational Study of Post-Acute Sequelae of SARS-CoV-2 Infection in Pediatric Populations	93.838	NYMC PED-05-21	0T2HL161847-01	NEW YORK UNIVERSITY MEDICAL CENTER	\$295,626	\$1,148,950	
Covid 19 Related Funding for Lung Diseases Research Totals					\$6,159,782	\$9,226,838	
Translation and Implementation Science Research for Heart, Lung, Blood Diseases, and Sleep Disorders							
COVID-19- ACTIV 4d RAAS	93.840	VUMC 92541	1OT2HL156812-01	VANDERBILT UNIVERSITY MEDICAL CENTER	\$0	\$18,373	
Covid 19 Related Funding for Translation and Implementation Science Research for Heart, Lung, Blood Diseases, and Sleep Disorders Totals					\$0	\$18,373	

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Diabetes, Digestive, and Kidney Diseases Extramural Research							
COVID-19- Experimental and natural SARS-CoV-2 infection of the human pancreas	93.847	ISMMS 0255-F641-4609	1R01DK130425-01	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	\$0	\$15,732	
Covid 19 Related Funding for Diabetes, Digestive, and Kidney Diseases Extramural Research Totals					\$0	\$15,732	
Allergy and Infectious Diseases Research							
COVID-19-How the Novel Coronavirus Attacks the Brain	93.855	RFMH 27909	1R21AI1164769-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$30,533	
COVID-19-Rapid antibody screening systems to identify and engineer antiviral protection	93.855	MGH 240551	1R21AI166396-01	MASSACHUSETTS GENERAL HOSPITAL	\$0	\$19,949	
COVID-19-Surveillance of COVID-19 at the building scale: SARS-CoV-2 in building dust	93.855	OSU GR126534/SPC-1000006185	1R21AI68817-01	OHIO STATE UNIVERSITY	\$0	\$6,288	
COVID-19-Immune Tolerance Network	93.855	BRI FY21ITN440	2UM1AI109565-08	BENAROYA RESEARCH INSTITUTE	\$0	\$15,450	
COVID-19-Molecular Regulation of B cells and T cells in Human SLE // Protocol	93.855	EMORYU A585613	3U19AI110483-08S4	EMORY UNIVERSITY	\$0	\$313,779	
COVID-19-CoVpN 3002 Protocol Funding (PF) - New York-Columbia P&S Clinical Research Site	93.855	FHCRC 0001035530	3UM1AI068614-14S1	FRED HUTCHINSON CANCER CENTER	\$0	\$1,751,863	
COVID-19-ADAPT Out COVID: ACTIV-2/ACTG A5401	93.855	UCLA CRS 30329 CU 30606 A5401	3UM1AI068636-14S2	UNIVERSITY OF CALIFORNIA, LOS ANGELES	\$0	\$40,272	
COVID-19-COVID A5407 / ACTIV 2D	93.855	UCLA 1560 B YB262	3UM1AI068636-16S1	UNIVERSITY OF CALIFORNIA, LOS ANGELES	\$0	\$45,500	
COVID-19-Tracking SARS-CoV-2 one molecule at a time: Spatiotemporal investigation of coronavirus replication dynamics and host response in single cells in vitro and in vivo	93.855	RFU SUB00000253	5R01AI161444-02	ROCKEFELLER UNIVERSITY	\$0	\$152,257	
COVID-19-Molecular Regulation of B cells and T cells in Human SLE // Protocol ALE-10	93.855	EMORYU A740194	5U19AI110483-09	EMORY UNIVERSITY	\$0	\$84,102	
COVID-19-CoVpN 5002 Seroprevalence Study Leadership	93.855	FHID PO20002827	UM1 AI068619	FHI DEVELOPMENT 360 LLC	\$0	\$32,303	
COVID-19-CoVpN 3002: Astrazeneca Vaccine	93.855	FHID PO20002897	UM1AI068619	FHI DEVELOPMENT 360 LLC	\$1,316,952	\$2,306,903	
Covid 19 Related Funding for Allergy and Infectious Diseases Research Totals					\$1,316,952	\$4,799,199	
Child Health and Human Development Extramural Research							
COVID-19-Neighborhood characteristics and neurodevelopment: Risk and protective factors, and susceptibility to stressors and school disruption during the COVID-19 pandemic	93.865	USC SCON-00004421	1R01HD108398-01	UNIVERSITY OF SOUTHERN CALIFORNIA	\$0	\$33,091	
Covid 19 Related Funding for Child Health and Human Development Extramural Research Totals					\$0	\$33,091	
Covid 19 Related Funding for National Institute of Health Totals					\$7,476,734	\$15,343,110	

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National Heart, Lung, and Blood Institute/NIH/DHHS							
Strong Heart Study Arizona Field Center	93.RD	MERI 5001681646	75N2019D00023/TO-75N2019F0001	Medstar Research Institute	\$0	\$28,928	
Integrated imaging and molecular analysis of glioblastoma using SCOPE-Seq on the AIR FLOW System	93.RD	CMICRO 021820	75N91019C00029	CELL MICROSYSTEMS	\$0	\$544,101	
Leidos RFP S18-144QF2	93.RD	LEIDOS S18-144QF2	75N91019D00024	LEIDOS BIOMEDICAL RESEARCH INC	\$0	\$385,578	
Deep Learning Clinical Trial Matching System	93.RD	MB CU20-4666	75N91020C00016	MASSIVE BIO INC	\$0	\$-2	
CNT-Vectored Delivery of mRNA for HIV-Vaccines	93.RD	LUNA 33483.02ADARC	75N93019C00034 3441-ARM-2S 3	LUNA LABS USA LLC	\$0	\$3,593	
Monoclonal Antibodies for the Immune Targets of Swine	93.RD	QOOLABS 75N93022CU00045-CU	75N93022C00045	QOOLABS	\$0	\$3,877	
Tissue Correlates of Outcome in Rare CNS Tumors and Pregnancy Sub study in Primary Brain Tumors	93.RD	MSC CU20-4703	75N98020D00086	MEDICAL SCIENCE AND COMPUTING LLC	\$0	\$5,584	
Patient-Derived Models Tissue Procurement Protocol for the National Cancer Institute	93.RD	LEIDOS 17X152	HHSN261200800001E	LEIDOS BIOMEDICAL RESEARCH INC	\$0	\$64,395	
Systolic Blood Pressure Intervention Trial (SPRINT)	93.RD	UAB 000336417-027	HHSN268200900047C	UNIVERSITY OF ALABAMA AT BIRMINGHAM	\$0	\$222,789	
PumpKIN Trial	93.RD	NERI CU18-1664	HHSN2682012000001	NEW ENGLAND RESEARCH INSTITUTES	\$0	\$18	
Jackson Heart Study Renewal - Coordinating Center	93.RD	UMISSIP 68111350819-01	HHSN2682018000101	UNIVERSITY OF MISSISSIPPI	\$0	\$8,884	
Targeted Clinical Research to Address Select Viral Infections	93.RD	UAB 000509734-023	HHSN272201600018C	UNIVERSITY OF ALABAMA AT BIRMINGHAM	\$0	\$12,750	
Discovering biomarkers of outcome: EBV DNA quantification and the relationship of EBV and LINE1 retrotransposon expression in pediatric patients with Nasopharyngeal Carcinoma enrolled on ARAR0331	93.RD	PHI AR14444	HSN2612015000031	Public Health Institute	\$0	\$8,922	
Cancer Trials Support Unit (CTSU) Phase II Supplemental Payments (N02-CM-62212)	93.RD	CHPHI CU15-2793	N02-CM-62212	CHILDREN'S HOSPITAL OF PHILADELPHIA	\$0	\$5,040	
SOURCE Study Bridge Agreement	93.RD	COPDFDN CU22-1495	NCT05033990	COPD Foundation	\$0	\$14,373	
National Heart, Lung, and Blood Institute/NIH/DHHS Totals					\$0	\$1,308,830	
National Heart, Lung, and Blood Institute/NIH/DHHS							
Improving Blood Pressure Screening and Treatment Strategies in Young Adults	93.RD	KFDNI RNG211455-Columbia	1R01HL158790-01	Kaiser Foundation Research Institute- -Division of Research	\$0	\$143,995	
Long-Acting RNAi Therapy for Atherosclerosis and Insulin Resistance	93.RD	BWH 125535	1R01HL159012-01	BRIGHAM AND WOMEN'S HOSPITAL	\$0	\$244,845	
National Alzheimer's Coordinating Center (NACC)- Competitive Renewal	93.RD	UWSC12960	1U24AG072122-01	UNIVERSITY OF WASHINGTONSEATTLE WASHINGTON	\$0	\$30,440	

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Health, Aging and Dementia in South Africa: A Longitudinal Study (HAALSI): Project 1	93.RD	HU CU22-1048	2P01AG041710	HARVARD UNIVERSITY	\$0	\$1,806
National Alzheimer's Coordinating Center	93.RD	UWSC13285	3U24AG072122-01S1	UNIVERSITY OF WASHINGTON/SEATTLE WASHINGTON	\$0	\$89,612
Health, Aging and Dementia in South Africa: A Longitudinal Study (HAALSI): Core C	93.RD	HU CU22-1049	5P01AG041710-08	HARVARD UNIVERSITY	\$0	\$1,806
Investigating neuroanatomical underpinnings of apathy in ADRD through neuroimaging and electrical manipulation	93.RD	BCMh CU20-3451	R01MH127200	BAYLOR COLLEGE OF MEDICINE--HOUSTON	\$0	\$205,963
National Institutes of Health/DHHS Totals					\$0	\$718,467
Family Smoking Prevention and Tobacco Control Act Regulatory Research						
Examining the Effects of Advertising, Packaging, and Labeling, and Perceptions, Use, and Exposure of Combustible Tobacco Products	93.077	RUTGER PO 25309774	1U54CA229973-01	RUTGERS, THE STATE UNIVERSITY OF NEW JERSEY DEPARTMENT OF RADIOLOGY	\$0	\$77,889
Family Smoking Prevention and Tobacco Control Act Regulatory Research Totals					\$0	\$77,889
Environmental Health						
Air Particulate, Metals, and Cognitive Performance in an Aging Cohort- Roles of Circulating Extracellular Vesicles and Non-coding RNAs	93.113	HARVARD 112557-5108340	1R01ES027747-01	HARVARD UNIVERSITY	\$0	\$913,784
The Effects of Environmental Exposures on Semen Quality and the Sperm Epigenome.	93.113	BWH 118582	1R01ES028712-01	BRIGHAM AND WOMEN'S HOSPITAL	\$0	\$103,186
Impact of preconception and onward exposure to air pollution on growth trajectories of infants and children	93.113	DUKEU A03-3136	1R01ES029945-01A1	DUKE UNIVERSITY	\$0	\$31,447
A national birth cohort study of prenatal factors and neurodevelopmental psychiatric disorders	93.113	RFMH 147870	1R01ES030966-01A1	RESEARCH FOUNDATION FOR MENTAL HYGIENE/INC	\$0	\$76,510
Urban air pollution and neurobehavioral trajectories in the ABCD study	93.113	USC 139981076	1R01ES031074-01A1	UNIVERSITY OF SOUTHERN CALIFORNIA	\$0	\$31,155
Developmental Exposure to Arsenic: Pneumonia, Immunity, and Microbiome (DEAPIM)	93.113	UNMEX 3RKW2	1R01ES031743-01A1	UNIVERSITY OF NEW MEXICO	\$21,063	\$34,970
Building Capacity to study mixed metal-induced neurotoxicity in Bangladeshi children-A1	93.113	TEXASSU 22200C	1R01ES032149-01A1	TEXAS STATE UNIVERSITY	\$0	\$150,673
The Role of Air Pollution in Emotional Neurodevelopment and Risk for Psychiatric Disorders	93.113	USC 138935395	1R01ES032295-01	UNIVERSITY OF SOUTHERN CALIFORNIA	\$0	\$29,789
The Impact of Drought on Arsenic Exposure and Cardiometabolic Outcomes in a Rural Aging Population	93.113	FY22.659.003	1R01ES032612-01A1	UNIVERSITY OF COLORADO	\$0	\$8,602
Prenatal air pollution and neurodevelopment: a longitudinal neuroimaging study of mechanisms and early risk for ADHD in Puerto Rican children	93.113	RFMH 28163	1R01ES032870-01A1	RESEARCH FOUNDATION FOR MENTAL HYGIENE/INC	\$0	\$52,035
Ambient Air Pollution, Weather, and Placental Abruption (APWA)	93.113	RUTGER 2095	1R01ES033190-01	RUTGERS, THE STATE UNIVERSITY OF NEW JERSEY DEPARTMENT OF RADIOLOGY	\$0	\$9,392
Characterizing the link between multiple environmental exposures and Parkinson's disease exacerbation	93.113	HARVARD 112600-5120700	1R01ES034373-01	HARVARD UNIVERSITY	\$0	\$19,500

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Early life household air pollution, metal composition and cardiovascular health: Evidence from GRAPHS	93.113	ISMMS 0255-G991-4609	1R01ES034433-01	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	\$0	\$142,977	
Xenobiotic Receptors in the Crossroad of Xenobiotic Metabolism and Endobiotic Metabolism	93.113	UPITT AWD00000936 (133648-2)	1R35ES030429-01	UNIVERSITY OF PITTSBURGH	\$0	\$22,918	
Human Health Exposure Analysis Resource (HHEAR) Data Center	93.113	0255-C751-4609	2U2CES026555-02	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	\$0	\$86,691	
Human Health Exposure Analysis Resource (HHEAR) Data Center	93.113	0255-C714-4609	3U2CES026555-05S1	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	\$0	\$37,595	
NYU Collaborative Center in Children's Environmental Health Research and Translation	93.113	NYU 21-A0-00-1006189	5P2CES033423-02	NEW YORK UNIVERSITY	\$0	\$2,597	
Stress-Chemical Interactions and Neurobehavior in School Age Children	93.113	ISMMS 0255-5545-4609	5R01ES013744-13	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	\$0	\$114,306	
Prenatal endocrine-disrupting chemicals and social/cognitive risk in mothers and infants: Potential biologic pathways	93.113	RFMH 26840	5R01ES027424	RESEARCH FOUNDATION FOR MENTAL HYGIENE INC	\$0	\$203,878	
Maternal organophosphate pesticide exposure, low birth weight and placental injury	93.113	BIDMC 01060906	5R01ES028688-05	BETH ISRAEL DEACONESS MEDICAL CENTER	\$0	\$82,943	
Prenatal metal mixtures and neurodevelopment: Role of placental extracellular microRNAs	93.113	ISMMS 0255-B981-4609	5R01ES030302-02	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	\$0	\$142,956	
Per- and Polyfluoroalkyl substances mixtures and maternal cardiovascular disease risk across the reproductive life course	93.113	HARVARD 112218-5124879	5R01ES031065-03	HARVARD UNIVERSITY	\$0	\$128,794	
Air Particulate Pollution and Stress: Effects and Mechanisms for Long-term Maternal Obesity Risks	93.113	ISMMS 0255-E141-4609	5R01ES032242-02	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	\$0	\$129,926	
Effect of Perinatal Exposure to Metals on Lung Function Trajectories and Mitochondrial DNA Heteroplasmy from Childhood to Adolescence	93.113	ISMMS 0255-G371-4609	5R01ES033245-02	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	\$0	\$8,315	
The Programming Research in Obesity, Growth, Environmental and Social Stress (PROGRESS) Cohort	93.113	ISMM 0255-4921-4609	5R24ES028622-02	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	\$0	\$6,274	
Manganese-related Neurotoxicity in Asymptomatic Welders	93.113	PSU COLES019672	R01ES019672	PENNSYLVANIA STATE UNIVERSITY	\$0	\$7,248	
Environmental Health Totals					\$21,063	\$2,578,461	
Oral Diseases and Disorders Research							
Development of Minimally Invasive Drug Delivery System for TMJ Regeneration	93.121	WNT CU19-2978	R24DE028215	WNT SCIENTIFIC LLC	\$0	\$446,994	
Developing a stable cell line expressing recombinant sclerostin	93.121	WNT CU22-2847	SB1DE031481	WNT SCIENTIFIC LLC	\$0	\$15,757	
Oral Diseases and Disorders Research Totals					\$0	\$462,751	
NIEHS Superfund Hazardous Substances_Basic Research and Education							
UNM Metal Exposure Toxicity Assessment on Tribal Lands in the Southwest (METALS) Superfund Research Program - Renewal	93.143	UNMEX 3RNC1	2P42ES025589-06	UNIVERSITY OF NEW MEXICO	\$0	\$5,758	
NIEHS Superfund Hazardous Substances_Basic Research and Education Totals					\$0	\$5,758	

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Human Genome Research							
Leveraging consanguinity and homozygosity to identify novel recessive variants	93.172	UCSF 11959sc	1R01HG010689-01	UNIVERSITY OF CALIFORNIA SAN FRANCISCO	\$0	\$357,178	
New computational methods to dynamically pinpointing the subregions carrying disease associated rare variants	93.172	DUMC 303001502	1R01HG012555-01	DUKE UNIVERSITY MEDICAL CENTER	\$0	\$37,081	
Center for Integrated Cellular Analysis	93.172	NYGC 2019-0014-CU-01	1RM1HG011014-01	NEW YORK GENOME CENTER	\$0	\$58,703	
The Duke FUNCTION Center: Pioneering the comprehensive identification of combinatorial noncoding causes of disease	93.172	DU A034194	1RM1-HG011123-01A1	DUKE UNIVERSITY MEDICAL CENTER	\$0	\$73,887	
ELSI.hub: National Center for ELSI Resources and Analysis	93.172	SU 62196601-139696	1U24HG010733-01	STANFORD UNIVERSITY	\$3,857	\$785,163	
Tensor Array Methods for RNA-Seq Analysis	93.172	UMICHG SUBK00014336	5R01HG010731-03	UNIVERSITY OF MICHIGAN	\$0	\$16,186	
New Methods for Constructing and Evaluating Polygenic Scores	93.172	SU 62472179-159655	5R01HG011432-03	STANFORD UNIVERSITY	\$0	\$252,035	
Center for Integrated Cellular Analysis	93.172	NYGC 2019-0014-CU-02	5RM1HG011014-03	NEW YORK GENOME CENTER	\$0	\$223,600	
Human Genome Research Totals					\$3,857	\$1,803,833	
Research Related to Deafness and Communication Disorders							
Implantable Microphones for Fully Implantable Hearing Prosthetics	93.173	MEA 530673	5R01DC016874-02	MASSACHUSETTS EYE AND EAR	\$0	\$89,504	
Characterizing the temporal processing of sound in human auditory cortex	93.173	NYU 20-A1-00-1003975	5R01DC018805-02	NEW YORK UNIVERSITY	\$0	\$430,942	
A Wireless micro-ECoG Prosthesis for Speech	93.173	DUKEU A03-5635	5R01DC019498-02	DUKE UNIVERSITY	\$0	\$98,444	
Research Related to Deafness and Communication Disorders Totals					\$0	\$618,890	
Research and Training in Complementary and Integrative Health							
Defining disease mechanisms in SLC35A2 epilepsy	93.213	UNCCH 5118022	1R01NS11507-01A1	UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL	\$0	\$70,658	
Comprehensive CBT via reSET for a Hub and Spoke MAT System of Care	93.213	PSU COLAT010118	1R21AT010118-01	PENNSYLVANIA STATE UNIVERSITY	\$0	\$46,578	
Trial to Assess Chelation Therapy 2 (TACT2) DCC Competing Renewal	93.213	DUKEU 303001865	2U24AT009150-07	DUKE UNIVERSITY	\$0	\$275,855	
Brain control of internal organ function	93.213	AI 2022-0792	7DP1AT011979-02	ALLEN INSTITUTE	\$0	\$829,318	
Sensing Active Movement of the Self: Reconsidering the Cellular Basis Kinesthesia	93.213	CCF22538760	R01AT011905	CLEVELAND CLINIC	\$0	\$163,409	
Research and Training in Complementary and Integrative Health Totals					\$0	\$1,385,818	

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Mental Health Research Grants							
Neural dynamics underlying rule based decision-making	93.242	SRFMH 145453	1K08MH120434-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$72,339	
Penn Innovation in Suicide Prevention Implementation Research (INSPIRE) Center-Signature	93.242	UPENN CU22-2668	1P50MH127511-01	UNIVERSITY OF PENNSYLVANIA	\$0	\$22,959	
2/2 - Inflammation and Stress Response in Familial and Nonfamilial Youth Suicidal Behavior	93.242	RFMH 28028	1R01MH108032-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$132,633	
Improving Cognition via Exercise in Schizophrenia	93.242	MSSM 0255-3351-4609	1R01MH110623-01A1	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	\$0	\$35,540	
Identifying Reproducible Brain Signatures of Obsessive Compulsive Profiles	93.242	RFMH 26719	1R01MH113250-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$88,900	
The Neurobiology of Violence in a Psychosis-Risk Cohort	93.242	RFMH 26737	1R01MH113861-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$161,752	
2/2 Task control circuit targets for obsessive compulsive behaviors in children	93.242	UMICHG SUBK00017468	1R01MH114958-01	UNIVERSITY OF MICHIGAN	\$0	\$24,076	
Deconstructing the cellular control of hippocampal functions related to mental health: a role for birth order.	93.242	RFMH 27114	1R01MH115215-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$188,252	
VITAL Start (Video-intervention to Inspire Treatment Adherence for Life): Brief facility based video intervention to improve retention and adherence to ART among pregnant and breastfeeding women	93.242	BCM 7000000715	1R01MH115793-01A1	BAYLOR COLLEGE OF MEDICINE--HOUSTON	\$0	\$67,416	
Targeting cotransmission for circuit-specific pharmacotherapy	93.242	RFMH 27032	1R01MH117128-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$103,471	
Individualized Risk Prediction in Persons at Clinical High Risk for Psychosis Using Neuromelanin-Sensitive MRI	93.242	RFMH 27054	1R01MH117323-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$70,418	
Uncovering the Risk Architecture of Suicidal Behaviors: a Representative Sample at High Risk	93.242	RFMH 27322	1R01MH117360-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$156,047	
Inflammatory Biomarkers and Kynurenine Metabolites Tracking Suicidal Ideation and Behavior	93.242	VAI V3362-R1-2	1R01MH118211-01A1	VAN ANDEL INSTITUTE	\$0	\$66,205	
Maternal exposure to antidepressants and psychiatric outcomes among offspring in a national birth cohort	93.242	RFMH 141316	1R01MH118247-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$82,438	
1/7 Clozapine for the Prevention of Violence in Schizophrenia: a Randomized Clinical Trial	93.242	RFMH 27890	1R01MH120317-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$163,284	
OnTrackNY's Learning Healthcare System	93.242	RFMH 27327	1R01MH120597-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$66,908	
Maternal adversity, inflammation, and neurodevelopment: How intergenerational processes perpetuate disadvantage in a low-resource setting	93.242	RFMH 27494	1R01MH121070-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$122,809	
Origins and developmental sequelae of neurophysiological variability in infants at high risk for autism	93.242	TC 512160-01	1R01MH121605-01	TEACHERS COLLEGE COLUMBIA UNIVERSITY	\$0	\$-1	
Behavioral and Neural Correlates of Deficits in Naturalistic Visual and Auditory Social Cognition in Individuals at Clinical High-Risk for Schizophrenia	93.242	RFMH 27622	1R01MH121790-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$114,010	

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1/4 Leveraging EHR-linked biobanks for deep phenotyping, polygenic risk score modeling, and outcomes analysis in psychiatric disorders	93.242	RFMH 27354	1R01MH121921-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$36,534
Testing the effectiveness of an evidence-based transdiagnostic cognitive behavioral therapy approach for improving HIV treatment outcomes among violence-affected and virally unsuppressed women in Sout	93.242	BU 4500003536	1R01MH121998-01	BOSTON UNIVERSITY	\$0	\$18,295
Validation of Pragmatic Implementation Measure for Task Sharing in Mental Health Services	93.242	NYU F1415-01	1R01MH122851-01	NEW YORK UNIVERSITY	\$0	\$19,972
Glutamatergic Mechanisms of Psychosis and Target Engagement	93.242	RFMH 27637	1R01MH123142-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$87,945
Adolescence, Motivation and the Maturation of the Prefrontal Cortex	93.242	RFMH 27501	1R01MH123153-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$75,288
Synthesizing Best Practice to Accelerate Access to Emerging HIV Prevention Modalities	93.242	RFCUNY CM00004822-03	1R01MH123262-01	RESEARCH FOUNDATION OF CITY UNIVERSITY OF NEW YORK	\$0	\$260,580
Neural substrates of deficits in naturalistic social cognition in schizophrenia	93.242	RFMH 27570	1R01MH123639-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$75,421
A Data Science Framework for Empirically Evaluating and Deriving Reproducible and Transferrable RDoC Constructs in Youth	93.242	RFMH 27617	1R01MH124106-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$107,475
Co-Regulation of Striatal Dopamine and Acetylcholine During Flexible Learning	93.242	RFMH 27918	1R01MH124858-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$85,485
VTA-NAc GABAergic communication underlying stress-induced reward deficits	93.242	RFMH 27860	1R01MH124998-01A1	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$13,153
Application of Advanced Quantitative Methods to Schizophrenia Research	93.242	RFMH 27727	1R01MH125030-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$62,631
Optimizing Disability Benefit Decisions and Outcomes in First Episode Psychosis	93.242	RFMH 28229	1R01MH125868	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$9,779
Investigating the Role of Hippocampus - Orbitofrontal Circuits for Cognitive Flexibility	93.242	RFMH 28103	1R01MH126105-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$117,328
Testing a Diathesis-Stress Model of Adolescent Suicide: Dopaminergic, Social, and Inhibitory Mechanisms	93.242	RFMH 27815	1R01MH126181-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$292,152
Longitudinal trajectories in treated and untreated schizophrenia	93.242	NYU F1967-01	1R01MH127631-01	NEW YORK UNIVERSITY	\$0	\$23,305
Thalamo-prefrontal circuit maturation during adolescence	93.242	RFMH 28326	1R01MH128293-01A1	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$9,652
A Multimodal Imaging Study of Dopamine in Early Psychosis	93.242	RFMH 28195	1R01MH128330-01A1	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$95,457
Mental Health and Bolsa Familia: A Mechanistically Focused Clinical Trial of a Cash Transfer Intervention on Child Brain, Behavior, and Mental Health.	93.242	RFMH 28085	1R01MH128937-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$48,701
CRCNS Research Proposal Collaborative Research: Multiple Time Scale Memory Consolidation in Neural Networks	93.242	NYU F1940-01	1R01MH129031-01	NEW YORK UNIVERSITY	\$0	\$257,041

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Estimating the Impact of a Multilevel, Multicomponent Intervention to Increase Uptake of HIV Testing and Biomedical HIV Prevention among African-American/Black Gay, Bisexual and Same-gender Loving Men	93.242	CM00007923-00	1R01MH129198-01A1	City College of New York	\$0	\$36,878	
No Way Around But Through: Mechanisms of Persistence and Remission of Habits in Anorexia Nervosa	93.242	RFMH 28329	1R01MH129350-01A1	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$37,709	
Uncovering the Invisible Risks for Suicide: Nationally Representative Samples of Youth in Guyana	93.242	RFMH 28235	1R01MH129414-01A1	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$100,092	
Early Stage Identification and Engagement to Reduce the Duration of Untreated Psychosis: Evaluating the Impact of Screening and Systematic Communication	93.242	ISMMS 0255-G761-4609	1R01MH130354-01	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	\$0	\$41,304	
Scaling up eConnect in Juvenile Probation Settings: an efficacious digital suiciderisk/behavior identification and linkage-to-treatment system	93.242	RFMH 28212	1R01MH130845-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$97,113	
Nutritional deficiency and dopamine: A neurodevelopmental study of starvation effects in adolescent anorexia nervosa	93.242	RFMH 28217	1R01MH131231-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$100,210	
Developmental Origins of Aggressive and Impulsive Behavior	93.242	RFMH 28391	1R01MH132911-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$4,056	
Nonparametric depth-based methods for analyzing high dimensional data. Applications to biomedical r	93.242	500667-78050	1R21MH120534-01	NORTHEASTERN UNIVERSITY	\$0	\$8,286	
An adolescent sensitive period for thalamo-prefrontal circuit maturation	93.242	RFMH 27400	1R21MH121334-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$11,052	
Identifying Positive Valence System Neural Deficits in Adolescent Depression	93.242	RFMH 27856	1R21MH125044-01A1	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$19,440	
Striatal Regulation of Cortical Acetylcholine Release	93.242	RFMH 28029	1R21MH126380-01A1	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$82,242	
Development of dopamine D2 receptor-targeted DARTs	93.242	RFMH 27807	1R21MH126499-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$55,846	
In-depth Understanding of HIV Risk Behavior among Men Who Have Sex With Men in Sub-Saharan Africa: Secondary Analysis of HPTN 075 Data	93.242	SRFMH 158827	1R21MH130217-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$28,420	
Effects of overlapping Pandemics on Coping and behavioral Health among young adults affected by HIV (EPOCH-HIV)	93.242	SRFMH 159031	1R21MH130268-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$20,999	
Extracting RDoC Constructs from EHR through Natural Language Processing to Predict Suicide in Youth	93.242	CHOP GRT-00002443	1R21MH130853-01	CHILDREN'S HOSPITAL OF PHILADELPHIA	\$0	\$11,113	
Neural predictors of outcome during relapse prevention treatment for anorexia nervosa	93.242	SRFMH 160764	1R21MH132085-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$8,944	
Research Education in Child Psychiatry Residency	93.242	RFMH 27834	1R25MH125775-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$24,314	
The Short Course on the Application of Machine Learning for Automated Quantification of Behavior	93.242	JACKSONLAB 210389-0323-02	1R25MH129298-01	JACKSON LABORATORY	\$0	\$13,797	
Optimizing Relapse Prevention and Changing Habits (REACH+) in Anorexia Nervosa	93.242	RFMH 27905	1R34M127180-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$53,364	

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Does the Addition of Cognitive Remediation to Coordinated Specialty Care Services Improve Functional Outcome?	93.242	RFMH 27104	1R34MH118318-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$96,018	
Engaging Black Youth in Depression and Suicide Prevention Treatment with Urban Schools: A Preliminary Study	93.242	NYU F1106-01	1R34MH119290-01	NEW YORK UNIVERSITY	\$0	\$18,408	
Virtual Neuro-navigation System for Personalized, Community-Based TMS	93.242	SOTERIX SMICU0901	1R44MH126833-01A1	SOTERIX MEDICAL INC	\$0	\$52,735	
Development and testing of a digitally assisted risk reduction platform for youth at high risk for suicide	93.242	KSANA RMH128484A	1R44MH128484-01A1	KSANA HEALTH INC	\$0	\$53,222	
Carbon Nanotube Enabled Delivery of mRNA for an HIV Vaccine Candidate	93.242	UNALB 7105-NIH-1S/Columbia	1R44MH133249-01	LUNA INNOVATIONS	\$0	\$149,985	
Imaging the Neurodevelopmental Trajectory of Depression and Anxiety with HCP Protocols	93.242	MGH 235921	1R56MH121426-01	MASSACHUSETTS GENERAL HOSPITAL	\$0	\$53,276	
D-serine augmentation of neuroplasticity-based auditory learning in schizophrenia	93.242	RFMH 27132	1R60MH116093	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$-9,666	
Use of Advanced Analytics to Understand Brain-Behavior Screen Media Activity Relationship in ABCD Da	93.242	YU CON-80003352 (RF1MH128614-0	1RF1MH128614-01	YALE UNIVERSITY	\$0	\$172,264	
A Translational and Neurocomputational Evaluation of a D1R Partial Agonist for Schizophrenia	93.242	YU CON 80003868 GR117840)	1U01MH121766-01	YALE UNIVERSITY	\$0	\$16,688	
HIV Center for Clinical and Behavioral Studies	93.242	RFMH 156625	2P30MH043520-30	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$147,305	
Antecedents of Suicidal Behavior Related Neurobiology	93.242	RFMH 27823	2P50MH090964-05	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$407,751	
The Center for Enhancing Treatment and Utilization for Depression and Emergent Suicidality (ETUDES) in Pediatric Primary Care	93.242	UPITT AWD000005882 (138447-1)	2P50MH115838-05	UNIVERSITY OF PITTSBURGH	\$0	\$86,557	
Early Cortical Processing in Schizophrenia	93.242	RFMH 27066	2R01MH049334-27A1	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$188,869	
Structure and Function of Dopamine Receptors	93.242	RFMH 28133	2R01MH054137-23A1	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$99,380	
Pathways to successful aging among perinatally HIV-infected and exposed young adults. Risk resilience, and the role of HIV (CASA4)	93.242	RFMH 142647	2R01MH069133-16	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$174,602	
Decisions Processes in Late-life Suicide	93.242	UPITT AWD00001169 (133478-1)	2R01MH085651-10	UNIVERSITY OF PITTSBURGH	\$0	\$53,650	
Biotyping Placebo and Treatment-Specific Responses for Precision Medicine	93.242	17-A0-00-007642-01	2R01MH099003-06	NEW YORK UNIVERSITY MEDICAL CENTER	\$0	\$22,937	
Pathways to Successful Aging Among Perinatally HIV-infected and Exposed Young Adults: Risk, Resilience, and the Role of Perinatal HIV Infection	93.242	RFMH 27218	3R01MH069133-19S1	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$8,905	
Gaze-contingent music reward therapy for social anxiety	93.242	RFMH 27820	4R33MH116089-03	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$26,057	

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D-Serine Augmentation of Neuroplasticity-Based Auditory Learning in Schizophrenia	93.242	RFMH 27974	4R33MH116093-03	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$78,493	
Neural and Behavioral Mechanisms of Abstraction in Humans	93.242	SRFMH 146785	5K08MH121775-03	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$70,321	
HIV Center for Clinical and Behavioral Studies	93.242	RFMH 28034	5P30MH043520-31	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$62,858	
Antecedents of Suicidal Behavior Related Neurobiology	93.242	RFMH 157987	5P50MH090964-09	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$119,403	
Optimizing and Personalizing Interventions for Schizophrenia Across the Lifespan (OPAL)	93.242	RFMH 27699	5P50MH115843-03	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$269,583	
Intervening Early with Neglected Children: Key Behavioral and Neurobiological Outcomes in Adolescence	93.242	UDELAWARE 55078	5R01MH074374-12	UNIVERSITY OF DELAWARE	\$0	\$50,114	
Functional Brain Networks Mediating Individuals Differences in Valence Bias	93.242	UNL 24-1219-0001-002	5R01MH111640-03	UNIVERSITY OF NEBRASKA- LINCOLN	\$0	\$13,319	
Hippocampal memory circuits in delusions	93.242	NYU 17-A1-00-006880-01	5R01MH112733-05	NEW YORK UNIVERSITY	\$0	\$163,970	
Deficient Belief Updating as a Convergent Computational Mechanism of Psychosis	93.242	RFMH 27033	5R01MH114965-02	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$98,136	
Evaluating Implementation Strategies to Scale-up Transdiagnostic Evidence-based Mental Health Care in Zambia (Mental Health- CBT)	93.242	CIDRZ M101S14F04	5R01MH115495-03	Centre for Infectious Diseases Researchin Zambia	\$0	\$12,236	
Effect of GABAergic Inhibition of Dendritic Spines on Synaptic Pruning in mPFC During Adolescence	93.242	SUNYRF 100-1151016-83329	5R01MH115900-05	RESEARCH FOUNDATION OF THE STATE UNIVERSITY OF NEW YORK	\$0	\$179,926	
BIOPSYCHOSOCIAL MECHANISMS UNDERLYING INTERNALIZING PSYCHOPATHOLOGY IN A PROSPECTIVE, POPULATION-BASED COHORT OF SEXUAL MINORITY YOUNG ADULTS	93.242	CON-80002951 (GR112516)	5R01MH118245-03	YALE UNIVERSITY	\$0	\$20,231	
Social Processing Deficits in Remitted Adolescent Depression	93.242	RFMH 27394	5R01MH119771-02	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$131,791	
1/2 Harnessing Hormonal Variation to Probe Neural Mechanisms and Optimize CBT Outcomes for OCD	93.242	RFMH 27947	5R01MH121597-02	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$131,784	
IM ketamine for rapid reduction of suicidal thoughts in high-risk ED patients: a midazolam-controlled trial	93.242	RFMH 27640	5R01MH125155-03	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$93,834	
Interactive development of reinforcement learning and adaptive memory	93.242	NYU F1758-01	5R01MH126183-03	NEW YORK UNIVERSITY	\$0	\$8,534	
Development and clinical interpretation of machine learning emergency department suicide prediction algorithms using electronic health records and claims data	93.242	UPENN 583167	5R01MH126895-02	UNIVERSITY OF PENNSYLVANIA	\$0	\$78,580	
An integrative computational interrogation of circuit dysfunction in schizophrenia via neural timescales	93.242	RFMH 28238	5R01MH129395-02	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$56,814	
OnTrackChile for First Episode Psychosis	93.242	UOH CU17-1224	5R01MH15502-02	UNIVERSIDAD DE O'HIGGINS	\$0	\$196,992	

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Clearscope	93.242	MBF SUBR44MH116827-04	5R44MH116827-04	MBF BIOSCIENCE	\$0	\$93,435
High-throughput Physiological Micro-connectivity Mapping in Vivo	93.242	UCB 00010181	5RF1MH120680-02	UNIVERSITY OF CALIFORNIA, BERKELEY	\$0	\$92,000
Mobile Assessment for the Prediction of Suicide (MAPS)	93.242	OREGON 281450B	5U01MH1163923-02	UNIVERSITY OF OREGON	\$0	\$58,829
Investigating quantitative signatures of autism in toddlers	93.242	QCCUNY CM00007612-00	7R01MH121605-03	RESEARCH FOUNDATION OF CITY UNIVERSITY OF NEW YORK	\$0	\$5,056
Generating a formal set of collaborative standards for sharing behavioral data and task designs to enable reproducibility in neuroscience	93.242	WAHU WU-21-182	7RF1MH120034-02	WASHINGTON UNIVERSITY	\$0	\$32,473
Targeting adolescent depression symptoms using network-based real-time fMRI neurofeedback and mindfulness meditation	93.242	NU CU22-0385	NIMH	NORTHEASTERN UNIVERSITY	\$0	\$19,066
Risk modeling and shared decision making for postpartum depression	93.242	IRISOB CU22-2478	R41 MH124581-02	IRIS OB HEALTH INC	\$0	\$7,460
Bioethical Considerations for Building, Evaluating, and Implementing Artificial Intelligence in Perinatal Mood and Anxiety Disorders	93.242	IRISOB CU22-1518	R41 MH124581-02S1	IRIS OB HEALTH INC	\$0	\$14,501
				Mental Health Research Grants Totals	\$0	\$8,169,511
Substance Abuse and Mental Health Services Projects of Regional and National Significance						
National Suicide Prevention Lifeline Effectiveness Evaluation Protocol	93.243	RFMH 27975	1H79SM084816-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$304,634
				Substance Abuse and Mental Health Services Projects of Regional and National Significance Totals	\$0	\$304,634
Alcohol Research Programs						
Zambia Alabama HIV Alcohol Comorbidities Program (ZAMBAMA)	93.273	000530477-SP002-SC001	1P01AA029540-01	UNIVERSITY OF ALABAMA AT BIRMINGHAM	\$0	\$52,001
Community I-STAR Mozambique : Community Implementation of SBIRT using Technology for Alcohol use Reduction in Mozambique	93.273	RFMH 27048	1R01AA025947-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$51,844
Could long-acting medications facilitate ending AIDS by 2030 in southern Africa? An allocative efficiency analysis	93.273	NYUMC 19-A1-00-1001516	1R01AA027481-01A1	NEW YORK UNIVERSITY MEDICAL CENTER	\$0	\$92,065
Intersectional Approaches to Population-Level Health Research: Role of HIV Risk and Mental Health in Alcohol Use Disparities among Diverse Sexual Minority Youth	93.273	60059892 CU	1R01AA029044-01A1	NORTHWESTERN UNIVERSITY	\$0	\$13,190
A unified protocol to address sexual minority women s minority stress, mental health, and hazardous drinking	93.273	YU CON-80004023 (GR117912)	1R01AA029088-01A1	YALE UNIVERSITY	\$0	\$62,817
Neurodevelopmental Effects of Prenatal Exposure to Maternal Drinking, Smoking and Adverse Psychosocial Factors: Deep Phenotyping of Infant CNS and ANS Function	93.273	RFMH 28108	1R01AA029159-01A1	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$87,019
Cortical Subcortical Reorganization and Risk Behaviors of Early Alcohol Use Initiation	93.273	CON-800003347 (GR114511)	1R01AA029611-01	YALE UNIVERSITY	\$0	\$152,684
Biomarkers for Alcohol/HIV Research (BAHR) Study	93.273	13692sc	1R01AA029962-01A1	UNIVERSITY OF CALIFORNIA SAN FRANCISCO	\$0	\$16,692

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Impact of supportive policies on minority stress, drinking and health among women	93.273	UIL 16343	2R01AA013328-10A1	UNIVERSITY OF ILLINOIS, BOARD OF TRUSTEES	\$0	\$33,892
Role of Alcohol Disparities in HIV Risk among Sexual Minority Youth	93.273	NWU 60057464 CU	3R01AA024409-05S1	NORTHWESTERN UNIVERSITY	\$0	\$753
Role of Alcohol Disparities in HIV Risk among Sexual Minority Youth	93.273	NWU 60057464 CU	3R01AA024409-05S2	NORTHWESTERN UNIVERSITY	\$0	\$9,851
A Randomized, Double-Blind, Placebo-controlled Clinical Trial of Choline Supplementation during Pregnancy to Mitigate Adverse Effects of Prenatal Alcohol Exposure on Growth and Cognitive Development	93.273	WAYNE WSU22163	5R01AA028053-04	WAYNE STATE UNIVERSITY	\$0	\$68,640
				Alcohol Research Programs Totals	\$0	\$641,448
Drug Abuse and Addiction Research Programs						
Health and justice: a continuum of care for HIV and SU for justice involved youth	93.279	RFMH 130318	1 R01 DA043122-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$5,415
Antecedents and Consequences of Cocaine Taking: Impact of Oxytocin	93.279	RFMH 26741	1R01DA041543-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$186,976
Does medical cannabis reduce opioid analgesics in HIV+ and HIV adults with pain?	93.279	AECM 311147	1R01DA044171-01A1	ALBERT EINSTEIN COLLEGE OF MEDICINEESHIVA UNIVERSITY	\$0	\$16,309
Micro- to Nanoscale Neurotransmitter Sensors	93.279	UCLA 2000GVG295	1R01DA045550-01	UNIVERSITY OF CALIFORNIA, LOS ANGELES	\$0	\$55,778
Examining the synergistic effects of cannabis and prescription opioid policies on chronic pain, opioid prescribing, and opioid poisoning	93.279	19-A0-00-1002539	1R01DA045872-01A1	NEW YORK UNIVERSITY	\$0	\$225,533
Sex-dependent effects of cannabis: Assessing abuse-related and pharmacokinetic differences between men and women	93.279	UCLA 2000 G XK823	1R01DA047296-01A1	UNIVERSITY OF CALIFORNIA, LOS ANGELES	\$0	\$478
Opioid Overdoses Among Medicaid Beneficiaries: Predictors, Outcomes and State Policy Effect	93.279	RUTGER 1284	1R01DA047347-01	RUTGERS, THE STATE UNIVERSITY OF NEW JERDEPARTMENT OF RADIOLOGY	\$0	\$25,006
Neurocognitive mechanisms underlying smartphone-assisted prevention of relapse in opioid use disorder	93.279	UARK 55623	1R01DA048022-01A1	UNIVERSITY OF ARKANSAS	\$0	\$4,514
Impact of Medical and Recreational Marijuana Laws On Cannabis, Opioids And Psychiatric Medications: National Study of VA Patients, 2000 - 2024	93.279	1015581/4/27298	1R01DA048860-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$151,175
Leveraging Social Media to Develop The Cannabis Exposure Index (CEI), A standardized Measure of Cannabis Use	93.279	DARTC R1483	1R01DA050032-01A1	DARTMOUTH COLLEGE	\$0	\$60,210
SOAR: Smartphones for Opioid Addiction Recovery	93.279	21-A0-00-1005963	1R01DA054220-01	NEW YORK UNIVERSITY MEDICAL CENTER	\$0	\$21,589
Examining predictors of substance use and treatment adequacy among formerly incarcerated opioid and cocaine users	93.279	UWM 0000002326	1R01DA055120-01A1	UNIVERSITY OF WISCONSIN MADISON	\$0	\$59,014
Heavy cannabis use, neurocognition and PrEP care engagement among young Black sexual minority men	93.279	AWD103401 (SUB00000744)	1R01DA057351-01	UNIVERSITY OF CHICAGO	\$0	\$24,485
Social-environmental drivers of stimulant use and its impact on HIV prevention and treatment in Black men who have sex with men	93.279	RFMH 155214	1R21DA053156-01A1	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$16,582

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Peer-based HIV Self-testing among High Risk Women Who Inject or Use Drugs in Kazakhstan, Central Asia	93.279	RFCUNY CM00005426-01	1R34DA049664-01A1	RESEARCH FOUNDATION OF CITY UNIVERSITY OF NEW YORK	\$0	\$154,718	
On Demand Electrostimulation	93.279	CORIDEA CORCOL-001	1R43DA055401-01	CORIDEA LLC	\$0	\$13,796	
Development of Opioid Use Disorder Severity Scale	93.279	YU CON-80002907 (GR115931)	1U01DA051639-01	YALE UNIVERSITY	\$0	\$10,792	
The CB1 Signaling-Specific Inhibitor, AEF0117, for Cannabis Use Disorder: A Multi-Site Pivotal Treatment Trial	93.279	RFMH 27957/PO#158319	1U01DA053832-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$45,339	
Efficacy of buprenorphine and XR-naltrexone combination for relapse prevention in opioid use disorder	93.279	RFMH 27585	1U01DA146430-01A1	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$51,752	
METHODOLOGY AND ADVANCED ANALYTICS RESOURCE CENTER (MAARC)	93.279	AWD100228 (SUB00000303)	1U2CDA050098-01	UNIVERSITY OF CHICAGO	\$0	\$30,714	
Facilitating Opioid Care Connections: System level strategies to improve use of MAT and movement through the opioid care cascade for defendants in a new Opioid Court system	93.279	RFMH 27305	1UG1DA050071-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$175,471	
Monitoring the Future: Drug Use and Lifestyles of American Youth	93.279	SUBK00014435	2R01DA001411-48	UNIVERSITY OF MICHIGAN	\$0	\$39,951	
NIDA Clinical Trials Network: Greater New York Node	93.279	NYU 20-00-00-003671	2UG1DA013035-19	NEW YORK UNIVERSITY	\$0	\$98,713	
The Florida Node Alliance of the National Drug Abuse Treatment Clinical Trials Network (CTN 104)	93.279	UMIAMI OS00000272	2UG1DA013720-21	UNIVERSITY OF MIAMI	\$0	\$349,929	
NIDA Clinical Trials Network: New York Node (CTN-0100)	93.279	NYU 22-A0-S3-003671 /117236	3UG1DA013035-20S2	NEW YORK UNIVERSITY MEDICAL CENTER	\$0	\$39,528	
Clinical Trials Network: Greater New York Node CTN-00097	93.279	NYU 20-A0-S3-003671/117429	3UG1DA013035-20S4	NEW YORK UNIVERSITY MEDICAL CENTER	\$0	\$92,683	
CTN-0121: Integrated Care and Treatment for Severe Infectious Diseases and Substance Use Disorders among Hospitalized Patients	93.279	UMIAMI OS00000846	3UG1DA013720-22S3	UNIVERSITY OF MIAMI	\$0	\$376,846	
Pharmacological Probes Based on Mitragynine Pseudoindoxyl	93.279	SLCP 807-1-01	4R33DA045884-03	UNIVERSITY OF HEALTH SCIENCES AND PHARMACY IN ST. LOUIS	\$0	\$97,919	
Optimizing the use of ketamine to reduce chronic postsurgical pain	93.279	NYU 20-00-00-1005210	4UH3CA261067-02	NEW YORK UNIVERSITY	\$0	\$4,000	
Phase 1a/1b Clinical Trials of Multivalent Opioid Vaccine Components	93.279	RFMH 28243	4UH3DA047711-03	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$64,456	
Evaluation of Safety and Pharmacokinetics of Naltrexone Implant	93.279	RFMH CU20-4657	4UH3DA047720-03	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$84,167	
Vaccines for Fentanyl and Its Derivatives: A Strategy to Reduce Illicit Use and Overdose	93.279	UWASH UWSC14325	4UH3DA048386-03	UNIVERSITY OF WASHINGTONSEATTLE WASHINGTON	\$0	\$4,900	
Ending HIV/AIDS Among People Who Use Drugs: Overcoming Challenges	93.279	NYU F1658-S018	5P30DA011041-24	NEW YORK UNIVERSITY	\$0	\$164,674	

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Cannabis Relapse: Influence of Tobacco Cessation	93.279	RFMH 27059	5R01DA031005-07	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$69,129	
Repeated Administration of Cannabis Varying in THC and CBD: Effects on Abuse Liability, Experimental Pain and Plasma Endocannabinoids	93.279	RFMH 28205	5R01DA053332-02	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$6,625	
Translational Research Training on Addictions for Racial/Ethnic Minorities	93.279	RFCUNY CM0004811-00	5R25DA035161-09	RESEARCH FOUNDATION OF CITY UNIVERSITY OF NEW YORK	\$0	\$12,536	
8/24 The Healthy Brain and Child Development National Consortium	93.279	NYU 21-A0-00-1006801	5U01DA055338-02	NEW YORK UNIVERSITY	\$0	\$9,091	
Healthy Brain and Child Development National Consortium Data Coordinating Center	93.279	WASH U WU-23-0201	5U24DA055330-02	WASHINGTON UNIVERSITY	\$0	\$111,359	
Methadone in the Time of COVID: A natural experiment on the impact of relaxed methadone regulations on treatment outcome (NIDA Clinical Trials Network: New York Node (CTN-0112))	93.279	NYU 22-A0-R2-003671	5UG1DA013035-21	NEW YORK UNIVERSITY MEDICAL CENTER	\$0	\$49,018	
Phase 1a/1b Clinical Trials of Multivalent Opioid Vaccine	93.279	RFMH 27040	5UG3DA047711-02	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$194,640	
Missing Data Matters: Substance Use Disorder Clinical Trials	93.279	UUTAH 10058454-01	7R01DA046534-04	UNIVERSITY OF UTAH	\$0	\$3,953	
Evaluation of safety and pharmacokinetics of naltrexone implant	93.279	RFMH 27797	UH3DA047720-03	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$140,231	
Drug Abuse and Addiction Research Programs Totals					\$0	\$3,349,994	
Discovery and Applied Research for Technological Innovations to Improve Human Health							
Bio-electrochemical detectors for in vivo continuous monitoring	93.286	UCSB KK2302	2R01EB022015-05	UNIVERSITY OF CALIFORNIA, SANTA BARBARA	\$0	\$307,957	
Noninvasive Quantification of Brain Glucose Metabolism Using a Portable Positron Emission Tomography Camera.	93.286	RFMH 27000	5R01EB026481-04	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$60,134	
Tools for modeling state-dependent sensory encoding by neural populations across spatial and temporal scales	93.286	ORHSUN 1014876 COLUMBIA	5R01EB028155-02	OREGON HEALTH & SCIENCES UNIVERSITY	\$0	\$41,116	
FEBio Software Suite	93.286	UUTAH 10052732-COL	5U24EB029007-03	UNIVERSITY OF UTAH	\$0	\$27,382	
Vitreo-retinal disease imaging with 3D annular-array ultrasound	93.286	WCMC 224574-1	7R01EB032082-02	WEILL (JOAN AND SANFORD I.) MEDICAL COLLEGE OF CORNELL UNIVERSITY	\$0	\$112,203	
Imaging Human brain Function with Minimal Mobility Restrictions	93.286	UMINN N006264801	U01EB025153	UNIVERSITY OF MINNESOTA	\$0	\$116,320	
Discovery and Applied Research for Technological Innovations to Improve Human Health Totals					\$0	\$665,112	
Minority Health and Health Disparities Research							
Maternal trauma, circulating microRNA in extracellular vesicles, and programming of childhood respiratory outcomes	93.307	ISMMS 0255-B281-4609	1R01MD013310-01	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	\$0	\$209,599	
Social Stress Epigenetics and Cardio-Metabolic Health Among Latinos	93.307	EMORYU A193700	1R01MD013320-01A1	EMORY UNIVERSITY	\$0	\$120,906	

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Identifying and exploring solutions to the ethical challenges of Apo1 testing of donors with recent African ancestry through mixed methods research with stakeholders	93.307	WU-20-108-MOD-2	1R01MD014161-01	WASHINGTON UNIVERSITY	\$0	\$17,754	
Social Stress, Epigenetics and Cardiometabolic Health Among Youth	93.307	EMORYU A556942	1R01MD015204-01A1	EMORY UNIVERSITY	\$0	\$141,931	
Racial Disparity in Diagnostic Evaluation of Uterine Cancer	93.307	YU CON-80003273 (GR113900)	1R01MD016386-01	YALE UNIVERSITY	\$0	\$108,089	
Systems modeling to address the social and biological drivers of disparities in infection and mortality from emerging infectious diseases	93.307	UMICHG SUBK00018738	1R01MD017218-01	UNIVERSITY OF MICHIGAN	\$0	\$11,741	
Epigenomic Predictors of PTSD and Traumatic Stress in an African American Cohort	93.307	USF 6408-1149-00-D	2R01MD011728-06	UNIVERSITY OF SOUTH FLORIDA	\$0	\$109,845	
Support via Online Social Networks to promote Safe Infant Care practices Toward Reducing Racial Disparities in Infant Mortality (SUPER SONIC)	93.307	UV GB10972.169699	5R01MD007702-07	UNIVERSITY OF VIRGINIA	\$0	\$30,902	
Data Driven Methods for Missing Data Imputation in Surgical Disparities Research	93.307	GWU 19-M111	5R01MD013901-03	GEORGE WASHINGTON UNIVERSITY	\$0	\$-1	
Account for Reducing racial disparities in lung cancer outcomes by decoding neighborhood contextual environment (RECODE)	93.307	UIL 19319	5R01MD014839-02	UNIVERSITY OF ILLINOIS, BOARD OF TRUSTEES	\$0	\$5,529	
A Randomized Control Trial to improve metabolic outcomes in African American pregnant women	93.307	UIL 19443	5R01MD015724-02	UNIVERSITY OF ILLINOIS, BOARD OF TRUSTEES	\$0	\$15,497	
Minority Health and Health Disparities Research Totals					\$0	\$771,792	
Trans-NIH Research Support							
AIM-AHEAD DSTC CURRICULUM DEVELOPMENT MINI-GRANT PROGRAM	93.310	HU GRT000194-10008195	1OT2OD032581-01	HOWARD UNIVERSITY	\$0	\$101,998	
Bridge2AI: Patient-Focused Collaborative Hospital Repository Uniting Standards (CHoRUS) for Equitable AI	93.310	MGH CU23-1506	1OT2OD032701-01	MASSACHUSETTS GENERAL HOSPITAL	\$0	\$120,713	
Integration of GTEx and HuBMAP data to gain population-level cell-type-specific insights	93.310	UP AWD00006526 (138733-1)	1R03OD034501-01	UNIVERSITY OF PITTSBURGH	\$0	\$24,062	
Diagnosing and predicting risk in children with SARS-CoV-2-related illness	93.310	UCSD KR704295	1R61HD105590-01	UNIVERSITY OF CALIFORNIA, SAN DIEGO	\$0	\$124,303	
A randomized controlled trial of concentrated investment in Black neighborhoods to address structural racism as a fundamental cause of poor health	93.310	UPenn 583513	1U01OD033246-01	UNIVERSITY OF PENNSYLVANIA	\$0	\$13,760	
Environmental Influences on Child Health Outcomes (ECHO) Coordinating Center	93.310	DUKEU 303001140	1U2COD023375-01	DUKE UNIVERSITY	\$0	\$28,910	
Data and Research Support Center	93.310	VUMC59350	1U2COD23196-01	VANDERBILT UNIVERSITY MEDICAL CENTER	\$0	\$-975,078	
Breaking The Cycle Of Intergenerational Disadvantage: Neurodevelopment Among Puerto Rican Children	93.310	RFMH 150349	1UG3OD023328-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$463,612	
ECHO Consortium on Perinatal Programming of Neurodevelopment	93.310	ISMMS 0255-2299-4609	1UG3OD023337-01	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	\$0	\$48,726	

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An integrated and diverse genomic medicine program for undiagnosed diseases	93.310	DUKEU A033653	2U01HG007672-05	DUKE UNIVERSITY MEDICAL CENTER	\$0	\$105,950	
Environmental Influences on Child Health Outcomes in the Northern Plains Safe Passage Study Cohort	93.310	AMH 5UH3OD023279-B5	4UH3OD023279	AVERA MCKENNAN HOSP & UNIV HEALTH CTR	\$0	\$423,680	
Environmental Influences on Child Health Outcomes in the Northern Plains Safe Passage Study Cohort	93.310	AVERA 5UH3OD023279-A5	4UH3OD023279-04	AVERA MCKENNAN HOSP & UNIV HEALTH CTR	\$0	\$397,112	
Mega-Scale Identification Tools for Xenobiotic Metabolism	93.310	EMORYU A522325	5U2CES030163-02	EMORY UNIVERSITY	\$0	\$19,662	
ECHO Coordinating Center	93.310	DUKEU 2037934	5U2COD023375-04	DUKE UNIVERSITY	\$0	\$89,727	
Echo Coordinating Center: Opportunities and Infrastructure Fund (OIF) - Cycle 2	93.310	DUKEU 303-000295	5U2COD023375-06	DUKE UNIVERSITY	\$0	\$51,880	
Children's Respiratory Research and Environment Workgroup (CREW)	93.310	UWM 000002429	5UH3OD023282-04	UNIVERSITY OF WISCONSIN MADISON	\$0	\$488,935	
School vs. Home Environmental Exposure and Respiratory Outcomes (SHEERO)	93.310	CDUKE 303001171	DUKE	DUKE UNIVERSITY	\$0	\$108,084	
Trans-NIH Research Support Totals					\$0	\$1,636,036	
National Center for Advancing Translational Sciences							
All of Us Research Program Data and Research Center	93.350	VUMC 107288	1OT2OD035404-01	VANDERBILT UNIVERSITY MEDICAL CENTER	\$0	\$1,005,807	
Gut Microbiota in the Modulation of Outcomes after Liver Transplant	93.350	VCU FP00011749 SA001	1R21TR003095-01A1	VIRGINIA COMMONWEALTH UNIVERSITY	\$0	\$52,084	
Open Health Natural Language Processing Collaboratory	93.350	MAORO COL-231278/65497608	1U01TR002062-01	Mayo Clinic -- Rochester	\$0	\$110,978	
Coordinated medical treatment of opioid use disorder and infectious disease	93.350	YU CON-80003799(GR117345)	1U01TR002763-01	YALE UNIVERSITY	\$0	\$88,527	
Improving Clinical Trial Enrollment and Recruitment Education at CTSA hubs (I-CERCH)	93.350	VUMC 59243	1U24TR001579-01	VANDERBILT UNIVERSITY MEDICAL CENTER	\$0	\$19,686	
Safety and Efficacy of Itacitinib in treatment of JAK/STAT gain of function disorders	93.350	BCMH 7000001566	1UG3TR003908-01	BAYLOR COLLEGE OF MEDICINE--HOUSTON	\$0	\$70,046	
Systemic Inflammation in Microphysiological Models of Muscle and Vascular Disease	93.350	DUKEU A03-3576	5UH3TR002142-05	DUKE UNIVERSITY	\$0	\$8,755	
A First in Class Disease Modifying Therapy to Treat Alpha-1 Antitrypsin Deficiency a Genetically Linked Orphan Disease (UH3 Phase II)	93.350	000518169-SC009	5UH3TR002450-03	UNIVERSITY OF ALABAMA AT BIRMINGHAM	\$0	\$78,327	
National Center for Advancing Translational Sciences Totals					\$0	\$1,434,210	
21st Century Cures Act - Beau Biden Cancer Moonshot							
Advancing the Quality of Cancer Care through Behavioral Economics and Implementation Science	93.353	UPENN 585589	1-P50-CA-244690-01	UNIVERSITY OF PENNSYLVANIA	\$0	\$32,863	

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Regulation of PDAC metabolism and immunity by collagen and its cleavage products	93.353	UCSD 705699	1U01CA274295-01	UNIVERSITY OF CALIFORNIA, SAN DIEGO	\$0	\$99,530	
Transition to Metastatic State: Lung Cancer, Pancreatic Cancer and Brain Metastasis-Functional Unit 3	93.353	MSKCC SUB00000277AM4	5U2CCA233284-04	MEMORIAL SLOAN-KETTERING CANCER CENTER	\$0	\$191,316	
21st Century Cures Act - Beau Biden Cancer Moonshot Totals					\$0	\$323,709	
Nursing Research							
Neighborhoods, networks, and the HIV care continuum among HIV infected MSM in NYC	93.361	NYBC IDP-NIH620	1R01MH118960-01A1	NEW YORK BLOOD CENTER	\$0	\$68,810	
Gender Affirmation, Quality of Life, and Access to Care: A Mixed-Method Longitudinal Investigation	93.361	VNSNY 4633 2021 CUSON	1R01NR019315-01A1	VISITING NURSE SERVICE OF NEW YORK	\$0	\$146,158	
Improving Ethical Care for Patients who are Incapacitated with No Evident Advance Directives or Surrogates (INEADS)	93.361	ISMMS 0255-E151-4609	1R21NR019319-01	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	\$0	\$15,432	
Nursing Research Totals					\$0	\$230,400	
Cancer Cause and Prevention Research							
Enhancing responses to immune checkpoint blockade in melanoma via modulation of the microbiome	93.393	UTMD 3001244409	1R01CA219896-01A1	UNIVERSITY OF TEXAS M.D. ANDERSON CANCERCENTER	\$0	\$41,863	
Improving Delivery of Genetic Services to High Risk Childhood Cancer Survivors: A Randomized Study of Remote Genetic Services Versus Usual Care	93.393	UCHICA AWD101267 (SUB00000376)	1R01CA237369-01A1	UNIVERSITY OF CHICAGO	\$0	\$20,455	
Longitudinal investigation of sociocultural and behavioral influences on symptom management, biological response, and functioning between Chinese and White breast cancer survivors	93.393	GU 424972 GR424531-CUIMC	1R01CA248413-01A1	GEORGETOWN UNIVERSITY	\$0	\$50,854	
Addressing Cancer-Related Financial Hardship through Delivery of a Proactive Financial Navigation Intervention	93.393	FHCRC 0001147140	1R01CA248656-01	FRED HUTCHINSON CANCER CENTER	\$0	\$36,244	
The ASPIRES Study: Activating Cancer Survivors and their Primary Care Providers to Increase Colorect	93.393	UofC AWD101813	1R01CA255269-01	UNIVERSITY OF CHICAGO	\$0	\$15,324	
Active Symptom Monitoring and Endocrine Therapy Persistence in Young Women with Breast Cancer	93.393	UMICHG SUBK00014895	1R01CA266012-01	UNIVERSITY OF MICHIGAN	\$0	\$20,759	
Improving Treatment Selection in Advanced Ovarian Cancer	93.393	OSU GR127528 SPC-100006559	1R01CA266402-01	OHIO STATE UNIVERSITY	\$0	\$167,656	
Molecular basis for aberrant de novo DNA methylation in cancer	93.393	NYU 21-A0-00-100684	1R01CA266978-01	NEW YORK UNIVERSITY	\$0	\$151,131	
Time-varying relationships between built environment factors, colon and rectum cancer prognosis, and survival.	93.393	SPC-100006685 GR127433	1R37CA259642-01A1	OHIO STATE UNIVERSITY	\$0	\$56,080	
Development of an Integrated Risk Prediction Model of Taxane-induced Peripheral Neuropathy	93.393	UMICHG SUBK00016890	1R37CA277043-01	UNIVERSITY OF MICHIGAN	\$0	\$5,767	
Leveraging tumor registries and pathology specimens to facilitate genetic testing and traceback for ovarian cancer	93.393	KFDNI OOS030500-COLU-04	1U01CA244323-01	Kaiser Foundation Research Institute- -Division of Research	\$0	\$139,824	
A web-based patient-reported symptom monitoring and self-management portal for adolescent and young adult breast cancer survivors	93.393	DFCI 13158103	1U01CA246648-01A1	DANA-FARBER CANCER INSTITUTE	\$0	\$190,862	

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Role of Histone and Histone-like Mutations in the Oncogenesis of Human Cancers	93.393	RFU SUB00000166	2P01CA196539-06	ROCKEFELLER UNIVERSITY	\$0	\$228,255	
EMPOWER Study: Promoting Breast Cancer Screening in Women Who Survived Childhood Cancer	93.393	DUKE A033139	5R01CA134722-08	DUKE UNIVERSITY MEDICAL CENTER	\$0	\$9,824	
Adoption, Diffusion, And Implementation of Tobacco 21 Policies To Address Health Disparities	93.393	RUTGER 1160319	5R01CA231139-02	RUTGERS, THE STATE UNIVERSITY OF NEW JERDEPARTMENT OF RADIOLOGY	\$0	\$18,302	
Cell lineage determinants of p53-driven fate outcomes in vivo	93.393	ISMMS 0255-E071-4609	5R01CA257548-02	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	\$0	\$112,042	
Symptom Screening Linked to Care Pathways for Children with Cancer: a Cluster Randomized Trial	93.393	HSC 6810100234	R01CA251112-01	HOSPITAL FOR SICK CHILDREN	\$0	\$21,350	
Advanced Development and Dissemination of EMERSE for Cancer Phenotyping from Medical Records	93.393	UMICHG 3004700011	U24CA204863	UNIVERSITY OF MICHIGAN	\$0	\$464	
Cancer Cause and Prevention Research Totals					\$0	\$1,287,056	
Cancer Detection and Diagnosis Research							
Circulating Biomarker Consortium for Pancreatic Cancer Early Detection	93.394	DFCI 1283205	1U01CA210171-01	DANA-FARBER CANCER INSTITUTE	\$0	\$-2,160	
A prognostic mRNA immune signature for resected stage II-III melanoma	93.394	AECM 312128	4UH3CA218149-03	ALBERT EINSTEIN COLLEGE OF MEDICINEESHIVA UNIVERSITY	\$0	\$66,920	
High Resolution Microendoscopy for the Management of Esophageal Neoplasia	93.394	BCMH 7000000989	5R01CA181275-06	BAYLOR COLLEGE OF MEDICINE--HOUSTON	\$0	\$-3	
Precision Management of Cystic Precursors to Pancreatic Cancer	93.394	OSU GR127636 SPC-1000006974	7R01CA237133-04	OHIO STATE UNIVERSITY	\$0	\$21,664	
Applying pathomics to establish a biosignature for aggressive skin melanoma	93.394	AECM CU-21-3856	7R01CA260375-02	ALBERT EINSTEIN COLLEGE OF MEDICINEESHIVA UNIVERSITY	\$0	\$30,999	
Genomic biomarkers of splenic lymphoma	93.394	MSKCC 1955324	R01CA255655	MEMORIAL SLOAN-KETTERING CANCER CENTER	\$0	\$4,628	
Cancer Detection and Diagnosis Research Totals					\$0	\$122,048	
Cancer Treatment Research							
NIH National Clinical Trials Network (NCTN) PCR	93.395	CHPHI 9500080215-12c	1U10CA098543-01	CHILDREN'S HOSPITAL OF PHILADELPHIA	\$0	\$209	
ECOG-ACRIN Integrated Leukemia Translational Research Center	93.395	MSKCC BD525251B	1UG1CA233332-01	MEMORIAL SLOAN-KETTERING CANCER CENTER	\$0	\$196,172	
Discovery of Anticancer Agents from Diverse Natural Origin	93.395	UNCG 20190268.1	2P01CA125066-11A1	UNIVERSITY OF NORTH CAROLINA GREENSBORO	\$0	\$33,000	
A Phase II, Open Label, Multi-Center Study in Adults with Recurrent High Grade Glioma	93.395	ONCI CU19-1093	2R44CA192427-04	ONCOCEUTICS IN	\$0	\$22,341	
SWOG Network Group Operations Center of the NCTN	93.395	OHSU 1013080	2U10CA180888-06	OREGON HEALTH & SCIENCES UNIVERSITY	\$0	\$166,019	

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						<u>Total Expenditures (Includes Subrecipients)</u>
Administrative Supplement for VICKiOrY Early Clinical Trials Consortium	93.395	GR109625 (CON-80002374)	2UM1CA186689-06	YALE UNIVERSITY	\$0	\$199,097
COG NCTN Network Group Operations Center- Study Chair Cost Reimbursement - AR13065	93.395	PHI AR13065	5U10CA180886-09	Public Health Institute	\$0	\$8,006
Study Chairs COG NCORP Grant UG1CA189955	93.395	CHOP 950010078-10c	5UG1CA189955-04	CHILDREN'S HOSPITAL OF PHILADELPHIA	\$0	\$428
Maximizing Local Access to Therapeutic Deliveries in Glioblastoma	93.395	WFUHS 441111 CORE 3	P01CA207206	WAKE FOREST UNIVERSITY	\$0	\$116,775
Cancer Treatment Research Totals					\$0	\$742,047
Cancer Biology Research						
Disruption of Transcription Networks in Esophageal Adenocarcinoma Tumorigenesis (Project 3)	93.396	UMIAMI OS00001034 SPC-002864	1P01CA268991-01	UNIVERSITY OF MIAMI	\$0	\$384,524
Targeting metabolic stress to induce pancreatic tumor cell death	93.396	UMICHG SUBK00012257	1R01CA244931-01A1	UNIVERSITY OF MICHIGAN	\$0	\$51,700
Lentiviral-Induced Swine Model of Spinal Cord Glioma	93.396	EMORYU A539786	1R01CA2511393-01A1	EMORY UNIVERSITY	\$0	\$91,343
Role of S. aureus in Cutaneous T Cell Lymphoma Pathogenesis	93.396	NYU 21-A0-00-1007249	1R01CA271245-01	NEW YORK UNIVERSITY MEDICAL CENTER	\$0	\$13,446
Image-based models of tumor-immune dynamics in glioblastoma	93.396	MAYO AZ COL-281375/PO #6794679	1U01CA250481-01A1	MAYO CLINIC--ARIZONA	\$0	\$293,286
HIF-1alpha and FBP2 in sarcoma metabolism, progression, and metastasis	93.396	571047	5R01CA158301-10	UNIVERSITY OF PENNSYLVANIA	\$0	\$45,519
Patient-Derived Models of Prostate Cancer for Personalized Medicine	93.396	UTMDA 30001831256	5U01CA224044-03	UNIVERSITY OF TEXAS M.D. ANDERSON CANCERCENTER	\$0	\$78,835
Nuclear Dysfunction in Cancer: The Role of Mechanical Stresses Transmitted by the LINC Complex	93.396	TAMU M2101419	U01CA225566	TEXAS A&M UNIVERSITY	\$0	\$184,637
Cancer Biology Research Totals					\$0	\$1,143,290
Cancer Centers Support Grants						
Towards Understanding Prostate Cancer Heterogeneity - Weill Cornell Medicine (WCM) SPORE in Prostate Cancer (Project 4)	93.397	WCMC 213827	1P50CA211024-01A1	WEILL (JOAN AND SANFORD I.) MEDICAL COLLEGE OF CORNELL UNIVERSITY	\$0	\$2,723
Characterizing and overcoming resistance to ERBB2 directed therapy in metastatic gastric and esophageal adenocarcinoma	93.397	DFCI 1220314	5P50CA127003-13	DANA-FARBER CANCER INSTITUTE	\$0	\$127,223
Identifying children with subclinical neurocognitive decline and susceptibility to oxidative damage during the early months of therapy for ALL	93.397	MSKCC BD528141	5R01CA220568-03	MEMORIAL SLOAN-KETTERING CANCER CENTER	\$0	\$4,894
3/3: The Chicago Cancer Health Equity Collaborative (ChicagoCHEC)	93.397	UIL 19321	5U54CA202997-08	UNIVERSITY OF ILLINOIS, BOARD OF TRUSTEES	\$0	\$13,826
Systems Pharmacology of Therapeutic and Adverse Responses to Immune Checkpoint and Small Molecule Drugs	93.397	HMS 152308.5115347.0511	5U54CA225088-02	HARVARD MEDICAL SCHOOL	\$0	\$107,998

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Center for Systems-level Study of Metastasis	93.397	RFU SUB00000255	5U54CA261701-02	ROCKEFELLER UNIVERSITY	\$0	\$17,899
					Cancer Centers Support Grants Totals	\$0
						\$274,563
Cancer Control						
NRG Oncology NCORP Research Base	93.399	NCORP-Kachnic-GY6	2UG1CA189867-06	NRG ONCOLOGY	\$0	\$81,868
NRG Oncology NCORP Research Base	93.399	NCORP-CHIN-GY8	2UG1CA189867-08	NRG ONCOLOGY	\$0	\$3,705
SWOG NCORP Research Base	93.399	ORHSUN 1014562 COLUMBIA	2UG1CA189974-06	OREGON HEALTH & SCIENCES UNIVERSITY	\$0	\$300,944
Children's Oncology Group NCI Community Oncology Research Program (NCORP) Research Base grant	93.399	PHI AR04853	7UG1CA189955-08	Public Health Institute	\$0	\$9,773
Spanish Validation of the Personal Financial Well-being Scale	93.399	PHI AR10378	U10CA180886	Public Health Institute	\$0	\$17,764
					Cancer Control Totals	\$0
						\$414,054
ACL National Institute on Disability, Independent Living, and Rehabilitation Research						
Home Evaluation System with a Triangulating Intervention Approach:Hestia-NextGen	93.433	UWIS 213405490	90DPGE0016-01-00	UNIVERSITY OF WISCONSIN	\$0	\$69,719
					ACL National Institute on Disability, Independent Living, and Rehabilitation Research Totals	\$0
						\$69,719
Refugee and Entrant Assistance Wilson/Fish Program						
A Combination Retrospective and Prospective Natural History Study of Patients with Sanfilippo Syndrome Type D (MPS IIID) Disease	93.583	PN ALL-127	5UB1NS122644-02	PHOENIX NEST INC.	\$0	\$79,036
					Refugee and Entrant Assistance Wilson/Fish Program Totals	\$0
						\$79,036
Cardiovascular Diseases Research						
RAGE/DIAPH1 and Myocardial Infarction (Project 1)	93.837	NYUMC 18-A0-00-1001609	1P01HL146367-01	NEW YORK UNIVERSITY MEDICAL CENTER	\$0	\$20,774
Education and Cognitive Functioning in Later Life: The Nation's High School Class of 1972	93.837	UTAUS-SUB00000768	1R01AG078533-01	UNIVERSITY OF TEXAS AT AUSTIN	\$0	\$180,529
Ambulatory blood pressure and falls in older treated patients with hypertension	93.837	KFDNI#OOS030382-CU	1R01HL136445-01A1	Kaiser Foundation Research Institute-Division of Research	\$0	\$22,639
Cardiac MR imaging of hemorrhagic reperfusion injury after myocardial infarction	93.837	UPENN 574412	1R01HL137984-01A1	UNIVERSITY OF PENNSYLVANIA	\$0	\$80,000
Biomechanical Indicators of Bicuspid Aortic Valve Dysfunction	93.837	UTEXAUS CU17-2783	1R01HL142504-01	UNIVERSITY OF TEXAS AT AUSTIN	\$0	\$4
Oxidation-mediated structural degeneration of Bioprosthetic Heart Valves	93.837	CHPHI 3201170622	1R01HL143008-01	CHILDREN'S HOSPITAL OF PHILADELPHIA	\$0	\$5,181
Whole-genome sequencing analysis of coronary atherosclerosis and related traits	93.837	UTEXHOUS SA0000631	1R01HL146860-01A1	UNIVERSITY OF TEXAS HOUSTON HEALTH SCIENCE CENTER	\$0	\$72,728

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Deep probabilistic predictive models for stroke and coronary heart disease	93.837	NYU F1182-01	1R01HL148248-01	NEW YORK UNIVERSITY	\$0	\$139,105	
Nutritional Omics of Pulmonary Function Decline	93.837	RTI 4-312-0217030-65776L	1R01HL149352-01	RESEARCH TRIANGLE INSTITUTE	\$0	\$30,158	
A stress-induced promoter pause release program in cardiomyocytes protecting against myocardial infarction	93.837	UCSD 131709481 KR Invoice/PO 7	1R01HL150521	UNIVERSITY OF CALIFORNIA, SAN DIEGO	\$0	\$79,753	
Impact of minority stress on cardiovascular disease risk and resilience	93.837	RFMH 153479	1R01HL151559-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$104,609	
Childhood Mass Trauma Exposure, Inflammatory Programming, and Psychopathology in Young Adulthood	93.837	RFMH 27522	1R01HL152385-01A1	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$83,900	
Influencing Basic Behavioral Mechanisms of Action while targeting Daily Walking in Those at Risk for Cardiovascular Disease: Science of Behavior Change Factorial Experiment of Behavioral Change	93.837	AWD00001348	1R01HL153810-01A1	FEINSTEIN INSTITUTE FOR MEDICAL RESEARCH	\$0	\$55,675	
Generalizable prediction of medication adherence in heart failure	93.837	NYU 20-A0-00-1004676	1R01HL155149-01	NEW YORK UNIVERSITY MEDICAL CENTER	\$0	\$49,186	
Arterial stiffness in mother/infant dyads: Life course approach to prevent cardiovascular disease	93.837	UNC-CH 5121584	1R01HL157075-01	UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL	\$0	\$3,176	
The role of neighborhood greenspace in reducing risk of hypertensive disorders of pregnancy, chronic hypertension, and racial disparities in maternal morbidity	93.837	UPENN 584068	1R01HL157160-01A1	UNIVERSITY OF PENNSYLVANIA	\$0	\$34,474	
Mitochondrial ATP Synthase in Cardiac Biology and Disease	93.837	AECM 312146	1R01HL157319-01A1	ALBERT EINSTEIN COLLEGE OF MEDICINEESHIVA UNIVERSITY	\$0	\$26,723	
Home Blood Pressure Outcomes Evaluation Study (HOMESTEAD)	93.837	UMINN N009710502	1R01HL157667-01A1	UNIVERSITY OF MINNESOTA	\$0	\$15,812	
Bayesian machine learning for causal inference with incomplete longitudinal covariates and censored survival outcomes	93.837	RUTGER 2358	1R01HL1590770-01A1	RUTGERS, THE STATE UNIVERSITY OF NEW JERDEPARTMENT OF RADIOLOGY	\$0	\$62,516	
Dynamic Changes of the Nav1.5 interactome and contributions to heart failure	93.837	WCMC 212305	1R01HL160089-01	WEILL (JOAN AND SANFORD I.) MEDICAL COLLEGE OF CORNELL UNIVERSITY	\$0	\$325,978	
Effectiveness of Strategies to Improve Outcomes after Hospitalization for Acute Myocardial Infarction in Older Adults	93.837	YU CON-8000354 (GR115524)	1R01HL160822-01	YALE UNIVERSITY	\$0	\$37,823	
Identifying subclinical transthyretin cardiac amyloidosis in asymptomatic carriers of the V122I TTR Allele	93.837	UTSWMC GMO 231005	1R01HL160892-01A1	UNIVERSITY OF TEXAS AT DALLAS	\$0	\$85,613	
PRegnancy Outcomes and Subclinical Cardiovascular Disease sTudy	93.837	NWU 60060791 CU	1R01HL161514-01	NORTHWESTERN UNIVERSITY	\$0	\$560	
Rheumatoid Arthritis and the Risk of Cardiovascular Disease: Biomarkers, Risk Prediction, and Underlying Mechanisms	93.837	BWH 127340	1R01HL163580-01	BRIGHAM AND WOMEN'S HOSPITAL	\$0	\$62,087	
Research Education in Cardiovascular Conditions (RECV)	93.837	NYU F1416-01 S	1R25HL145323-01A1	NEW YORK UNIVERSITY	\$0	\$2,495	
Eating, Activity, and Weight-Related Problems Across the Life Course in Diverse Populations	93.837	UMINN P006297201	1R35HL139853-01	UNIVERSITY OF MINNESOTA	\$0	\$46,758	

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Blood Pressure as a Modifiable Risk Factor for Cardiovascular Events in Liver Transplant Recipients	93.837	60060152 COL	1R56HL155093-01	NORTHWESTERN UNIVERSITY	\$0	\$-31,250	
REPRIEVE A5332 and A5333S	93.837	BWH CU15-0282	1U01HL123336-01	BRIGHAM AND WOMEN'S HOSPITAL	\$0	\$51,407	
Continuation of the nuMoM2b Heart Health Study	93.837	RTI 2-312-0217457-65971L	1U01HL145358-01A1	RESEARCH TRIANGLE INSTITUTE	\$94,113	\$233,768	
Atlanta MACS/WIHS Combined Cohort Study Clinical Research Site	93.837	EMORYU A322408	1U01HL46241-01	EMORY UNIVERSITY	\$0	\$60,033	
Milrinone in congenital diaphragmatic hernia trial	93.837	5-312-0216392-66524L	1U24HD095254-01	RESEARCH TRIANGLE INSTITUTE	\$0	\$1,362	
Administrative Coordinating Center: Bench to Bassinet Program (EMR Extraction)	93.837	CHMCO 313945 OS0003064	2 U01 HL 131003-06	CHILDREN'S HOSPITAL MEDICAL CENTER - OHIO	\$0	\$50,000	
Pathways of Tissue Lipid Uptake	93.837	NYUMC 20-A1-00-003442	2R01HL045095-29A1	NEW YORK UNIVERSITY MEDICAL CENTER	\$0	\$70,857	
Structure and function of voltage-gated calcium channels	93.837	UCSF 12002sc	2R01HL080050-14A1	UNIVERSITY OF CALIFORNIA SAN FRANCISCO	\$0	\$174,395	
Incorporation of a Hypertension Working Group into the Jackson Heart Study	93.837	UAB 000528903-SC003	2R01HL117323-08	UNIVERSITY OF ALABAMA AT BIRMINGHAM	\$0	\$169,722	
Pregnancy as a Window to the Future: Outcomes of Antihypertensive Therapy and Superimposed Preeclampsia in Pregnant Women with Mild Chronic Hypertension (CHAP Maternal Follow-up Study)	93.837	UAB 000530812-SC025	2R01HL120338-07A1	UNIVERSITY OF ALABAMA AT BIRMINGHAM	\$13,378	\$57,710	
Serotonin Signaling in Mitral Valve Homeostasis, Maintenance and Restoration	93.837	GRT 00001011	2R01HL131872-05	CHILDREN'S HOSPITAL OF PHILADELPHIA	\$0	\$215,778	
Anticoagulation for New-Onset Post-Operative Atrial Fibrillation after CABG	93.837	ISMMS 0255-A344-4605	2U01HL088942-12	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	\$0	\$4,614	
Administrative Coordinating Center: Bench to Bassinet Program	93.837	CHMCO 313945	2U01HL131003-06	CHILDREN'S HOSPITAL MEDICAL CENTER - OHIO	\$0	\$46,039	
MACS/WIHS -CCS-Supplement	93.837	UMIAMI OS00001106	3U01HL146203-04S1	UNIVERSITY OF MIAMI	\$0	\$9,217	
Optically Guided Catheter Ablation of Atrial Fibrillation	93.837	CWRU RES514542	5R01HL149369-04	CASE WESTERN RESERVE UNIVERSITY	\$0	\$199,427	
Randomized comparison of the clinical Outcome of single versus Multiple Arterial grafts: Quality of Life (ROMA:QOL)	93.837	WCMC 221982	5R01HL152021-03	WEILL (JOAN AND SANFORD I.) MEDICAL COLLEGE OF CORNELL UNIVERSITY	\$0	\$106,868	
Program to Increase Diversity in Faculty Engaged in Behavioral and Sleep Medicine (PRIDE)	93.837	UMIAMI OS0000843	5R25HL105444-13	UNIVERSITY OF MIAMI	\$0	\$9,042	
UCSF Research in Implementation Sciences for Equity (RISE 2) - Applying Theory-informed, Mixed Methods to Identify Multi-level Determinants of Cardiac Rehabilitation	93.837	UCSF 13071sc	5R25HL126146-07	UNIVERSITY OF CALIFORNIA SAN FRANCISCO	\$0	\$3,939	
CTSN: Percutaneous or Surgical Repair in Mitral Prolapse And Regurgitation for 65 Year olds(PRIMARY)	93.837	0255-A344-4605	5U01HL088942-14	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	\$0	\$1,000	

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						<u>Total Expenditures (Includes Subrecipients)</u>
Multicenter Interventional lymphoangiomyomatosis Early Disease Trial	93.837	UCINCI 010575-008	5U01HL131755-03	UNIVERSITY OF CINCINNATI, COLLEGE OF MEDICINE	\$0	\$-6,237
Cardiovascular Health After Placental Abrupton (CHAP)	93.837	RUTGER SUB00002550	7R01HL150065-03	RUTGERS, THE STATE UNIVERSITY OF NEW JERDEPARTMENT OF RADIOLOGY	\$0	\$47,899
TRANSFORM-HF Study	93.837	YU GR104830	7U01HL125511-02	YALE UNIVERSITY	\$0	\$1,150
Cardiac Manifestations of Preeclampsia	93.837	CSMCLA 0002127362	R01HL153382-03	CEDARS-SINAI MEDICAL CENTER	\$0	\$108,903
Study Chair and Data Core for the Comparison of Methods of Pulmonary blood flow Augmentation in neonates: Shunt versus Stent (The COMPASS Trial)	93.837	NERI CU21-2083	U24HL135691	NEW ENGLAND RESEARCH INSTITUTES	\$0	\$84,045
1/2 A randomized controlled trial of pravastatin to prevent preeclampsia in high-risk women	93.837	OSU 60076777	UH3HL140131	OHIO STATE UNIVERSITY	\$0	\$8,793
				Cardiovascular Diseases Research Totals	\$107,491	\$3,296,375
Lung Diseases Research						
Frailty and patient centered outcomes in candidates for lung transplantation	93.838	UCSF 10296sc	1R01HL134851-01A1	UNIVERSITY OF CALIFORNIA SAN FRANCISCO	\$0	\$81,302
The Road to Destination Therapy: Optimizing Long-Term Mechanical Cardiopulmonary Support for Pulmonary Hypertension	93.838	VUMC 67475	1R01HL140231-01A1	VANDERBILT UNIVERSITY MEDICAL CENTER	\$0	\$7,412
Understanding the Origins of Early COPD	93.838	WCMC 192243-1	1R01HL144718-01A1	WEILL (JOAN AND SANFORD I.) MEDICAL COLLEGE OF CORNELL UNIVERSITY	\$0	\$-3
Impact of Prenatal Vitamin A Deficiency on Cell Fate Alterations in Adult Airway Hyper Responsiveness	93.838	AECM 311707	1R01HL145302-01A1	ALBERT EINSTEIN COLLEGE OF MEDICINE SHIVA UNIVERSITY	\$0	\$90,227
Defecting pleiotropic effects through integration of omics data	93.838	YALE GR105810 (CON-80001760)	1R01HL145660-01A1	YALE UNIVERSITY	\$0	\$186,766
ASCEND (ARDS in Children and ECMO initiation strategies impact on Neuro-Development)	93.838	UMICHG SUBK00014478	1R01HL153519-01	UNIVERSITY OF MICHIGAN	\$0	\$2,589
Promoting Equity via Change in Practice for Respiratory Failure (PRECIPICE)	93.838	NYU F2062-04	1R01HL157361-01A1	NEW YORK UNIVERSITY	\$0	\$22,557
Balancing Airway Progenitor versus Progeny: a Pathway from Mitochondria	93.838	UCS KR 704693	1R01HL160019-01	UNIVERSITY OF CALIFORNIA, SAN DIEGO	\$0	\$15,662
ORal Bacterial Extracts (ORBEX): Primary Prevention of Asthma and Wheezing in Children	93.838	UA 330411	1U01HL130045-01	UNIVERSITY OF ARIZONA	\$0	\$43,481
SPIROMICS II: Biological underpinnings of COPD heterogeneity and progression	93.838	UCSF CU17-3435	1U01HL137880-01	UNIVERSITY OF CALIFORNIA SAN FRANCISCO	\$0	\$204,688
Long Term Follow-up of the Lung Transplant Outcomes Group (LTOG) Cohort	93.838	UPENN 587525	1U01HL145435-01	UNIVERSITY OF PENNSYLVANIA	\$0	\$90,846
Eliminating Monitor Overuse (EMO) Hybrid Effectiveness-Deimplementation Trial	93.838	CHOP GRT-00001474	1U01HL159880-01	CHILDREN'S HOSPITAL OF PHILADELPHIA	\$0	\$1,999

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SPIROMICS GIC Support	93.838	UNC-CH 5125325	1U24HL141762-01	UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL	\$0	\$15,761
PATINA - Precision Administration of Treatment in Neutrophilic severe Asthma	93.838	BWH 118345	1UG1HL139124-01	BRIGHAM AND WOMEN'S HOSPITAL	\$0	\$4,023
1/2 Kids MoD PAH Trial: Mono- vs. Duo-Therapy In Pediatric Pulmonary Arterial Hypertension	93.838	JH 2005385029	1UG3HL151458-01A1	JOHNS HOPKINS UNIVERSITY	\$0	\$27,456
(1 of 2) Genetic Epidemiology of COPD	93.838	NJMRCCS 20073011	2U01HL089897	National Jewish Health	\$0	\$7,109
Pulmonary Vascular Disease Phenomics Program (PVDOMICS) Data Coordinating Center	93.838	CLEVELCL 1426-SUB	4U01HL125177-06	CLEVELAND CLINIC	\$0	\$34,840
1/2 Kids MoD PAH Trial: Mono- vs. Duo-Therapy In Pediatric Pulmonary Arterial Hypertension	93.838	JHU UH3HL151458	4UH3HL151458-02	JOHNS HOPKINS UNIVERSITY	\$0	\$10,222
CT-Based Modeling of Bone Micro Architecture and Fracture-Risk in COPD	93.838	UIO S00925-01	5R01HL142042-02	UNIVERSITY OF IOWA	\$0	\$224,559
Molecular characterization of pulmonary edema: a window to an injured lung	93.838	SU 62999813-151323	5R01HL152083-03	STANFORD UNIVERSITY	\$0	\$46,785
Pulmonary Vascular Disease Phenomic Program (PVDOMICS)Data Coordinating	93.838	CLEVELCL 743-SUB	5U01HL125177-03	CLEVELAND CLINIC	\$0	\$13,062
Data, Modeling, and Coordination Center for PrecISE Network	93.838	UNC-CH 5125917-H3COLUMBIA	5U24HL138998-03	UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL	\$0	\$72,808
AZithromycin Therapy in Preschoolers with a Severe Wheezing Episode Diagnosed at the Emergency Department (AZ-SWED)	93.838	UA 585141	5UG3HL147016-03	UNIVERSITY OF ARIZONA	\$0	\$68,203
Genetic and developmental mechanisms of congenital diaphragmatic hernia	93.838	UCSD KR 704654	7R01HL146859-03	UNIVERSITY OF CALIFORNIA, SAN DIEGO	\$0	\$17,005
Bedside Exclusion of Pulmonary Emboli in Children without Exposure to Radiation (BEEPER) Grant Transfer	93.838	WSHU WSU22085	7R01HL148247-03	WAYNE STATE UNIVERSITY	\$0	\$89,196
Immune Responses in Children with Post-Acute SequelaeSARS-CoV-2 Infection	93.838	NYUMC PATHO-PH2-SUB 06 23/OA22	OT2HL161847	NEW YORK UNIVERSITY	\$0	\$727
A Post-Acute Sequelae of SARS CoV-2 Infection Initiative: NYU Langone Health Clinical Science Core, Data Resource Core, and PASC Biorepository Core	93.838	UCOL FY22.1126.041	OT2HL161847-01	UNIVERSITY OF COLORADO	\$0	\$77,344
RESEARCHING COVID TO ENHANCE RECOVERY (RECOVER) INITIATIVE	93.838	WCMC 220367-1	OTSHL161847-01	WEILL (JOAN AND SANFORD I.) MEDICAL COLLEGE OF CORNELL UNIVERSITY	\$0	\$19,363
Alzheimer s Disease Genetics Consortium	93.838	UPENN 579279	U01AG032984	UNIVERSITY OF PENNSYLVANIA	\$0	\$163,143
				Lung Diseases Research Totals	\$0	\$1,639,132
Blood Diseases and Resources Research						
Linking Endotypes and Outcomes in Pediatric Acute Respiratory Distress Syndrome	93.839	CHOP 3201710624	1R01HL148054-01	CHILDREN'S HOSPITAL OF PHILADELPHIA	\$0	\$1,489

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Novel strategies for storage and recovery of cadaveric bone marrow stem cells	93.839	OSSIUM CU19-1192	5R44HL142418-03	OSSIUM HEALTH, INC.	\$0	\$191,161	
Composite Health Assessment Model for Older Adults: Applying Pre-transplant Comorbidity, Geriatric Assessment, and Biomarkers to Predict Non-Relapse Mortality after Allogeneic Transplantation	93.839	CIBMTR CU19-2653	5U24HL138660-03	CIBMTR (CENTER FOR INTERNATIONAL BLOOD AND MARROW TRANSPLANT RESEARCH)	\$0	\$3,046	
DISPLACE: Dissemination and Implementation of Stroke Prevention looking at the Care Environment	93.839	UAB 000524452-010	7R01HL133896-03	UNIVERSITY OF ALABAMA AT BIRMINGHAM	\$0	\$20,002	
TET2-mediated transcriptional and epigenetic control of normal and malignant hematopoiesis	93.839	UTHSCSA 166754/165804	7R01HL146664-02	UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER AT SAN ANTONIO	\$0	\$144,935	
Blood Diseases and Resources Research Totals					\$0	\$360,633	
Translation and Implementation Science Research for Heart, Lung, Blood Diseases, and Sleep Disorders							
Implementation of Childhood Obesity Treatment Innovations to Improve Outcomes of Low-Income Children: The Connect for Health II Study	93.840	MGH 234862	5R01HL146782-04	MASSACHUSETTS GENERAL HOSPITAL	\$0	\$46,393	
Mi QUIT CARE (Mile Square QUIT Community-Access-Referral-Expansion)	93.840	UIL 19301	5UG3HL151302-03	UNIVERSITY OF ILLINOIS, BOARD OF TRUSTEES	\$0	\$49,775	
Actions to Decrease Disparities in Risk and Engage in Shared Support for Blood Pressure Control (ADDRESS-BP) in Black	93.840	NYU 20-A1-00-1003342	UG3HL151310	NEW YORK UNIVERSITY	\$0	\$23,600	
Translation and Implementation Science Research for Heart, Lung, Blood Diseases, and Sleep Disorders Totals					\$0	\$119,768	
Arthritis, Musculoskeletal and Skin Diseases Research							
Multiscale models of fibrous interface mechanics	93.846	WU-21-59	1R01AR077793-01	WASHINGTON UNIVERSITY	\$0	\$241,165	
Mechanisms for Regenerative Healing in Intervertebral Discs	93.846	ISMMS 0255-F951-4609	1R01AR080096-01	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	\$0	\$40,175	
Bone and fat cross-talk in antiretroviral therapy (ART) treated HIV patients	93.846	RUMC 20042901-Sub03	1R01AR081151-01A1	RUSH UNIVERSITY MEDICAL CENTER	\$0	\$35,616	
Characterization of a humanized mouse model to study HIV and ARV-induced osteoporosis	93.846	RUMC 20081401-Sub03	1R21AR079309-01A1	RUSH UNIVERSITY MEDICAL CENTER	\$0	\$18,859	
Small Molecules to Promote Tendon Regeneration by Specific Targeting of Endogenous Stem Cells	93.846	WNT CU20-3470	1R41AR079360-01	WNT SCIENTIFIC LLC	\$0	\$33,476	
Treatments Against RA and Effect on FDG PET/CT: The Target Trial	93.846	BWH 113296	1U01AR068043-01	BRIGHAM AND WOMEN'S HOSPITAL	\$0	\$69,147	
A Randomized, Double-Blind, Placebo-Controlled, Multi-Center Study to Evaluate the Efficacy of ManNAc in Subjects with GNE Myopathy	93.846	MGH CU20-0678	1U01AR070498-01	MASSACHUSETTS GENERAL HOSPITAL	\$0	\$4,748	
AIM-for-RA	93.846	URMC SUB00000309/UR FAO GR5323	1UC2AR081025-01	UNIVERSITY OF ROCHESTER MEDICAL CENTER	\$0	\$35,234	
Engineering Polymers to Scavenge DAMPs in Arthritis and Lupus	93.846	DUKEU A031921	5R01AR073935-04	DUKE UNIVERSITY	\$0	\$310,258	
Synovial Macrophage Transcriptional Signatures for Predicting Therapeutic Efficacy	93.846	NWU 60054738 CU	5R01AR075423-03	NORTHWESTERN UNIVERSITY	\$0	\$21,800	

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Development and Validation of a Novel and HIV-Relevant Prediction Model for Fracture	93.846	CON-80003104	5R01AR078715-03	YALE UNIVERSITY	\$0	\$51,242	
Arthritis, Musculoskeletal and Skin Diseases Research Totals					\$0	\$861,720	
Diabetes, Digestive, and Kidney Diseases Extramural Research							
Mechanisms mediating podocyte-parietal epithelial cell crosstalk in proliferative glomerulopathies	93.847	RFSUNY 89194/2/1163728	1R01DK12184601A1	RESEARCH FOUNDATION OF THE STATE UNIVERSITY OF NEW YORK	\$0	\$18,029	
Comparison of Intensive Behavioral Counseling vs. Medical Management to Treat Adolescent Severe Obesity	93.847	UMINN N008295601	1R01DK123273-01A1	UNIVERSITY OF MINNESOTA	\$0	\$20,979	
Resilience to obesity in carriers of monogenic obesity mutations: a study on the underlying mechanisms	93.847	ISMMS 0255-D641-4609	1R01DK124097-01A1	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	\$0	\$152,096	
Role of the gut microbiome in the bone loss induced by hyperparathyroidism in mice	93.847	EMORYU A495330	1R01DK124821-01A1	EMORY UNIVERSITY	\$0	\$83,680	
The Impact of Diabetes on Patients with Glomerular Disease: CureGN-Diabetes	93.847	UNC-CH 5120530	1R01DK126959-01	UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL	\$0	\$49,889	
Elucidating Genetic and Environmental Second Hits in Racial and Ethnic Minorities with APOL1 High-Risk Genotypes	93.847	0255-E523-4609	1R01DK127139-01	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	\$0	\$50,986	
Preclinical Validation of PPARγ Acetylation Inhibitors for Diabetes Prevention and Treatment	93.847	UOHSC RS20210075-01	1R01DK128848-01	UNIVERSITY OF OKLAHOMA HEALTH SCIENCES CENTER	\$0	\$191,176	
Podocyte-specific Rap1 agonism for treatment of glomerular disease	93.847	ISMMS 0255-G211-4609	1R01DK129735-01A1	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	\$0	\$30,538	
Macrophages and attenuation of inflammation resolution in APOL1 nephropathy	93.847	NWU 60062135 CU	1R01DK131521-01	NORTHWESTERN UNIVERSITY	\$0	\$13,770	
Elucidating the Molecular Mechanisms that Mediate DKD Progression in Patients living with HIV	93.847	ISMMS 0255-F861-4609	1R01DK131525-01	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	\$0	\$125,981	
Bone In CKD Alkali Response Pilot Trial (BICARb Pilot Trial)	93.847	AECM 312212	1R01DK131811-01A1	ALBERT EINSTEIN COLLEGE OF MEDICINE SHIVA UNIVERSITY	\$0	\$48,196	
Food Insecurity, Neighborhood Environment, and Weight Trajectories in Young Children: Implications for Food Assistance Policy	93.847	DU 900211	1R01DK133389-01	DREXEL UNIVERSITY	\$0	\$18,557	
Engineering islet-like organoids from gastric stem cells for T1D cell replacement therapy	93.847	WCMC 221694-1	1R01DK133701-01	WEILL (JOAN AND SANFORD I.) MEDICAL COLLEGE OF CORNELL UNIVERSITY	\$0	\$13,150	
The role of Vpr mediated cell cycle dysregulation in HIV-associated kidney disease	93.847	ICAH 0255-G781-4609	1R01DK133912-01	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	\$0	\$59,054	
Dynamics and mechanism of sodium-dependent carboxylate transporters	93.847	NYUMC 22-A0-00-1008259/266665	1R01DK135088-01	NEW YORK UNIVERSITY MEDICAL CENTER	\$0	\$2,506	
QSM to Guide Iron Chelating Therapy in Transfusional Iron Overload	93.847	CUMC 221107	1R01K116126-01A1	WEILL (JOAN AND SANFORD I.) MEDICAL COLLEGE OF CORNELL UNIVERSITY	\$0	\$133,943	
The organization of neural representations for flexible behavior in the human brain	93.847	BROWNU 0001873	1R01MH125497-01A1	BROWN UNIVERSITY	\$0	\$10,201	

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Unraveling the tolerogenic potential of lymph node fibroblastic reticular networks in autoimmune diabetes	93.847	UMIAMI OS00001078	1R56DK131087-01A1	UNIVERSITY OF MIAMI	\$0	\$26,980
Microbiome Based Biomarkers of Wound Healing	93.847	UWM 0000002316	1R61DK133846-01	UNIVERSITY OF WISCONSIN MADISON	\$0	\$137,697
Integrating large scale genomics and functional studies to accelerate FSGS/NS discovery	93.847	BIDMC 01062791	1RC2DK122397-01A1	BETH ISRAEL DEACONESS MEDICAL CENTER	\$0	\$339,160
New York Consortium for Interdisciplinary Training in Kidney, Urological and Hematological Research (NYC Train KUHR)	93.847	AECM 312244	1TL1DK136048-01	ALBERT EINSTEIN COLLEGE OF MEDICINEESHIVA UNIVERSITY	\$0	\$23,583
A trial of transplanting Hepatitis C-viremic kidneys into Hepatitis C-Negative kidney recipients (THINKER-NEXT)	93.847	UPENN 584696	1U01DK126654-01	UNIVERSITY OF PENNSYLVANIA	\$0	\$151,672
Strategies and Therapies for Outcomes Prevention in Cirrhosis: The STOP-C Liver Cirrhosis Network	93.847	WCMC 212169	1U01DK130221-01	WEILL (JOAN AND SANFORD I.) MEDICAL COLLEGE OF CORNELL UNIVERSITY	\$0	\$244,648
New York Consortium for Interdisciplinary Training in Kidney, Urological and Hematological Research (NYC Train KUHR)	93.847	AECM 31220A	1U2CDK129502-01A1	ALBERT EINSTEIN COLLEGE OF MEDICINEESHIVA UNIVERSITY	\$0	\$82,215
Center for Identification and Study of Individuals with Atypical Diabetes Mellitus	93.847	UCHICA FP068366-01 H	1U54DK118612-01	UNIVERSITY OF CHICAGO	\$0	\$154,923
Modulating pathogenic T cells in Type 1 diabetes	93.847	YU GR106198	2R01DK057846-15	YALE UNIVERSITY	\$0	\$10,798
APOL1 associated kidney disease	93.847	582940	2R01DK105821-06	UNIVERSITY OF PENNSYLVANIA	\$0	\$39,096
Role of RTN1A in the Progression of Diabetic Nephropathy	93.847	ISMMS 0255-1032-4609	2R01DK109683-05	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	\$0	\$42,820
Active Disposable Cap for Endoscope Tip Stabilization and Complete Visualization and Dissection of Serrated Sessile Polyps	93.847	ATMI 5059-S06	2R44DK117813-06	ACTUATED MEDICAL INC	\$0	\$592
Glycemia Reduction Approaches in Diabetes: A Comparative Effectiveness (GRADE) Study	93.847	GW S-GRD1718-LL7	2U01DK098246-06	GEORGE WASHINGTON UNIVERSITY	\$0	\$14,218
Data Coordinating Center for Type 1 Diabetes TrialNet	93.847	USF 6163-1082-00-B	2U01DK106993-02	UNIVERSITY OF SOUTH FLORIDA	\$0	\$312,793
Epidemiology of Diabetes Interventions and Complications	93.847	CWRU RES516002	3U01DK094157-06S1	CASE WESTERN RESERVE UNIVERSITY	\$0	\$-2,027
Glycemic Profile of Pregnancy Consortium Biostatistics Research Center	93.847	NWU 60057524 CU	3U01DK123759-02S1	NORTHWESTERN UNIVERSITY	\$0	\$1,023,181
Skeletal Health in Type 1 Diabetes and the Role of Diabetic Kidney Disease	93.847	NCIRE SCH2284-11	5R01DK125646-02	NORTHERN CALIFORNIA INSTITUTE FORRESEARCH AND EDUCATION	\$0	\$19,948
Pathogenesis of Primary Biliary Cholangitis	93.847	MAYO THE-294105	5R01DK126691-02	Mayo Clinic -- Rochester	\$0	\$266,402
Biomechanical drivers of cystogenesis	93.847	ISMMS 0255-F751-4609	5R01DK131047-02	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	\$0	\$102,240

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						<u>Total Expenditures (Includes Subrecipients)</u>
Dissecting the Pathogenesis and Outcomes of PSC Using Mutomics by Studying the Exposome and Genome	93.847	COL-245818-05/PO#68880263	5RC2DK118619-05	Mayo Clinic -- Rochester	\$0	\$27,218
Diabetes Prevention Program Outcomes Study (DPPPOS) Phase 3	93.847	GWU S-DPP2021-JC23	5U01DK048489-27	GEORGE WASHINGTON UNIVERSITY	\$0	\$42,940
Improving Medication Adherence in adolescents who had a Liver Transplant: iMALT	93.847	ISMMS 0255-A945-4609	5U01DK119200-02	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	\$0	\$13,716
Nephrotic Syndrome Rare Disease Clinical Research Network III	93.847	UMICHG SUBK00018902	5U54DK083912-14	UNIVERSITY OF MICHIGAN	\$0	\$61,010
A Prospective Study Examining the Role of Gestational SSRI Exposure in the Development of Functional Gastrointestinal Disorders	93.847	NYU F2213-04	7R01DK130517-02	NEW YORK UNIVERSITY	\$0	\$17,861
Trialnet Type 1 Diabetes Natural History Study	93.847	UFLRDA 260937	NIDDK	UNIVERSITY OF SOUTH FLORIDA	\$0	\$5,949
Percutaneous Ultrasound Gastrostomy: Clinical Evaluation of a Feeding Tube Placement Method in the Pediatric Population	93.847	CoapTech R44DK123910-CUMC	R44DK123910	COAPTECH	\$0	\$6,284
Diabetes, Digestive, and Kidney Diseases Extramural Research Totals					\$0	\$4,188,648
Extramural Research Programs in the Neurosciences and Neurological Disorders						
Trajectories and modifiable risk factors of brain, gait, and cognitive decline in aging	93.853	AECM 311762	1R01AG062659-01A1	ALBERT EINSTEIN COLLEGE OF MEDICINE SHIVA UNIVERSITY	\$0	\$56,789
Carotid Revascularization and Medical Management for Asymptomatic Carotid Stenosis Trial - Hemodynamics (CREST-H)	93.853	MAOJF COL-232483	1R01NS097876-01A1	Mayo Clinic Jacksonville	\$0	\$-2,723
MRI Predictors of Disease and Disability Progression in African Americans With Multiple Sclerosis	93.853	ISMMS 0255-4191-4609	1R01NS10081-01A1	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	\$0	\$36,509
The Effect of Lower Pressure over the Life Course on Late-life Cognition in Black	93.853	UMICHG 300465879	1R01NS102715-01	UNIVERSITY OF MICHIGAN	\$0	\$-8,419
Novel regulation and function of the lncRNA Gomafu in human neurons	93.853	EMORYU A228115	1R01NS110110-01A1	EMORY UNIVERSITY	\$0	\$73,465
Understanding the fast and slow spatiotemporal dynamics of human seizures	93.853	BU 4500003407	1R01NS110669-01	BOSTON UNIVERSITY	\$0	\$236,918
Mitochondrial control of protein translation in Fragile X	93.853	YU GR107040 (CON-80001842)	1R01NS112706-01	YALE UNIVERSITY	\$0	\$322,627
Targeting Go and Grow in Glioblastoma	93.853	MAYO CJ COL-272751/PO #6753053	1R01NS118513-01	Mayo Clinic Jacksonville	\$0	\$184,238
Directing fate, subtype identity and survival in human pluripotent-derived midbrain dopamine neurons	93.853	MSKCC C22264453	1R01NS1188067-01A1	MEMORIAL SLOAN-KETTERING CANCER CENTER	\$0	\$45,433
Corticospinal neuron dysfunction and degeneration in ALS: testing the role of corticomotor connectivity in motor neuron disease.	93.853	WMBMRI 112005-01	1R01NS119508-01	WINIFRED MASTERSON BURKE MED RES INST	\$0	\$208,224
Recovery Of Stroke - Longitudinal Assessment With Neuroimaging (ROSE LAWN) (Columbia SOW)	93.853	UCINCI 013382-00002	1R01NS120493-01	UNIVERSITY OF CINCINNATI	\$0	\$23,475

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Control of the axon initial segment in epilepsy	93.853	SU 62613057-192061	1R01NS121106-01	STANFORD UNIVERSITY	\$0	\$365,008
Mechanisms of Pain Associated with Trigeminal Nerve Injury	93.853	UPITT AWD00004493 (136640-1)	1R01NS122784-01	UNIVERSITY OF PITTSBURGH	\$0	\$73,163
Development of 3D-FAST Optical Interface for Rapid Volumetric Neural Sensing and Modulation	93.853	UCOL FY22.889.001	1R01NS123665-01	UNIVERSITY OF COLORADO	\$0	\$167,830
Regulation, function, and the therapeutic potential of an oncogenic long noncoding RNA Inc-HLX-2-7 in group 3 medulloblastomas	93.853	JHU 2005887079	1R01NS124668-01A1	JOHNS HOPKINS UNIVERSITY	\$0	\$8,592
Real-world impact of the COVID-19 pandemic in people with multiple sclerosis	93.853	UPITT AWD000005274 (137206-1)	1R01NS124882-01	UNIVERSITY OF PITTSBURGH	\$0	\$50,154
BBB dysfunction in post-stroke dementia	93.853	SU 63063847-217685	1R01NS124927-01A1	STANFORD UNIVERSITY	\$0	\$57,197
Account For Account for Interneurons as early drivers of Huntington s disease progression	93.853	AECM 312192	1R01NS125260-01A1	ALBERT EINSTEIN COLLEGE OF MEDICINE SHIVA UNIVERSITY	\$0	\$9,893
Sensory Plasticity in the Dorsal Striatum as an Impetus of Action Initiation and Suppression	93.853	NYUMC 21-A0-00-1007129	1R01NS126391-01	NEW YORK UNIVERSITY MEDICAL CENTER	\$0	\$26,809
SCN8A encephalopathy: disease mechanisms and treatment	93.853	EMORYU A807790	1R01NS126392-01A1	EMORY UNIVERSITY	\$0	\$20,774
How do neurons coordinate alternative energy sources to meet the demands of computation?	93.853	SU 63044383-262722	1R01NS130794-01	STANFORD UNIVERSITY	\$0	\$56,227
Activity-dependent endocannabinoid control in epilepsy	93.853	SU 63127584-264111	1R01NS131728-01	STANFORD UNIVERSITY	\$0	\$51,191
Propagation patterns in microelectrode-recorded human interictal epileptiform discharges	93.853	UTAH 10051440-01	1R21NS113031-01	UNIVERSITY OF UTAH	\$0	\$13,315
COVERT - COvert Volitional Eye Response Test	93.853	UMIAMI OS00001168	1R21NS128326-01	UNIVERSITY OF MIAMI	\$0	\$71,463
Molecular Tools to Study FLVCR2- mediated Heme Transport in BrainAngiogenesis	93.853	UCSF 13859sc	1R21NS129105-01	UNIVERSITY OF CALIFORNIA SAN FRANCISCO	\$0	\$91,570
Changing the neuromodulation game: ultrasound fenestration of the blood brain barrier for noninvasive viral transfection of primate CNS neurons	93.853	NKI 154775	1R34NS122272-01	Nathan S. Kline Institute for Psychiatric Research	\$0	\$33,699
Development of Mechanisms Underlying Human Motor Learning	93.853	KKINS 113442-0624-02B	1R35NS122266-01	KENNEDY KRIEGER INSTITUTE	\$0	\$38,438
Routes to enhanced HIV neuropathogenesis through expression of subclinical levels of endogenous amyloid-beta	93.853	MSSM 0255-E022-4609	1RF1NS119438-01A1	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	\$0	\$220,541
Sleep for Stroke Management and Recovery Trial (Sleep SMART) Stroke Trial	93.853	UCINCI 011337-135721	1U01NS099043-01A1	UNIVERSITY OF CINCINNATI	\$0	\$10,038
Clinical Study: Brain Oxygen Optimization in Severe TBI Phase -3 (BOOST-3) Trial CSPR # 002	93.853	UMICHG SUBK10409CSPR-002	1U01NS099046-01A1	UNIVERSITY OF MICHIGAN	\$0	\$29,765

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STATins Use in Intracerebral Hemorrhage Patients (SATURN) Study	93.853	UCINCI 012044-135721	1U01NS102289-01A1	UNIVERSITY OF CINCINNATI	\$0	\$259
Circuitry underlying response summation in mouse and primate: theory and experiment	93.853	SALK CU17-3850	1U01NS108683-01	SALK INSTITUTE FOR BIOLOGICAL STUDIES	\$0	\$-156
ARCADIA CSI (Cognition and Silent Infarcts) Study	93.853	UCINCI 012340-135721	1U01NS110728-01	UNIVERSITY OF CINCINNATI	\$0	\$644
Optimization and dissemination of non-linear Acousto-Optic Lens microscopy for multiscale 3D two-photon imaging	93.853	UCL CU18-4210	1U01NS113273-01	UNIVERSITY COLLEGE LONDON	\$0	\$72,045
Study in Parkinson Disease of Exercise Phase 3 Clinical Trial: SPARX3	93.853	NU 60054977 COL	1U01NS113851-01	NORTHWESTERN UNIVERSITY	\$0	\$54,475
Optimization, application and dissemination of high-speed hybrid multiphoton volumetric imaging technologies	93.853	RFU SUB00000144	1U01NS115530-01	ROCKEFELLER UNIVERSITY	\$0	\$256,173
Comparison of Anti-coagulation and anti-Platelet Therapies for Intracranial Vascular Atherosclerosis	93.853	UCINCI 013888-135721	1U01NS117450-01A1	UNIVERSITY OF CINCINNATI	\$0	\$6,991
Optimization of Clear Optically Matched Panoramic Access Channel Technique (COMPACT) for large-scale deep-brain neurophotonic interface	93.853	PU 11001101-015	1U01NS118302-01	PURDUE UNIVERSITY	\$0	\$127,619
Investigation and Treatment of Undiagnosed Neuroinflammatory Diseases	93.853	UCSF 13232sc	1U01NS120836-01	UNIVERSITY OF CALIFORNIA SAN FRANCISCO	\$0	\$194,400
Deep and fast imaging using adaptive excitation sources	93.853	CU 142065-21579	1U01NS128660-01	CORNELL UNIVERSITY	\$0	\$8,910
Towards a Complete Description of the Circuitry Underlying SharpWave-Mediated Memory Replay	93.853	SU CU17-0676	1U19NS104590-01	STANFORD UNIVERSITY	\$0	\$12,628
The Clinical Significance of Incidental White Matter Lesions on MRI Amongst a Diverse Population with Cognitive Complaints (INDEED)	93.853	CUD A21-1324-S021	1U19NS120384	UNIVERSITY OF CALIFORNIA, DAVIS	\$0	\$219,246
Synergistic Interaction of amyloid-beta and alpha-synuclein in Lewy body Dementia - Project 3	93.853	MAOJF COL-259090	1U54NS110435-01A1	Mayo Clinic Jacksonville	\$0	\$749,274
kHz-rate in Vivo Imaging of Neural Activity throughout the Living Brain	93.853	UCB 00009979	1U01NS107696-01	UNIVERSITY OF CALIFORNIA, BERKELEY	\$0	\$36,310
Shedding light on brain circuits mediating navigation of the odor plume in a natural environment	93.853	UCOL FY21.237.001	1U01NS116241-01	UNIVERSITY OF COLORADO	\$0	\$7,299
Spinal cord stimulation to improve motor function in people with post-stroke hemiplegia	93.853	AWD00006410 (138833-4)	1U03NS123135-01A1	UNIVERSITY OF PITTSBURGH	\$0	\$21,813
Carotid Revascularization and Medical Management for Asymptomatic Carotid Stenosis Trial	93.853	MAOJF COL-305533	2R01NS097876-06A1	Mayo Clinic Jacksonville	\$0	\$983
Discovery and analysis of the C. elegans neuronal gene expression network (CeNGEN)	93.853	YU CON-80004141(GR118995)	2R01NS100547-06A1	YALE UNIVERSITY	\$0	\$150,881
Vascular Determinants of Dementia and Cognitive Decline in a Tri-Ethnic Region	93.853	UMIAMI OS00000824	2R56NS029993-28A1	UNIVERSITY OF MIAMI	\$0	\$279,521

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Maternal Outcomes and Neurodevelopmental Effects of Antiepileptic Drugs (MONEAD) II	93.853	SU 61865504-125439	2U01NS038455-16A1	STANFORD UNIVERSITY	\$0	\$30,522
Vascular contributions to cognitive impairment and dementia and Stroke in a Bi-racial National Sample	93.853	UAB 000513792-005	2U01NS041588-17	UNIVERSITY OF ALABAMA AT BIRMINGHAM	\$0	\$230,326
Growth and development of Striatal Cerebellum circuitry in subjects at risk for Huntington s Disease	93.853	UIO S01224-01	2U01NS055903-10	UNIVERSITY OF IOWA	\$0	\$236,572
Carotid Revascularization and Medical Management for Asymptomatic Carotid Stenosis Trial (CREST-2) Trial (Study)	93.853	MAOJF COU-224063-05/66631416	2U01NS080168-08	Mayo Clinic Jacksonville	\$0	\$-16,767
Targeting Endosomal Receptors for Treatment of Chronic Pain	93.853	NYU F1628-01	3R01DE029951-01S2	NEW YORK UNIVERSITY	\$0	\$114,845
Bridge Funding -- Genetic Variant-Based Drug Discovery Targeting Conserved Pathways of Aging (PROJECT 1)	93.853	AECM 312281	3U19AG056278-06S1	ALBERT EINSTEIN COLLEGE OF MEDICINE SHIVA UNIVERSITY	\$0	\$69,521
Innate and Adaptive Immunity in Parkinson Disease - Clinical Research Core.	93.853	UAB 000519299-SP002-001	5P50NS108675-03	UNIVERSITY OF ALABAMA AT BIRMINGHAM	\$0	\$152,867
ICH Recovery Grant	93.853	UCINCI 011078-00017	5R01NS100417-02	UNIVERSITY OF CINCINNATI, COLLEGE OF MEDICINE	\$0	\$55,146
Discovery and analysis of the C. elegans neuronal gene expression network (CENGEN)	93.853	YU GR101266 (CON-80003188)	5R01NS100547-05	YALE UNIVERSITY	\$0	\$123,522
Androgen Receptors and Sex Differences in the Biological Clock	93.853	ORHSUN 1012987 COLUMBIA	5R01NS102962-04	OREGON HEALTH & SCIENCES UNIVERSITY	\$0	\$68,584
Astrocytes-mediated regulation of Wnt/b-catenin pathway in ischemic brain repair	93.853	UPITT AWD000001584 (133896-1)	5R01NS110755-02	UNIVERSITY OF PITTSBURGH	\$0	\$8,021
Druggable Mitochondrial Targets for Treatment of Cerebral Ischemia	93.853	AWD00001857 (134090-2)	5R01NS117000-04	UNIVERSITY OF PITTSBURGH	\$0	\$32,804
Diffusion MRI Model Parameter Estimation to Study Brain Microstructure as it Relates to Cognitive Status in Mild Traumatic Brain Injury	93.853	NYU 21-A1-00-1006161	5R01NS119767-02	NEW YORK UNIVERSITY	\$0	\$54,962
Carotid Revascularization and Medical Management for Asymptomatic Carotid Stenosis Trial (CREST-2) Trial (	93.853	MAOJF COU-224063-03	5U01NS080168-07	Mayo Clinic Jacksonville	\$0	\$12,121
NSTN National Clinical Coordinating Center Administrative Agreement	93.853	UCINCI 011414-Adm-Marshall	5U01NS086872-08	UNIVERSITY OF CINCINNATI	\$0	\$48,111
Extramural Research Programs in the Neurosciences and Neurological Disorders	93.853	HMRI AGMT00004303AM1	5U01NS104326-04	HOUSTON METHODIST RESEARCH INSTITUTE	\$0	\$3,000
Using Direct Brain Stimulation to Study Cognitive Electrophysiology	93.853	UPENN 585215	5U01NS113198-04	UNIVERSITY OF PENNSYLVANIA	\$0	\$235,056
Mapping Algorithmic State Space in the Human Brain	93.853	BCMh 7000001579	5U01NS121472-02	BAYLOR COLLEGE OF MEDICINE-- HOUSTON	\$0	\$337,929
DISCOVERY: Determinants of Incident Stroke Cognitive Outcomes and Vascular Effects on Recovery	93.853	MGH 235400	5U19NS115388-03	MASSACHUSETTS GENERAL HOSPITAL	\$0	\$87,884

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Clinical Pathological Study of Cognitive Impairment in Essential Tremor	93.853	UTSW GMO211107 PO000002121A	7R01NS086736-07	UNIVERSITY OF TEXAS SOUTHWESTERN MEDICALCENTER AT DALLAS	\$0	\$204,993	
Identification and molecular characterization of somatic mutations in MCD	93.853	UNCCH 5116795	7R01NS094596-05	UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL	\$0	\$2,069	
Environmental Epidemiology of Essential Tremor	93.853	GMO210309 PO000002288	7R01NS094607-06	UNIVERSITY OF TEXAS SOUTHWESTERN MEDICALCENTER AT DALLAS	\$0	\$159,815	
EFFECTS OF AFQ056 ON LANGUAGE LEARNING IN YOUNG CHILDREN WITH FRAGILE X SYNDROME (FXS)	93.853	MGH CU18-1125	U01NS077423	MASSACHUSETTS GENERAL HOSPITAL	\$0	\$21,252	
Wide Deployment of Massively Multiplexed Nanosystems for Brain Activity Mapping	93.853	CALTECH S389576	U01NS099726	CALIFORNIA INSTITUTE OF TECHNOLOGY	\$0	\$5,179	
Dynamic Neural Mechanisms of Audiovisual Speech Perception	93.853	UPENN 585522	U01NS113339	UNIVERSITY OF PENNSYLVANIA	\$0	\$643,566	
A Phase-2b, Double-Blind, Randomized Controlled Trial to Evaluate the Activity and Safety of Inebilizumab in Anti-N-methyl-D aspartate receptor (NMDAR)Encephalitis and Assess Markers of Disease	93.853	MGH CU22-2276	U01NS120901	MASSACHUSETTS GENERAL HOSPITAL	\$0	\$5,192	
Project 2 - Neural Basis of Motor Pattern Loops	93.853	CIT 21B-1098370	U19NS104655	CALIFORNIA INSTITUTE OF TECHNOLOGY	\$107,167	\$108,030	
Extramural Research Programs in the Neurosciences and Neurological Disorders Totals					\$107,167	\$7,806,640	
Allergy and Infectious Diseases Research							
Heme utilization by Mycobacterium tuberculosis	93.855	UAB 000521324-SC001	1R01AI137338-01A1	UNIVERSITY OF ALABAMA AT BIRMINGHAM	\$0	\$27,275	
The Role of Casual Contact and Migration in XDR TB Transmission in South Africa: a Geospatial, Genomic and Social Network study	93.855	A673911	1R01AI138646-01	EMORY UNIVERSITY	\$0	\$49,175	
New tools for antimalarial target identification	93.855	UCT30846	1R01AI143521-01	UNIVERSITY OF CAPE TOWN	\$0	\$22,423	
The generation and protective function of lung tissue resident memory T cells following SARS-CoV-2 infection or vaccination	93.855	SCRIPPS CU21-2650	1R01AI167372-01A1	Scripps Research Institute	\$0	\$122,055	
Using geospatial science to maximize the opportunity to access ART in Africa	93.855	UCLA 2000 G LD333	1R01AI167713-01	UNIVERSITY OF CALIFORNIA, LOS ANGELES	\$0	\$89,269	
Functional impact of genetic diversity on malaria vaccine candidates	93.855	YU CON-80003921 (GR118125)	1R01AI168238-01A1	YALE UNIVERSITY	\$0	\$22,557	
Defining the resistome in P. falciparum: evolution and mechanism	93.855	UCSD 705799	1R01AI169892-01A1	UNIVERSITY OF CALIFORNIA, SAN DIEGO	\$0	\$18,463	
Antibody dependent cellular cytotoxicity and HIV-1 mother to child transmission	93.855	BMC 6787-COLUMBIA-01	1R01AI172843-01A1	BOSTON MEDICAL CENTER	\$0	\$86,852	
Surveillance to track and characterize antimalarial resistance trends in Ugandan Plasmodium falciparum parasites (STARTUP)	93.855	UCSF 14241sc	1R01AI173557-01	UNIVERSITY OF CALIFORNIA SAN FRANCISCO	\$0	\$24,685	
The Effectiveness and Cost-Effectiveness of Implementing Evidence-Based Depression Treatment within the TB Care Platform in South Africa: A Hybrid Type I Implementation- Effectiveness Trial	93.855	RFMH 27969	1R01AI48461-01A1	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$52,342	

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Emergence of bedaquiline and clofazimine resistance after interruption of drug-resistance TB therapy in high HIV prevalence setting	93.855	AECM 311663	1R01AL145679-01A1	ALBERT EINSTEIN COLLEGE OF MEDICINE SHIVA UNIVERSITY	\$0	\$16,210	
Differentially culturable tubercle Bacteria: The missing link in TB Transmission	93.855	WHC D1811140-04	1R01AL147349-01	WITS HEALTH CONSORTIUM	\$0	\$63,663	
Innovative contact tracing strategies for detecting TB in mobile rural and urban South African populations	93.855	2004483467	1R01AL147681-01	JOHNS HOPKINS UNIVERSITY	\$0	\$29,723	
Defining the nuclear import pathways of HIV-1	93.855	213273-Columbia	1R01AL162694-01A1	LOYOLA UNIVERSITY CHICAGO	\$0	\$118,043	
Automated Visual Evaluation for Cervical Cancer Screening in HIV positive Women	93.855	UCT00028959	1R01CA250011-01	UNIVERSITY OF CAPE TOWN	\$0	\$149,684	
Novel predictors of survival among breast cancer patients with/without HIV in South Africa	93.855	WHC 2007170-01	1R01CA250012-01	WITS HEALTH CONSORTIUM	\$0	\$81,703	
Parasite-specific proteasome inhibitors to combat multi-drug resistant malaria	93.855	SU 61424825-123798	1R21AI127581-01	STANFORD UNIVERSITY	\$0	\$34,172	
Identifying Men s Preferences for a Male Centered TB Care Intervention	93.855	FPD CU19-4110	1R21AI148852-01	FOUNDATION FOR PROFESSIONAL DEVELOPMENT	\$0	\$14,482	
Enhancing protective immunity against RSV by inhibitors of sphingolipid synthesis	93.855	WCMC 212974-1	1R21AI166469-01	WEILL (JOAN AND SANFORD I.) MEDICAL COLLEGE OF CORNELL UNIVERSITY	\$0	\$42,710	
MicroRNAs in Tissue-resident memory T cells	93.855	CU 139061-21100	1R21AI66433-01	CORNELL UNIVERSITY	\$0	\$35,417	
USIDNET: A resource for clinical immunologists	93.855	CHOP GRT-00002464	1R24AI171055-01A1	CHILDREN'S HOSPITAL OF PHILADELPHIA	\$0	\$21,725	
A2B receptor stimulation for sepsis	93.855	PPI CU22-2853	1R41AI170049-01A1	PURINE PHARMACEUTICALS, INC.	\$0	\$49,722	
Tissue-engineered lymph node stroma to study peripheral tolerance in autoimmune diabetes	93.855	UMIAMI OS00000474	1R56AI151217-01A1	UNIVERSITY OF MIAMI	\$0	\$43,259	
leDEA Asia-Pacific Research Collaboration	93.855	AMFAR 110279-71-ISTA	1U01AI069907	AMERICAN FOUNDATION FOR AIDS RESEARCH (AMFAR)	\$0	\$18,898	
Targeting Inflammation and Alloimmunity in Heart Transplant Recipients with Tocilizumab , (Study)	93.855	MGH 232560	1U01AI136816-01	MASSACHUSETTS GENERAL HOSPITAL	\$0	\$102,165	
HOPE in Action: A clinical trial of HIV-to-HIV Liver Transplantation	93.855	JH 2004360332	1U01AI138897-01	JOHNS HOPKINS UNIVERSITY	\$0	\$162	
Rapid Low-Cost Paper-based Radiation Biodosimetry that reveals individuals organ injuries	93.855	ASU B00000501	1U01AI148319-01	ARIZONA STATE UNIVERSITY	\$0	\$77,916	
MHC & KIR Sequencing and Association Analyses in the iGeneTrain Studies Effort	93.855	UPENN 582580	1U01AI152960-01	UNIVERSITY OF PENNSYLVANIA	\$0	\$19,802	
Molecular Mechanisms of Adjuvant Triplet Combinations	93.855	UCHICA AWD101938 (SUB00000486)	1U01AI160418-01	UNIVERSITY OF CHICAGO	\$0	\$-1	

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ImmuneSignatures HIPC IOF	93.855	LaJolla CU22-3075	1U01AI167892-01	LA JOLLA INSTITUTE FOR ALLERGY & IMMUNOL	\$0	\$74,025	
Metropolitan AntiViral Drug Accelerator	93.855	HMH G20200-2209	1U19AI171401-01	HACKENSACK MERIDIAN HEALTH	\$0	\$3,599,122	
A Clinical Study of Latiglutenase as a Treatment for Symptom Reduction for Celiac Disease	93.855	IMGX CU18-2990	1U44AI134590-01A1	IMMUNOGENX	\$0	\$9,634	
Congenital and Perinatal Infections Rare Diseases Clinical Research Consortium (RDCRC)	93.855	UAB 000522211-029	1U54AI150225-01	UNIVERSITY OF ALABAMA AT BIRMINGHAM	\$0	\$6,000	
The Center for HIV RNA Studies (CRNA)	93.855	UM SUBK00018605	1U54AI1700660-01	UNIVERSITY OF MICHIGAN	\$0	\$265,713	
Center for Structural Biology of HIV RNA	93.855	UM SUBK00016303	1U54AI170660-01	UNIVERSITY OF MICHIGAN	\$0	\$190,750	
Optimizing HIV prevention for highly vulnerable methamphetamine-using sexual minority men	93.855	CM00007866-01	1UG3AI169652-01	GRADUATE CENTER- CITY UNIVERSITY OF NEWYORK	\$0	\$38,325	
Childhood Asthma in Urban Settings (CAUSE)- Leadership Center	93.855	UWM 0000002873	1UM1AI160040-01	UNIVERSITY OF WISCONSIN MADISON	\$0	\$847,923	
Function of Antimalarial Drug Resistance Proteins	93.855	GWU 414700 GR 414915-CU	2R01AI056312-15	GEORGETOWN UNIVERSITY	\$0	\$152,930	
Advanced Genotypic and Phenotypic Monitoring of Drug Resistant TB to Improve TB Treatment Outcomes	93.855	AECM 311952	2R01AI114900-07A1	ALBERT EINSTEIN COLLEGE OF MEDICINEESHIVA UNIVERSITY	\$0	\$194,124	
Testing the efficacy of glycolipid adjuvant to enhance the level of PfCS-induced HLA-A2-restricted human CD8+ T-cell response in HIS-CD8/NKT mice	93.855	SANINC CU22-3454	2R44AI125009-04A1	Sanaria, Inc.	\$0	\$148,041	
East Africa International Epidemiology Database to evaluate AIDS (IeDEA) Regional Consortium	93.855	IU 8982 COL	2U01AI069911-16	INDIANA UNIVERSITY	\$0	\$49,487	
Central African International Epidemiological Database to Evaluate AIDS	93.855	AECM 31231B	2U01AI096299-13	ALBERT EINSTEIN COLLEGE OF MEDICINEESHIVA UNIVERSITY	\$0	\$62,083	
Amanitin-CD5 mAb conjugate to deplete host peripheral T cells and thymocytes and induce durable chimerism with tolerance in nonhuman primates	93.855	UWIS 0000001549	2U01AI102456-06	UNIVERSITY OF WISCONSIN MADISON	\$0	\$12,821	
Vaccine induced immunity in the young and aged	93.855	EMORYU A335572	2U19AI057266-16	EMORY UNIVERSITY	\$0	\$117,618	
A Phase 2a Randomized Placebo-Controlled Double-Blind Multicenter Trial of VIB4920 for Active Lupus Nephritis	93.855	BENRI FY21ITN516	2UM1AI109565-08	BENAROYA RESEARCH INSTITUTE	\$0	\$6,950	
Immune Tolerance Network	93.855	FY21ITN159	2UM1AI109565-09	BENAROYA RESEARCH INSTITUTE	\$0	\$15,522	
Kwazulu-Natal Clinical Trials Unit (CTU)	93.855	CAPRISA UM1AI069469	2UM11069469-15	CENTRE FOR THE AIDS PROGRAMME OFRESEARCH IN SOUTH AFRICA	\$0	\$216,591	
HVTN Protocol Funding	93.855	FHCRC 0001062694	2UMAI068614-08	FRED HUTCHINSON CANCER CENTER	\$0	\$-25,709	

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ADAPT Out COVID: ACTIV-2/ACTG A5401	93.855	UCLA CRS 30329 CU 30606 A5401	3UM1AI068636-14S2	UNIVERSITY OF CALIFORNIA, LOS ANGELES	\$0	\$7,567
UCLA A5418 Vice Chair	93.855	UCLA 1560 G LB100	3UM1AI068636-16S4	UNIVERSITY OF CALIFORNIA, LOS ANGELES	\$0	\$45,698
HPTN083 Protocol Funding - Implementation Costs Harlem CRS	93.855	PO17001995	5 UM1AI068619-11	FHI DEVELOPMENT 360 LLC	\$0	\$-4,747
Antimicrobial Resistant E. Coli before and after California Senate Bill 27 (ARES): a natural experiment	93.855	KFDNI RNG113791-Columbia	5R01AI30066-04	Kaiser Foundation Research Institute- -Division of Research	\$0	\$21,462
Regulation of mucosal immunity by neuronal pathways	93.855	WCMC 230724-2	5U01AI095608-13	WEILL (JOAN AND SANFORD I.) MEDICAL COLLEGE OF CORNELL UNIVERSITY	\$0	\$34,708
School Inner-City Asthma Intervention Study	93.855	CHB GENFD0001578885	5U01AI110397-02	CHILDREN'S HOSPITAL BOSTON	\$0	\$47,989
AMERICAN AND ASIAN CENTERS FOR ARBOVIRUS RESEARCH AND ENHANCED SURVEILLANCE (A2CARES)	93.855	UC 00010878	5U01AI151788-02	UNIVERSITY OF CALIFORNIA, BERKELEY	\$0	\$45,670
Hearing Impairment Genetics Studies in Africa (HI-GENES Africa)	93.855	UTC32570	5U01HG009716-03	UNIVERSITY OF CAPE TOWN	\$0	\$25,715
Improving diversity, equity, inclusion, and access of underrepresented individuals in CEGIR initiated clinical trials and research protocols	93.855	CEGIR 22-3129	5U54AI117804-09	Consortium of Eosinophilic Gastrointestinal Disease Researchers	\$0	\$34
HPTN 083 Protocol Funding - Development Cost	93.855	FHID PO17001858	5UM1AI068619	FHI DEVELOPMENT 360 LLC	\$105,974	\$113,148
HPTN083 Protocol Funding - Implementation Costs Bronx CRS	93.855	FHID PO17002294	5UM1AI068619-11	FHI DEVELOPMENT 360 LLC	\$0	\$27,300
International Maternal Pediatric Adolescent AIDS Clinical Trials Network	93.855	JHC 2004512905	5UM1AI068632-14	JOHNS HOPKINS UNIVERSITY	\$0	\$76,731
Immune Tolerance Network Efficacy of Belimumab and Rituximab Compared to Rituximab Alone for the Treatment of Primary Membranous Nephropathy	93.855	BENRI FY22ITN326	5UM1AI109565-06	BENAROYA RESEARCH INSTITUTE	\$0	\$28,841
Immune Tolerance Network	93.855	BRI FY22ITN540	5UM1AI109565-09	BENAROYA RESEARCH INSTITUTE	\$0	\$17,296
HVTN Protocol Funding (PF): New York-Columbia P&S Clinical Research Site	93.855	FHCC 0001139773	6UM1AI068614-17	FRED HUTCHINSON CANCER CENTER	\$0	\$682,705
The molecular basis of the carbapenem resistance epidemic	93.855	HMH G10063-19028	7R01AI090155-10	HACKENSACK MERIDIAN HEALTH	\$0	\$30,911
ACTG Protocol Funding - Core Funding	93.855	UCLA CU18-2702	7UM1AI068636-13	UNIVERSITY OF CALIFORNIA, LOS ANGELES	\$0	\$260,400
HVTN Scientific Development Award	93.855	FHCC 0001117914	NIH 5UMIAI068614-18	FRED HUTCHINSON CANCER CENTER	\$0	\$66,430
Immunogenicity of the newly identified V3 crown vulnerable site	93.855	NYUMC22-A1-00-1007039	O 1R21AI167747-01A1	NEW YORK UNIVERSITY MEDICAL CENTER	\$0	\$32,900

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						<u>Total Expenditures (Includes Subrecipients)</u>
A dual-beta-lactam strategy for treating multi drug resistant M abscessus	93.855	HMH 19022	R01AI141805	HACKENSACK MERIDIAN HEALTH	\$0	\$83,465
Composition and structure of antibody receptors at the surface of primary human cells during immune activation	93.855	UGA SUB00002365	U01AL148114	UNIVERSITY OF GEORGIA	\$0	\$157,423
HPTN 094 Integra	93.855	FHID PO21000092	UM1 AI068619	FHI DEVELOPMENT 360 LLC	\$0	\$952,711
HPTN 081/085 Protocol Funding - Implementation - Centralized Laboratory and Other Operational Support	93.855	FHID PO16003322	UM1 AI068619	FHI DEVELOPMENT 360 LLC	\$0	\$-1
HIV Prevention Clinical Trials Network Leadership and Operations Center (UM1 Clinical Trial Required)	93.855	FHI PO21000529	UM1AI068619	FHI DEVELOPMENT 360 LLC	\$0	\$635,265
AIDS Clinical Trial Group Network	93.855	LABIOMED 1560 B LA659	UM1AI068636	Los Angeles Biomedical Research Institute at UCLA Med CTR	\$0	\$62,719
Allergy and Infectious Diseases Research Totals					\$105,974	\$10,868,841
Biomedical Research and Research Training						
Efficient Statistical Learning Methods for Personalized Medicine Using Large Scale Biomedical Data.	93.859	UNC-CH 5110020	1R01GM124104-01A1	UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL	\$0	\$92,179
The mechanism through which mRNA translation enhancer elements drive cap-independent translation	93.859	RFCUNY CM00002680-00	1R01GM128239-01A1	RESEARCH FOUNDATION OF CITY UNIVERSITY OF NEW YORK	\$0	\$64,712
The role of collisions in rescuing stalled ribosomes in bacteria	93.859	JH 2005039040	1R01GM136960-01A1	JOHNS HOPKINS UNIVERSITY	\$0	\$95,751
MAVEN: Developing Diverse Senior Scientists Leaders	93.859	FIMR AWD00001308-CU	1R25GM139082-01	FEINSTEIN INSTITUTE FOR MEDICAL RESEARCH	\$0	\$44,914
Development and commercialization of a Sample Preparation System for Time-Resolved Cryo-Electron Microscopy	93.859	HS CU22-2939	1R42GM139495	HUMMINGBIRD SCIENTIFIC	\$0	\$128,185
RM1 Center on Macromolecular Dynamics by NMR Spectroscopy at the New York Structural Biology Center (CoMD/NMR)	93.859	NYSBC G0091802	1RM1GM145397-01	NEW YORK STRUCTURAL BIOLOGY CENTER	\$0	\$97,744
Structure-Based Antagonism of HIV1 Envelope Function in Cell Entry	93.859	DREXEL 910001-Columbia	2P01GM056550-22	DREXEL UNIVERSITY	\$0	\$317,930
Modulation of KCNQ1 Channel Activity	93.859	UMIAMI OS00000504	2R01GM109762-05	UNIVERSITY OF MIAMI	\$0	\$110,307
Guanidinium Toxins as Molecular Probes for NaV Study	93.859	SU 62585450-119297	2R01GM117263-05	STANFORD UNIVERSITY	\$0	\$75,817
FEBio - Finite Elements for Biomechanics and Biophysics	93.859	UTAH 10054274-Columbia	5R01GM083925-14	UNIVERSITY OF UTAH	\$0	\$136,687
REDOX ENZYMES - TUNING AND DESIGN - subaward	93.859	UCLA 0980 G LA930	5R01GM134047-04	UNIVERSITY OF CALIFORNIA, LOS ANGELES	\$0	\$306,427
Methods for integrated analysis of multi-level omics data	93.859	MGH 235245	7R01GM127862-03	MASSACHUSETTS GENERAL HOSPITAL	\$0	\$66,541
Biomedical Research and Research Training Totals					\$0	\$1,537,194

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Child Health and Human Development Extramural Research							
Environmental Contributions to Disparities in Learning Disabilities: The Columbia Psychiatry, Psychology, and Public Health Collaborative Learning Disabilities Innovation Hub	93.865	SRFMH 159445	1P20HD109965-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$230,064	
Medical Optimization & Management of Pregnancies with Overt Type 2 Diabetes (MOMPOD)	93.865	UNC 5106225	1R01HD086139-01A1	UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL	\$0	\$21,106	
Impact of Combined Use of Depot Medroxyprogesterone Acetate Contraception and Tenofovir PreExposure Prophylaxis on Bone Health (Depo-PrEP)	93.865	UWSC9850	1R01HD089843-01A1	UNIVERSITY OF WASHINGTONSEATTLE WASHINGTON	\$0	\$-2	
WeCare	93.865	AAP CU18-0762	1R01HD090191-01	AMERICAN ACADEMY OF PEDIATRICS	\$0	\$7,167	
Socioeconomic Disparities in Cognitive & Neural Development in the First 3 Years	93.865	TC 512158-01	1R01HD093707-01	TEACHERS COLLEGE COLUMBIA UNIVERSITY	\$0	\$15,337	
Place matters - Adaptable Solutions to Violence at the Community Level	93.865	TUL-HSC-557611-20/21	1R01HD095609-01	TULANE UNIVERSITY	\$0	\$33,936	
Burden and Risk of Neurological and Cognitive Impairment in Pediatric Sickle Cell Anemia in Uganda (BRAIN SAFE II)	93.865	GHU-012019-01	1R01HD096559-01A1	GLOBAL HEALTH UGANDA	\$0	\$42,583	
The NICU Antibiotics and Outcomes (NANO) Trial	93.865	UPITT AWD00001006 (133613-2)	1R01HD097578-01A1	UNIVERSITY OF PITTSBURGH	\$0	\$38,741	
Community violence and disparities in maternal and infant health: effects and mechanisms	93.865	UC 00010352	1R01HD098138-01A1	UNIVERSITY OF CALIFORNIA, BERKELEY	\$0	\$73,468	
Extracellular Vesicles as Non-Invasive Predictors of Antidepressant Outcomes in Pediatric Anxiety	93.865	UCINCM 012344-003	1R01HD098757-01	UNIVERSITY OF CINCINNATI, COLLEGE OF MEDICINE	\$0	\$43,396	
Women's HIV Cohort Study: HIV infection and treatment among women of reproductive age	93.865	UM SPC-001401	1R01HD101352-01	UNIVERSITY OF MIAMI	\$0	\$32,200	
Neuro-behavioral Disorders after Appendectomy in Childhood	93.865	GRT-00000289	1R01HD101415-01	CHILDREN'S HOSPITAL OF PHILADELPHIA	\$0	\$103,241	
PRagMatic Pediatric Trial of Balanced versus Normal Saline Fluid in Sepsis (PRoMPT BOLUS)	93.865	CHOP GRT-00000762	1R01HD101528-01	CHILDREN'S HOSPITAL OF PHILADELPHIA	\$0	\$52,962	
Racial Disparities in Preterm Births and Fetal Loss	93.865	UCI 2021-1546	1R01HD103736-01A1	UNIVERSITY OF CALIFORNIA, IRVINE	\$0	\$8,481	
Glycemic Observation Using A1C for Gestational Diabetes Diagnosis	93.865	MGH 241200	1R01HD104756-01A1	MASSACHUSETTS GENERAL HOSPITAL	\$0	\$4,691	
The Genomic Architecture of Pregnancy Loss	93.865	MGH 239748	1R01HD105266-01	MASSACHUSETTS GENERAL HOSPITAL	\$7,303	\$163,465	
Evaluation techniques for mHealth outcome measures using patient generated health data	93.865	ISMMS 0255-H171-4609	1R01HD108263-01	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	\$0	\$52,431	
Using EV-microRNAs to identify a non-invasive biomarker of uterine fibroid outcomes	93.865	GWU 19-M30	1R21HD096248-01A1	GEORGE WASHINGTON UNIVERSITY	\$0	\$100,486	
The Alzheimer's Biomarker Consortium Down Syndrome (ABC-DS)	93.865	AWD00002130 (138021-3)	1U19AG068054-01	UNIVERSITY OF PITTSBURGH	\$0	\$1,494,184	

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CLEAR consortium: Discovering the Developmental Mechanisms of Trachea-Esophageal Birth Defects	93.865	CCMC OS00000378	2P01HD0933363-06	CINCINNATTI CHILDREN'S MEDICAL CENTER	\$0	\$119,289	
Discovering the Developmental Mechanisms of Trachea-Esophageal Birth Defects	93.865	CHMC OS00000356/400423	2P01HD0933363-06	CINCINNATTI CHILDREN'S MEDICAL CENTER	\$0	\$110,183	
Fragile Families and the Transition to Adulthood	93.865	PU SUB0000361	2R01HD036916-16A1	PRINCETON UNIVERSITY	\$0	\$34,291	
Predictive Informatics Monitoring in the Neonatal Intensive Care Unit	93.865	UV GB10607-PO#2230352	2R01HD072071-04A1	UNIVERSITY OF VIRGINIA	\$0	\$20,737	
Predictive Informatics Monitoring In The Neonatal Intensive Care Unit	93.865	UV AWD-004078.GR100705	2R01HD072071-08	UNIVERSITY OF VIRGINIA	\$0	\$111,855	
Suubi+Adherence-R2:Examining the longitudinal HIV treatment adherence among youth living with HIV (YLHIV) transitioning into young adulthood	93.865	WUSOM WJ-21-267	2R01HD074949-07	Washington University School of Medicinein St. Louis	\$0	\$31,914	
Early life adversities and the emergence of risk and resilience: A longitudinal study of child development	93.865	UNC 5117284	2R01HD075875-07A1	UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL	\$0	\$81,071	
Innovation across the spectrum of pediatric HIV care	93.865	MGH 235202	2R01HD079214-06A1	MASSACHUSETTS GENERAL HOSPITAL	\$0	\$27,954	
Reserve against Disability in Early Multiple Sclerosis (RADIEMS) Longitudinal Cohort Study	93.865	MSSM 0255-1472-4609	2R01HD082176-06A1	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	\$0	\$14,904	
The Maternal Fetal Medicine Unit Network	93.865	GWU CU14-1338	2U10HD036801-16	GEORGE WASHINGTON UNIVERSITY	\$38,083	\$372,133	
Pediatric Critical Care and Trauma Scientist Development Program (PCCTSDP)	93.865	UUTAH 10051369-11	5K12HD047349-18	UNIVERSITY OF UTAH	\$0	\$182,190	
Gene Mutation and Rescue in Diaphragmatic Hernia	93.865	MGH 230914	5P01HD068250-08	MASSACHUSETTS GENERAL HOSPITAL	\$0	\$18,989	
A multi-modality, multi-scale approach to understanding parturition	93.865	UWIS 865K196	5R01HD072077-10	UNIVERSITY OF WISCONSIN MADISON	\$0	\$180,411	
Clinical Diagnostic Sequencing of Structural Variation	93.865	MGH 239749	5R01HD081256	MASSACHUSETTS GENERAL HOSPITAL	\$0	\$23,954	
VentFirst: A multicenter RCT of assisted ventilation during delayedcord clamping for extremely preterm infants	93.865	GB10318 159922	5R01HD087413-02	UNIVERSITY OF VIRGINIA	\$0	\$3,597	
Innovative PK/PD Approaches to Optimize TBM Treatment in Children (PATCH Study)	93.865	JHU 2002824937	R01HD074944-02	JOHNS HOPKINS UNIVERSITY	\$0	\$4,886	
Childhood Follow-up Study of Neurodevelopment and Obesity after Perinatal Exposure to Adjunctive Azithromycin Prophylaxis for Cesarean Delivery	93.865	UAB 000526015-SC003	R01HD102962-01	UNIVERSITY OF ALABAMA AT BIRMINGHAM	\$0	\$30,200	
Including Adults with Intellectual Disability in Precision Medicine Research Project ENGAGE	93.865	SYRACUS 32530-06307-S01	R01HD108701	SYRACUSE UNIVERSITY	\$0	\$154,903	
The Maternal Fetal Medicine Unit Network	93.865	GWU CU21-2046	U24HD036801	GEORGE WASHINGTON UNIVERSITY	\$474,935	\$822,440	
Child Health and Human Development Extramural Research Totals					\$520,321	\$4,863,838	

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R&D Cluster						
Aging Research						
Royal Center for Personalized Trials: Physical Activity Promotion to Foster Healthy Aging	93.866	AWD00001307-CU	1P30AG063786-01	FEINSTEIN INSTITUTE FOR MEDICAL RESEARCH	\$0	\$51,486
Novel Cognitive and Functional Measures for Alzheimer's Disease Prevention Trials	93.866	SRFMH 139964	1R01AG051346-01A1	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$267,496
Cognitive Function, Alzheimer's Disease and Related Disorders in the HAALSI Cohort	93.866	HARVARD 116362-5111693	1R01AG054066-01A1	HARVARD UNIVERSITY	\$0	\$135,001
Slow wave sleep (SWS) and the effect of African ancestry on amyloid burden, a longitudinal study	93.866	NYU 17-A1-00-007453-01	1R01AG056531-01A1	NEW YORK UNIVERSITY	\$0	\$113,656
Identifying the molecular systems, networks, and key molecules that underlie cognitive resilience	93.866	RUMC 17021705-Sub02	1R01AG057911-01	RUSH UNIVERSITY MEDICAL CENTER	\$0	\$47,213
Child Maltreatment and Risk for Mild Cognitive Impairment and Alzheimer's Disease	93.866	RFCUNY CM00001842-00	1R01AG05863-01A	RESEARCH FOUNDATION OF CITY UNIVERSITY OF NEW YORK	\$0	\$382,730
Stress, Epigenetics, and Aging	93.866	EMORYU A008616	1R01AG058704-01	EMORY UNIVERSITY	\$0	\$129,649
Educational and Early Life Predictors of Mild Cognitive Impairment: New Evidence about Mediators and Moderators from High School & Beyond	93.866	UMINN H007058802	1R01AG058719-01A1	UNIVERSITY OF MINNESOTA	\$0	\$162,919
Subclinical Vascular Contributions to Alzheimer's Disease: The Multi Ethnic Study of Atherosclerosis (MESA) Multisite Study of AD	93.866	WFLHS 105-33664-10000551083	1R01AG058969-01	WAKE FOREST UNIVERSITY	\$0	\$804,608
Predicting post-transplant mortality and global functional health based on pre-transplant functional status in liver transplantation	93.866	UCSF 10865sc	1R01AG059183-01	UNIVERSITY OF CALIFORNIA SAN FRANCISCO	\$0	\$70,000
Assessing the interactive effect of lifetime and old age cognitive engagement on cognitive decline and dementia: cognitive reserve versus use it or lose it	93.866	UMICHG SUBK00011643	1R01AG062447-01A1	UNIVERSITY OF MICHIGAN	\$0	\$16,279
UCD A20-0610-S002 The Neuropathologic Landscape of Alzheimer's Disease Hispanic decedents	93.866	UCD A20-0610-S002	1R01AG062517-01A1	UNIVERSITY OF CALIFORNIA, DAVIS	\$0	\$30,494
Anti-Amyloid Treatment in Asymptomatic Alzheimer's Disease: A4 Open Label Period	93.866	USC 120055161	1R01AG063689-01	UNIVERSITY OF SOUTHERN CALIFORNIA	\$0	\$7,442
Dissecting the genomic etiology of non-Mendelian early-onset Alzheimer disease and related phenotypes	93.866	UMIAMI SPC-001236	1R01AG064614-01	UNIVERSITY OF MIAMI	\$0	\$487,783
Beta1-selective blockade for prevention of postmenopausal bone loss: A randomized controlled trial	93.866	MAORO THE-277060-04	1R01AG065154-01A1	Mayo Clinic -- Rochester	\$0	\$636,575
Statistical method for neural mechanism mediating and moderating cognitive system in Alzheimer's disease and aging research.	93.866	RFMH 27412	1R01AG065278-01A1	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$24,679
Best Case/Worst Case: A Multisite Randomized Clinical Trial of Scenario Planning for Patients with End-Stage Kidney Disease	93.866	UWIS 0000000686	1R01AG065365-01	UNIVERSITY OF WISCONSIN	\$0	\$28,185
Spontaneous Speech and Health Disparities in Risk of Cognitive Decline: WHICAP Offspring Ancillary Study	93.866	KENT 403056-COL	1R01AG065432-01	KENT STATE UNIVERSITY	\$0	\$271,058
The Microbiome and Biological Aging in the Add Health Study	93.866	UCOL 1562431	1R01AG066498-01	UNIVERSITY OF COLORADO	\$0	\$3,226

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National Cohort Studies of Alzheimer s Disease, Related Dementias and Air Pollution	93.866	HARVARD 112576-5113206	1R01AG066793-01	HARVARD UNIVERSITY	\$0	\$8,041	
Metabolic regulation of human DNA methylation clocks	93.866	RFMH 27496	1R01AG066828-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$38,620	
Contributions of stress reactivity to risk of Alzheimer s disease and related dementias in a community-based cohort	93.866	NWU 60060219 CU	1R01AG067557-01A1	NORTHWESTERN UNIVERSITY	\$0	\$39,044	
Chaperome networks in Alzheimer s Disease	93.866	MSKCC C22055357	1R01AG067598-01A1	MEMORIAL SLOAN-KETTERING CANCER CENTER	\$0	\$608,659	
Social Convoys, Cognitive Reserve and Resilience, and Risk for Alzheimer s Disease and Related Dementias	93.866	RFMH 27627	1R01AG069041-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$155,965	
Social Convoys, Cognitive Reserve and Resilience, and Risk for Alzheimer s Disease and Related Dementias	93.866	RFMH 27627	1R01AG069041--01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$54,578	
Characterization of an 18F COX-2 PET ligand for in vivo brain imaging	93.866	RFMH 151573	1R01AG070042-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$91,454	
Longitudinal Relationships Among Sleep, Cognition and Alzheimer s Disease Biomarkers: Discerning Causal Associations, Mediators, and Susceptibility	93.866	BWH 125298	1R01AG070867-01	BRIGHAM AND WOMEN'S HOSPITAL	\$0	\$298,693	
Inactivity, Sedentary Behavior, and the Risk for Alzheimer s Disease inMiddle Aged to Older Adults	93.866	USC SCON-00004277	1R01AG072445-01A1	UNIVERSITY OF SOUTHERN CALIFORNIA	\$0	\$25,164	
The Origins of Alzheimer Disease in African Americans	93.866	UMIAMI OS00001134	1R01AG072547-01A1	UNIVERSITY OF MIAMI	\$0	\$281,600	
Contribution of Longitudinal Neighborhood Determinants to Cognitive Health and Dementia Disparities within a Multi-Ethnic Cohort	93.866	DREXEL 900142	1R01AG072634-01	DREXEL UNIVERSITY	\$0	\$9,956	
Sleep AHEAD Mind: Sleep disordered breathing, circadian rhythms, and the risk of Alzheimer s disease and related dementias in older adults with type 2 diabetes and obesity	93.866	WUBGSM 1157-45117-1100000251	1R01AG074562-01	WAKE FOREST UNIVERSITY	\$0	\$23,812	
Informing optimal first-line antihypertensive therapy: A rigorous comparative effectiveness analysis of ARBs vs. ACEIs on long-term risk of dementia, cancer, heart disease, and quality of life	93.866	UPENN 584610	1R01AG074989-01	UNIVERSITY OF PENNSYLVANIA	\$0	\$47,298	
Role for prelamin A in premature and physiological aging	93.866	JH 2005762001	1R01AG075047-01A1	JOHNS HOPKINS UNIVERSITY	\$0	\$128,795	
Immunosenescence, socioeconomic disadvantage and dementia in theUS aging population	93.866	SUBK00017866	1R01AG075719-01	UNIVERSITY OF MICHIGAN	\$0	\$98,464	
Identifying proteins providing motor resilience to ADRD pathologies and degeneration in older adults	93.866	RUMC 21022604-Sub04	1R01AG075728-01	RUSH UNIVERSITY MEDICAL CENTER	\$0	\$24,232	
Phase II randomized controlled trial of benfotiamine in early Alzheimer sDisease	93.866	WINIFRED 104017-01	1R01AG076634-01	WINIFRED MASTERSON BURKE MED RES INST	\$0	\$50,548	
New technologies to identify molecular regulators of the human hippocampus neurogenic niche in healthy aging and Alzheimer s Disease	93.866	RFMH 28141	1R01AG076949-01	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$250,408	
Physical Rehabilitation for Older Patients with Acute HFpEF-The REHAB-HFpEF Trial	93.866	WUBGSM 1492-32041-11000001166	1R01AG078153-01	Wake Forest University Health Sciences	\$0	\$34,293	

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Spatial dysregulation of the lipidome in Alzheimers disease human and mouse brain	93.866	WCMC 226384-1	1R01AG078800-01	WEILL (JOAN AND SANFORD I.) MEDICAL COLLEGE OF CORNELL UNIVERSITY	\$0	\$41,124
Multilingualism as a factor of resilience to Alzheimer s disease and related dementias in India	93.866	USC SCON-00004926	1R01AG080473-01	UNIVERSITY OF SOUTHERN CALIFORNIA	\$0	\$29,807
The Impact of a Race Based Stress Reduction Intervention on Well-Being, Inflammation, and DNA methylation in Older African American Women at Risk for Cardiometabolic Disease	93.866	LOYAU CU214133	1R01AG081251-01	LOYOLA UNIVERSITY CHICAGO	\$0	\$50,202
Nurses' documentation of patient diagnoses, symptoms and interventions for home care patients with Alzheimer s Disease and related dementias: A natural language processing study	93.866	VNSNY 4627C	1R21AG065753-01A1	VISITING NURSE SERVICE OF NEW YORK	\$0	\$353
Relationship between CNS Tau burden and perioperative neurocognitive disorder	93.866	UOP 580814	1R21AG067114-01	UNIVERSITY OF PENNSYLVANIA	\$0	\$13,108
Screening to Improve Survival in AL Amyloidosis	93.866	TMC 5019000-SERV	1R21AG070502-01	TUFTS MEDICAL CENTER, INC.	\$0	\$27,319
Identifying risk factors of Alzheimer s disease and related dementias in older Chinese immigrants	93.866	ISMMS 0255-G331-4609	1R21AG077649-01	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	\$0	\$12,330
Development of a stress kinase inhibitor therapeutic candidate for Alzheimer s Disease and related dementia	93.866	NKT071388001	1R44 AG071388-01	NEUROKINE THERAPEUTICS	\$0	\$29,409
Hippocampal circuit plasticity in human normal aging and Alzheimer s Disease	93.866	RFMH 27645	1R56AG063372-01A1	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$55,187
The Origins of Alzheimer Disease in Individuals of African Ancestry	93.866	UMIAMI OS00000650	1R56AG072547-01	UNIVERSITY OF MIAMI	\$0	\$21,682
Healthy Heart, Healthy Brain? A pooled life-course cohort for dementia risk assessment	93.866	11276sc	1RF1AG054443-01	UNIVERSITY OF CALIFORNIA SAN FRANCISCO	\$0	\$33,437
Prevention of Alzheimer s disease in women: risks and benefits of hormone therapy	93.866	MAORO THE-234899-02	1RF1AG057547-01	Mayo Clinic -- Rochester	\$0	\$57,917
The Effect of Vascular Risk Factors on Risk of Alzheimer s Disease and Related Dementias after Stroke (STROKE COG)	93.866	UMICHG SUBK0001205	1RF1AG068410-01	UNIVERSITY OF MICHIGAN	\$0	\$17,537
Glucose homeostasis and the risk of Alzheimer s disease and Alzheimer s disease related dementias in the Multi-Ethnic Study of Atherosclerosis	93.866	WUBGSM 1092-45116-11000000260	1RF1AG070881-01A1	WAKE FOREST UNIVERSITY	\$0	\$44,184
Greenness, Cognitive Performance and Vascular Outcomes in the NOMAS Study	93.866	UMIAMI OS00001033	1RF1AG074306-01	UNIVERSITY OF MIAMI	\$0	\$199,517
Unraveling the earliest phases of vascular cognitive impairment and dementia using CADASIL--a monogenic form of small vessel cerebrovascular disease	93.866	UWM 0000001969	1RF1AG074608-01	UNIVERSITY OF WISCONSIN MADISON	\$0	\$35,943
Contributions of cell type and exosome signaling to prodromalsynaptic and circuit changes in Alzheimer s Disease models	93.866	SRI 5-54909	1RF1AG079517-01	Scripps Research Institute	\$0	\$266,252
Early Onset AD Consortium - the LEAD Study (LEADS)	93.866	IN 9089 COL (SW)	1U01AG057195-01A1	INDIANA UNIVERSITY	\$0	\$114,072
Therapeutic target discovery in ADSP data via comprehensive whole-genome analysis incorporating ethnic diversity and systems	93.866	BU 4500004406	1U01AG058589-01A1	BOSTON UNIVERSITY	\$0	\$431,006

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The Alzheimer Disease Sequence Analysis Collaborative	93.866	CWRU RES515785	1U01AG058654-01A1	CASE WESTERN RESERVE UNIVERSITY	\$0	\$139,221	
Additional Sequencing Cohorts for the Alzheimer s Disease Sequencing Project	93.866	UMIAMI SPC-001303	1U01AG062943-01	UNIVERSITY OF MIAMI	\$0	\$78,355	
Preclinical development of a novel small molecule inhibitor of Alzheimer s disease-related cognitive impairment	93.866	NWU 60056114 CU	1U01AG066722-01	NORTHWESTERN UNIVERSITY	\$0	\$388,312	
Additional Sequencing for the Alzheimer s Disease Sequencing Project (ADSP)	93.866	UMIAMI OS00000156	1U01AG066767-1	UNIVERSITY OF MIAMI	\$0	\$89,902	
Ultrascale Machine Learning to Empower Discovery in Alzheimer s Disease Biobanks	93.866	USC 137299535	1U01AG068057-01	UNIVERSITY OF SOUTHERN CALIFORNIA	\$0	\$328,539	
Integrative Pathways to Health & Illness	93.866	UWIS 0000000779	1U19051426-01A1	UNIVERSITY OF WISCONSIN	\$0	\$162,395	
The Long Life Family Study: Columbia University	93.866	WUSOM WJ-23-054	1U19AG063893-01	Washington University School of Medicinein St. Louis	\$0	\$3,611,918	
ARTFL LEFFTDS Longitudinal Frontotemporal Lobar Degeneration (ALLFTD) - Clinical Core Fixed	93.866	MAORO CBL-263134-01	1U19AG063911-01	Mayo Clinic -- Rochester	\$0	\$72,188	
Adult Changes in Thought (ACT) Research Program - Life Course Core (C)	93.866	KPWRI RRG211397-COLUMBIAU	1U19AG066567-01A1	KAISER PERMANENTE WASHINGTON RESEARCH IN-STITUTE	\$0	\$128,720	
Resistance to Alzheimer s Disease in Centenarians and their Offspring (RADCO)	93.866	BU 4500004520	1U19AG073172-01	BOSTON UNIVERSITY	\$0	\$155,925	
Recruitment and Retention for Alzheimer s Disease Diversity Genetic Cohorts in the ADSP (READD - ADSP)	93.866	UMIAMI CU21-0184	1U19AG074865-01	UNIVERSITY OF MIAMI	\$0	\$1,079,682	
The Health and Aging Brain Study- Health Disparities	93.866	RAW000066-SUB00133	1U19AG078109-01	University of North Texas Health ScienceCenter at Fort Worth	\$0	\$117,521	
Alzheimer s Disease Sequencing Project Phenotype Harmonization Consortium	93.866	VANDER VUMC95856	1U24AG074855-01	VANDERBILT UNIVERSITY MEDICAL CENTER	\$0	\$98,933	
The Microvascular Aging and Eicosanoids Women s Evaluation of Systemic aging Tenacity (MAE-WEST) Specialized Center of Research Excellence (SCORE) on Sex Differences	93.866	CSMCLA 1761036	1U54AG065141-01	CEDARS-SINAI MEDICAL CENTER	\$0	\$12,764	
Einstein Aging Study - Project 3	93.866	AECM 312061	2P01AG003949-38	ALBERT EINSTEIN COLLEGE OF MEDICINEESHIVA UNIVERSITY	\$0	\$40,976	
Improving Health Outcomes for an Aging Population	93.866	NBER 4135G.30.16.Columbia	2P01AG005842-30	National Bureau of Economic Research	\$0	\$75,113	
DNA Repair, Mutations and Cellular Aging	93.866	AECM 31168B	2P01AG017242-24	ALBERT EINSTEIN COLLEGE OF MEDICINEESHIVA UNIVERSITY	\$0	\$102,343	
What Does Health Insurance Do? Evidence from the Oregon Health	93.866	NBER 4126B.COLUMBIA	2R01AG034151-06A1	National Bureau of Economic Research	\$0	\$38,849	
Pathogenesis of Postoperative Cognitive Dysfunction	93.866	MGH 235316	2R01AG041274-06A1	MASSACHUSETTS GENERAL HOSPITAL	\$0	\$197,476	

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						<u>Total Expenditures (Includes Subrecipients)</u>
Enhancing Retrospective Life History Data in the Health and Retirement Study	93.866	SUBK00010395	2R01AG051142-05	UNIVERSITY OF MICHIGAN	\$0	\$24,932
Protective genetic variants for Alzheimer s disease and the Amish	93.866	CWRU RES600255	2R01AG058066-02	CASE WESTERN RESERVE UNIVERSITY	\$0	\$90,962
Communities Designed to Support Cardiovascular Health for Older Adults	93.866	DU 900267	2R56A6049970-05A1	DREXEL UNIVERSITY	\$0	\$29,063
Alzheimer s Disease Neuroimaging Initiative 4--ADNI4	93.866	USC SCON-00004455	2U19AG024904-16	UNIVERSITY OF SOUTHERN CALIFORNIA	\$0	\$1,126
Dominantly Inherited Alzheimer Network	93.866	WASHU CU20-0606	2U19AG032438-08	WASHINGTON UNIVERSITY	\$0	\$22,265
Biomarkers of Cognitive Decline Among Normal Individuals: The Biocard Cohort	93.866	JHU 2004408143	2U19AG033655-11	JOHNS HOPKINS UNIVERSITY	\$0	\$51,215
Genome Center for Alzheimer s Disease (GCAD)- CORE B	93.866	UPENN 581993	2U54AG052427-06	UNIVERSITY OF PENNSYLVANIA	\$0	\$689,098
Novel Cognitive and Functional Measures for Alzheimer s Disease Prevention Trials: Sensitivity to Biomarkers	93.866	RFMH 27026	3R01AG051346-03S1	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$237,305
Novel Cognitive and Functional Measure for Alzheimer s Disease Prevention Trials	93.866	RFMH 27026	3R01AG051346-03S2	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$7,532
Add Health as a Resource for the Science of the Exposome and Risk for AD/ADRD	93.866	UNC-CH 5126230	3U01AG071450-02S1	UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL	\$0	\$25,145
Risk Factors, Pathology and Clinical Expressions of AD	93.866	RUMC L97092581-Sub07	5R01AG015819-18	RUSH UNIVERSITY MEDICAL CENTER	\$0	\$137,992
Pitavastatin to Reduce Physical Function Impairment and Frailty in HIV (PREPARE)	93.866	UCLA CU19-0515	5R01AG054366-03	UNIVERSITY OF CALIFORNIA, LOS ANGELES	\$0	\$837
Human tissue specific age-related gene expression changes, their genetic regulations and the link to human diseases	93.866	ISMMS 0255-4711-4609	5R01AG055501-03	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	\$0	\$77,788
Probing Heterogeneity of Alzheimer s Disease using iPSCs	93.866	BWH 119586	5R01AG055909-03	BRIGHAM AND WOMEN'S HOSPITAL	\$0	\$208,881
Combinatorial Actions of Genetic Variants and Gender Bias of Alzheimer sDisease	93.866	UCSD 131780734	5R01AG057706-03	UNIVERSITY OF CALIFORNIA, SAN DIEGO	\$6,754	\$199,831
Life Course Process of Alzheimer s Disease: Sex Difference and Biosocial Mechanisms	93.866	5113228	5R01AG057800-02	UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL	\$0	\$227,700
Resilience to Alzheimer s disease in humans with exceptional longevity	93.866	AECOM 311234	5R01AG057909-04	ALBERT EINSTEIN COLLEGE OF MEDICINEESHIVA UNIVERSITY	\$0	\$569,041
Elucidating the molecular drivers of impaired mobility and motor function in AD and related pathologies	93.866	RUMC 17092603-Sub02	5R01AG059732-02	RUSH UNIVERSITY MEDICAL CENTER	\$0	\$33,640
24-hour Activity Cycles to Optimize Cognitive Resilience to Alzheimer s Disease in African Americans	93.866	UAB 000527875-SC005	5R01AG067513-03	UNIVERSITY OF ALABAMA AT BIRMINGHAM	\$0	\$202,493

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Genomic Characterization of Alzheimer Disease Risk in admixed Hispanic and Native American populations	93.866	UMIAMI OS00000969	5R01AG070864-02	UNIVERSITY OF MIAMI	\$0	\$57,846	
Defining the programmed proteome rejuvenation underlying gametogenesis	93.866	UCB 00010791	5R01AG071869-02	UNIVERSITY OF CALIFORNIA, BERKELEY	\$0	\$260,390	
New Technologies to Identify Molecular Regulators of the Human Hippocampus Neurogenic Niche in Healthy Aging and Alzheimer s Disease	93.866	SRFMH 158825	5R01AG076949-02	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$72,061	
National Longitudinal Study of Adolescent to Adult Health (Add Health): Wave VI Core Project	93.866	UNC-CH 5125697	5U01AG071448-02	UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL	\$0	\$21,024	
National Longitudinal Study of Adolescent to Adult Health (Add Health): Wave VI Cognition and Early Risk Factors for Dementia Project	93.866	UNC-CH 5125708	5U01AG071450-02	UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL	\$0	\$228,092	
Research Network for the Harmonized Cognitive Assessment Protocol (HCAP)	93.866	UMICHG SUBK00019640	5U24AG065182-04	UNIVERSITY OF MICHIGAN	\$0	\$16,451	
Identifying the molecular systems, networks, and key molecules that underlie cognitive resilience	93.866	SUNYRF 1180257-96527	7R01AG057911-06	RESEARCH FOUNDATION OF THE STATE UNIVERSITY OF NEW YORK	\$0	\$92,633	
Functional connectivity network in default mode regions provides the underlying infrastructure for taskbased functional co-de/activation networks	93.866	WCMC 222500-1	7R01AG057962-03	WEILL (JOAN AND SANFORD I.) MEDICAL COLLEGE OF CORNELL UNIVERSITY	\$0	\$35,680	
Neuroanatomical associations with the factor structure underlying neuropsychiatric symptoms in Alzheimer s disease	93.866	BU 00002306	7R01AG062268-06	BROWN UNIVERSITY	\$0	\$4,963	
Acyl chain remodeling and regional lipid dysregulation in Alzheimer s disease	93.866	WCMC 224332-2	7R01AG072794-02	WEILL (JOAN AND SANFORD I.) MEDICAL COLLEGE OF CORNELL UNIVERSITY	\$0	\$45,580	
Differential vulnerability to tauopathy in Alzheimer s disease and Frontotemporal Lobe Dementia	93.866	UCL CU20-2502	7RF1AG063521-02	UNIVERSITY COLLEGE LONDON	\$0	\$97,965	
ARTFL LEFFTDS Longitudinal Frontotemporal Lobar Degeneration (ALLFTD) - Clinical Core	93.866	MAORO COL-263134	IUI9AG063911-01	Mayo Clinic -- Rochester	\$0	\$209,407	
The Four Repeat Tauopathy Neuroimaging Initiative	93.866	UCSF 10375sc	R01AG038791	UNIVERSITY OF CALIFORNIA SAN FRANCISCO	\$0	\$2,304	
Combinatorial regulation of the enhancer codes in senescence	93.866	UCSD 131072963 MP Invoice/P0 S	R01AG061521	UNIVERSITY OF CALIFORNIA, SAN DIEGO	\$0	\$219,805	
Preferred Hospital-SNF Relationships and Variation in Information Sharing Practices: Impact on Care Transition for Persons with AD/ADRD	93.866	P008759353	R03AG072215	UNIVERSITY OF MINNESOTA	\$0	\$60,600	
Asian Cohort for Alzheimer s Disease (ACAD)	93.866	UOP 580820	R56A6069130	UNIVERSITY OF PENNSYLVANIA	\$77,250	\$366,262	
Reducing Avoidable Nursing Home-to-Hospital Transfers of Residents with ADRD: An Analysis of Interdisciplinary Team Communication using Text Messages	93.866	UM C00077178-1	RO1AG078281	UNIVERSITY OF MISSOURI	\$0	\$46,717	
Health and Retirement Study Yrs 29-34	93.866	UMICHG 3005916841	U01AG009740	UNIVERSITY OF MICHIGAN	\$0	\$31,985	
Whole Genome Sequencing in Ethnically Diverse Cohorts for the ADSP Follow Up Study (FUS)	93.866	UMIAMI SPC-001254	U01AG057659	UNIVERSITY OF MIAMI	\$0	\$163,522	

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Health and Retirement Study Yrs 29- 34: Harmonized Cognitive Assessment Protocol (HCAP)	93.866	UMICHG 3004832623	U01AG058499	UNIVERSITY OF MICHIGAN	\$0	\$15,966	
Additional Sequencing for the Alzheimer s Disease Sequencing Project (ADSP) (the Follow-Up Study (FUS), The Diverse Population Initiative	93.866	UMIAMI OS00001084	U01AG076482	UNIVERSITY OF MIAMI	\$0	\$60,002	
Alzheimer s Disease Neuroimaging Initiative 3 (ADNI3)	93.866	USC 79634713	U19AG02	UNIVERSITY OF SOUTHERN CALIFORNIA	\$0	\$12,685	
Alzheimer s Clinical Trials Consortium (ACTC) (U24)	93.866	USC 105637272	U24AG057437	UNIVERSITY OF SOUTHERN CALIFORNIA	\$0	\$183,501	
ARMADA: Advancing Reliable Measurement in Alzheimer s Disease and cognitive Aging	93.866	NWU 60048330CU	U2CAG057441	NORTHWESTERN UNIVERSITY	\$0	\$94,864	
				Aging Research Totals	\$84,004	\$19,576,772	
Vision Research							
Circuits for deviance detection in V1	93.867	GSU SP00015693-01	1R01EY033950-01	GEORGIA STATE UNIVERSITY	\$0	\$29,031	
Optical gearbox for high speed neural recording	93.867	PURDUNIV CU21-2737	1R21EY032382-01	PURDUE UNIVERSITY	\$0	\$105,909	
Translational Research for Retinal Degeneration Therapies	93.867	UPENN 583307	2R01EY017549-15	UNIVERSITY OF PENNSYLVANIA	\$0	\$38,511	
Cell Death Pathways in Glaucomatous Neurodegeneration	93.867	ROCHSTR 417821G / UR FAO GR511	2R01EY018606-11A1	UNIVERSITY OF ROCHESTER	\$0	\$576,500	
Translational Gene Therapy for CNGB1 Retinitis Pigmentosa	93.867	MSU RC108391UC	R24EY027285	MICHIGAN STATE UNIVERSITY	\$0	\$152,675	
				Vision Research Totals	\$0	\$902,626	
Medical Library Assistance							
BIGDATA: Causal Inference in Large-Scale Time Series	93.879	SIT 2102255-01	2R01LM011826-08	STEVENS INSTITUTE OF TECHNOLOGY	\$0	\$124,065	
				Medical Library Assistance Totals	\$0	\$124,065	
Special Projects of National Significance							
SPNS AGING+HIV INITIATIVE (EMERGING STRATEGIES TO IMPROVE HEALTH OUTCOMES FOR PEOPLE AGING WI	93.928	HRI 7454-01	6U90HA45780-01-01	Health Research Inc	\$0	\$57,917	
				Special Projects of National Significance Totals	\$0	\$57,917	
International Research and Research Training							
Capacity development for HIV and mental health research in Asia (CHIMERA)	93.989	AMFAR 110515-74-ISTA	1D43TW011302-01	AMERICAN FOUNDATION FOR AIDS RESEARCH (AMFAR)	\$0	\$8,404	
Effectiveness of the Diabetes Prevention Program in Urban Bamako, Mali: Small Steps, Big Rewards	93.989	USTTB - The TCU - 02 /R21TW01	1R21TW011736-01	UNIVERSITY OF SCIENCES, TECHNIQUES AND TECHNOLOGIES OF BAMAKO	\$0	\$44,642	
PALOP Mental Health Implementation Research Training	93.989	RFMH 27610	2D43TW009675-06	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$44,679	

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2/2 Bangladesh Center for Global Environmental and Occupational Health-US	93.989	UCHICA AWD103093 (SUB00000730)	2URTW010112-06	UNIVERSITY OF CHICAGO	\$0	\$15,630	
International Research and Research Training Totals					\$0	\$113,355	
National Institute of Health Totals					\$949,877	\$86,936,880	
Total National Institute of Health Passthrough Award Programs					\$8,426,611	\$102,279,990	
Total National Institute of Health					\$116,600,566	\$747,273,214	
Grand Total: U.S. Department of Health & Human Services					\$119,280,277	\$770,188,480	

National Science Foundation

Direct Awards

Covid 19 Related Funding

COVID-19-SCC-IRG Track 1: Preparing for Future Pandemics: Subway Crowd Management to Minimize Airborne Transmission of Respiratory Viruses (Way-CARE)	47.041	CMMI-2218809			\$0	\$32,433	
COVID-19-Modeling Financial Catastrophe and COVID-19 Super Spreader Events	47.049	DMS-2106433			\$0	\$125,780	
COVID-19-RAPID: Collaborative Research: The Internet under Widespread Shelter-in-Place: Resilience, Response, and Lessons for the Future	47.070	CNS-2028550			\$0	\$24,897	
COVID-19-Student Data in the Post Pandemic University	47.075	SES-2147250			\$0	\$38,146	
COVID-19-CIC-E: COVID Information Commons Extension for Pandemic Recovery	47.083	OIA-2139391			\$0	\$310,622	
Covid 19 Related Funding for National Science Foundation Totals					\$0	\$531,878	

Computationally-scalable Black-box Tool for Bayesian Model Estimation	47.RD	49100421C0026			\$0	\$423,738	
NSF Engineering Research Center for Smart Streetscapes (CS3)	47.041	EEC-2133516			\$538,113	\$6,690,203	
MREFC: US ATLAS HL-LHC Upgrade Project	47.049	PHY-1948993			\$4,755,066	\$25,114,592	
2018-2023 Ship Operations -R/V Marcus G. Langseth	47.050	OCE-1829304			\$4,031,375	\$41,902,132	
BD Hubs: NORTHEAST: The Northeast Big Data Innovation Hub	47.070	OAC-1916585			\$590,339	\$9,652,952	
Towards Life with a Reduced Protein Alphabet	47.074	MCB-2032259			\$2,007,235	\$6,152,477	
Testing the limits of deep neural network models of human vision with optimized stimuli	47.075	BCS-1948004			\$11,016	\$3,320,938	
Graduate Research Fellowship Program (GRFP)	47.076	DGE-2036197			\$8,997	\$6,368,136	

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						<u>Total Expenditures (Includes Subrecipients)</u>
Collaborative Research: GreenDrill: The Response of the Northern Greenland Ice Sheet to Arctic Warmth - Direct Constrains from Sub-Ice Bedrock	47.078	OPP-1933927			\$53,887	\$2,672,294
Collaborative Research: AccelNet: Clean Air Monitoring and Solutions Network (CAMS-Net)	47.079	OISE-2020677			\$0	\$133,331
GCR: Emotionally Responsive Computation and Communication	47.083	OIA 1934968			\$32,427	\$189,910
I-Corps: Enhancing Sensory Processing via Noninvasive Neuromodulation	47.084	TI-2232149			\$0	\$10,051
National Science Foundation Totals					\$12,028,455	\$102,630,754
Total National Science Foundation Direct Award Programs					\$12,028,455	\$103,162,632
Pass-through Awards						
National Science Foundation						
Neutron Imaging of Arecibo Observatory Cable Sockets for Forensic Quantification of Wire-Socket Failure Mechanism	47.RD	TMST CU21-2339	NSF CU21-2339	THORNTON TOMASETTI	\$0	\$-535
Intelligent 5G Network Design and Integration for Globalized Operations (INDIGO)	47.RD	ATT ORDER NO. PO3000193382	NSF CU22-1219	AT&T	\$0	\$3,715
National Science Foundation Totals					\$0	\$3,180
Engineering						
DMREF: Collaborative Research: Design of surface functionality through surface composition and structure	47.041	CMU 1122746-425274	CBET-1921946	CARNEGIE MELLON UNIVERSITY	\$0	\$8,724
AI Institute in Dynamic Systems	47.041	UWASH UWSC13224	CBET-2112085	UNIVERSITY OF WASHINGTON SEATTLE WASHINGTON	\$0	\$598,140
NSF Science and Technology Center for Engineering MechanoBiology	47.041	UPENN 570440	CMMI-1548571	UNIVERSITY OF PENNSYLVANIA	\$0	\$85,179
LEAP-HI: Coordinated Advance in Reproductive Engineering for Health Research (CARE4HeR)	47.041	VPTISU 480759-19020	CMMI-2053851	VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY	\$0	\$70,350
Nanosystems Engineering Research Center for Directed Multiscale Assembly of Cellular Metamaterials with Nanoscale Precision: CELL-MET	47.041	BU 4500004559	EEC-1647837	BOSTON UNIVERSITY	\$0	\$183,004
EFRI DChem: Digital design of a network of distributed modular and agile manufacturing systems with optimal supply chain for personalized medical treatments	47.041	PURDUNIV 10001913-050	EFMA-2132142	PURDUE UNIVERSITY	\$0	\$240,971
Design and Modeling of a Solar-Geothermal Greenhouse	47.041	VPTISU 445588-19020B	IIP-1738689	VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY	\$0	\$54,645
I-Corps Node (Track 2): New York City Regional Innovation Node (NYCRIN)	47.041	RFCUNY CM00000546-00	IIP-1740622	RESEARCH FOUNDATION OF CITY UNIVERSITY OF NEW YORK	\$0	\$216,016
NSF I-Corps Hub: New York Region	47.041	RFCUNY CM00007239-01	IIP-2048498	RESEARCH FOUNDATION OF CITY UNIVERSITY OF NEW YORK	\$0	\$235,333
STTR Phase II: CMOS Integrated Piezoelectric Vapor Sensors	47.041	LELANTOS CU21-1288	IIP-2126910	Lelantos, Inc.	\$0	\$82,299

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Design and Demonstration of a Personal Rapid Transit Prototype	47.041	VPTISU 445588-19020C	NSF CU22-2359	VIRGINIA POLYTECHNIC INSTITUTE AND STATEUNIVERSITY	\$0	\$20,000
Engineering Totals					\$0	\$1,794,661
Mathematical and Physical Sciences						
NSF Center for the Chemistry of Molecularly Optimized Networks	47.049	DUKEU 333-2768	CHE-2116298	DUKE UNIVERSITY	\$0	\$319,246
MR1 Consortium: Development of Magneto-Ellipsometer for the MET Beamline of the National Synchrotron Light Source (NSLS-II), Brookhaven National Laboratory	47.049	NJIT 996996	DMR-1828061	NEW JERSEY INSTITUTE OF TECHNOLOGY	\$0	\$4,529
Harnessing room-temperature quantum-dot-like states in 2D materials for nanoscale nonclassical light	47.049	MONTANA G108-21-W8416	DMR-2004437	MONTANA STATE UNIVERSITY	\$0	\$73,175
STC: Center for Integration of Modern Optoelectronic Materials on Demand	47.049	UWSC 12979	NSF-2019444	UNIVERSITY OF WASHINGTONSEATTLE WASHINGTON	\$0	\$125,105
Wou-MMA: Understanding Cosmic Particle Accelerators with the VERITAS and CTA Gamma-Ray Observatories	47.049	BARNARD CU-2110497	PHY-2110497	BARNARD COLLEGE	\$0	\$120,036
MR1 Consortium: Development of an Event Plane Detector for the sPHENIX Experiment at the Relativistic Heavy Ion Collider	47.049	LEHIGH 544481-78001	PHY-2117773	LEHIGH UNIVERSITY	\$0	\$38,179
U.S. ATLAS Operations: Discovery and Measurement at the Energy Frontier	47.049	SUNYSB 93443/1172884/2 M & O	PHY-2120747	STATE UNIV. OF NEW YORK STONY BROOK	\$0	\$24,917
DarkSide: Mid-scale	47.049	PU SUB0000662	PHY-2131857	PRINCETON UNIVERSITY	\$0	\$97,058
WoU-MMA: Studying Extreme Particle Accelerators with VERITAS and CTA	47.049	UMARY 104695-Z3831201	PHY-2200857	UNIVERSITY OF MARYLAND	\$0	\$18,504
Mathematical and Physical Sciences Totals					\$0	\$820,749
Geosciences						
Advancing Carbonyl Sulfide (OCS) as an Independent Atmospheric Tracer for Global Photosynthesis through Quantification of Microbial-Mediated Sources and Sinks in Soils	47.050	UA 587365	AGS-1933280	UNIVERSITY OF ARIZONA	\$0	\$26,417
Large-scale CoPe: Rising Voices, Changing Coasts: The National Indigenous and Earth Sciences Convergence Hub	47.050	HSKF HFCU-01	AGS-2103843	Haskell Foundation	\$0	\$32,070
How do Energy Fluxes Link Precipitation Variability Across the Tropical Weather-Climate Continuum?	47.050	PU SUB0000556	AGS-2123327	PRINCETON UNIVERSITY	\$0	\$115,027
Ocean Sciences for Rural Communities via Informal Science Education: Pop-Up/Drill Down Science	47.050	COL SA16-35	DRL-1515856	Consortium for Ocean Leadership	\$0	\$71,323
CNH-L: Volcanism, Hydrology and Social Conflict: Lessons from Hellenistic and Roman-Era Egypt and Mesopotamia	47.050	YU GR104087(CON-80001396)	ICER-1824770	YALE UNIVERSITY	\$0	\$29,361
Large-scale CoPe: Megalopolitan Coastal Transformation Hub (MACH): Improving the Understanding and Governance of Co-Evolving Hazards, Development, and Coastal Processes	47.050	RUTGER 2074	ICER-2103754	RUTGERS, THE STATE UNIVERSITY OF NEW JERDEPARTMENT OF RADIOLOGY	\$0	\$121,862
Collaborative Research: Global Ocean Repeat Hydrography, Carbon, and Tracer Measurements, 2015-2020	47.050	UCSD 59692302	OCE-1437015	UNIVERSITY OF CALIFORNIA, SAN DIEGO	\$0	\$5,104

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Worthington Deployment	47.050	WHOI REV-A101491	OCE-1806608	WOODS HOLE OCEANOGRAPHIC INSTITUTION	\$0	\$58,824	
Ocean Observatories Initiative Facility Board (OOIFB) Administrative Support Office	47.050	URI 0007471/0107122	OCE-1833654-009	UNIVERSITY OF RHODE ISLAND	\$0	\$22,173	
Collaborative Research: Ecology and Evolution of Microbial Interactions in a Changing Ocean	47.050	UALASKA UAF 20-0084	OCE-1937715	UNIVERSITY OF ALASKA FAIRBANKS	\$0	\$25,423	
Center for Chemical Currencies of a Microbial Planet (C-CoMP)	47.050	WHOI A101559	OCE-2019589	WOODS HOLE OCEANOGRAPHIC INSTITUTION	\$0	\$10,829	
Management and Implementation of US GEOTRACES GP17 Section: South Pacific and Southern Ocean (GP17-OCE)	47.050	ODURF 21-131-100868-010	OCE-2023315	OLD DOMINION UNIVERSITY RESEARCH FOUNDATION	\$0	\$51,604	
Collaborative Research: US GOSHIP 2021-2026 Repeat Hydrography, Carbon and Tracers	47.050	UCSD KR 704508	OCE-2023545	UNIVERSITY OF CALIFORNIA, SAN DIEGO	\$0	\$220,031	
Collaborative Research: Seismic Imaging of Volcano Construction, Underplating and Flexure along the Hawaii-Emperor Seamount Chain	47.050	NAU 1004591-01	OCE-2051501	NORTHERN ARIZONA UNIVERSITY	\$0	\$19,134	
National Deep Submergence Facility (2022-2026)	47.050	WHOI A101605/83971101	OCE-2139711	WOODS HOLE OCEANOGRAPHIC INSTITUTION	\$0	\$40,829	
NSFPLR-NERC The Future of the Thwaites Glacier and its Contribution to Sea-Level Rise Science	47.050	UCOL 1556529	OPP-1738913	UNIVERSITY OF COLORADO	\$0	\$24,396	
NSFPLR-NERC: Ground Geophysics Survey of Thwaites Glacier	47.050	PSU 5861-CU-NSF-8934	OPP-1738934	PENNSYLVANIA STATE UNIVERSITY	\$0	\$85,679	
NSF-NERC: Stability and Instability of Records of External Drivers and Resulting Past Behavior of Thwaites Glacier	47.050	HOUSTN R-18-0061	OPP-1738942	UNIVERSITY OF HOUSTON	\$0	\$33,450	
Geosciences Totals					\$0	\$993,536	
Computer and Information Science and Engineering							
Computing Innovation Fellows 2020 Project	47.070	CRA CIF2020-CU-64	CCF-2030859	Computing Research Association	\$0	\$75,505	
PAWR Platform Full Proposal-COSMOS: Cloud-Enhanced Open Software-Defined Mobile-Wireless Testbed for City-Scale Deployment	47.070	RUTGER 0425	CNS-1827923	RUTGERS, THE STATE UNIVERSITY OF NEW JERSEY DEPARTMENT OF RADIOLOGY	\$193,637	\$225,756	
Mid-Scale RI-1 (M1:IP): FABRIC: Adaptive Programmable Research Infrastructure for Computer Science and Science Applications	47.070	UNC-CH 5115815	CNS-1935966	UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL	\$0	\$156	
CPS: Security and Privacy: Medium : Detecting and Controlling Unwanted Data Flows in the Internet of Things	47.070	UCHICA AWD100678 (SUB00000205)	CNS-1953740	UNIVERSITY OF CHICAGO	\$0	\$35,216	
Computing Innovation Fellows 2021 Project	47.070	CRA 2021CIF-Columbia-34	CNS-2127309	Computing Research Association	\$0	\$127,851	
RINGS: Enabling Wireless Edge-cloud Services via Autonomous Resource Allocation and Robust Physical Layer Technologies	47.070	MIT S5692 PO#769408	CNS-2148128	MASSACHUSETTS INSTITUTE OF TECHNOLOGY	\$0	\$24,180	
A Framework for Data Intensive Discovery in Multimessenger Astrophysics	47.070	UWIS 203405434	OAC-1934752	UNIVERSITY OF WISCONSIN	\$0	\$30,028	

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Collaborative Research: Predictive Risk Investigation System (PRISM) for Multi-layer Dynamic Interconnection Analysis	47.070	CU 90549-11302	OAC-1940276	CORNELL UNIVERSITY	\$0	\$10,875	
HDR Institute: Geospatial Understanding through an Integrative Discovery Environment	47.070	UIU 106203-18639	OAC-2118329	UNIVERSITY OF ILLINOIS, BOARD OF TRUSTEES	\$0	\$59,243	
CICI: UCSS: Maximizing Data Utility and Participant Privacy through Usable, Secure Data Workflows	47.070	CLEMSON 2461-206-2015693	OAC-2232690	CLEMSON UNIVERSITY	\$0	\$19,462	
Computer and Information Science and Engineering Totals					\$193,637	\$608,272	
Biological Sciences							
Leadership in the Equitable and Ethical Design of Science and Engineering	47.074	UCSCRUZ A23-0252-S002	2220631	UNIVERSITY OF CALIFORNIA SANTA CRUZ	\$0	\$4,967	
LTER: Luquillo LTER VI: Understanding Ecosystem Change in Northeastern Puerto Rico	47.074	UPR 2019-007	DEB-1831952	UNIVERSITY OF PUERTO RICO	\$0	\$10,328	
CRCS Research Project: Solving the Neural Code of Hydra	47.074	UWASH UWSC10704	EF-1822550	UNIVERSITY OF WASHINGTON/SEATTLE WASHINGTON	\$0	\$48,556	
The rules of microbiota colonization of the mammalian gut	47.074	BWH 2025515	NSF2025515	BRIGHAM AND WOMEN'S HOSPITAL	\$0	\$261,748	
Biological Sciences Totals					\$0	\$325,599	
Social, Behavioral, and Economic Sciences							
Benchmarking Spatial Patterns of Glacier Change	47.075	SUNYBF R1182085	BCS-1853705	STATE UNIVERSITY OF NEW YORK AT BUFFALO	\$0	\$13,611	
A Geospatial Analysis of Glacier Volume Change	47.075	UTAH 10051082-COL	BCS-1853881	UNIVERSITY OF UTAH	\$0	\$30,002	
The Impact of Disruptions to Migration on Land Use and Resilience in Agricultural Systems	47.075	UCOL 1562021	BCS-2149191	UNIVERSITY OF COLORADO	\$0	\$43,110	
FAI: Measuring and Mitigating Biases in Generic Image Representations	47.075	RICEUNIV X03056790	IIS-2221943	RICE UNIVERSITY	\$0	\$43,902	
Clean Growth and Comparative Advantage	47.075	YU CON-80003513 (GR115437)	SES-2117288	YALE UNIVERSITY	\$0	\$25,403	
The Effects of the World War II Research Effort on Postwar U.S. Science, Technology and Innovation	47.075	DUKE 333-2681	SMA-1951470	DUKE UNIVERSITY	\$0	\$4,375	
Social, Behavioral, and Economic Sciences Totals					\$0	\$160,403	
Polar Programs							
Continuing Operations Proposal: The United States Polar Rock Repository as a Research Tool for Understanding Antarctica's Geological Evolution	47.078	OSU SPC-1000005329/GR124610	OPP-1643713	OHIO STATE UNIVERSITY	\$0	\$12,051	
Collaborative Research: Bridging the Scale Gap between Local and Regional Methane and Carbon Dioxide Isotopic Fluxes in the Arctic	47.078	HARVARD 124297-5110575	OPP-1848620	HARVARD UNIVERSITY	\$0	\$5,873	
Collaborative Research: Understanding the Impacts of Extreme Events on the Peoples of the Arctic	47.078	WPUNI NSF-001	OPP-2112463	WILLIAM PATERSON UNIVERSITY	\$0	\$34,210	

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NSFPLR-NERC: PROcesses, Drivers, Prediction: Modeling the History and Evolution of Thwaites (PROPHET)	47.078	DARTC R1632	OPP-2152622	DARTMOUTH COLLEGE	\$0	\$8,882	
Polar Programs Totals					\$0	\$61,016	
Office of International Science and Engineering							
PIRE: Climate Research Education in the Americas using Tree-Ring and Cave Sediment Examples (PIRE-CREATE)	47.079	SUNYA 18-28-79761	OISE-1743738	STATE UNIVERSITY OF NEW YORK AT ALBANY	\$0	\$205,094	
AccelNet:3D Concrete Printing Network (3DConnect) - An International Alliance for Concrete Additive Manufacturing	47.079	ASUB00000615	OISE-2020095	ARIZONA STATE UNIVERSITY	\$0	\$33,495	
Office of International Science and Engineering Totals					\$0	\$238,589	
Integrative Activities							
NSF Convergence Accelerator Workshop: Integrated Research on Societal Infrastructure Resilience to Stressing Events through Interdisciplinary and Transdisciplinary Convergence	47.083	USC SCON-00002728	OIA-2124634	UNIVERSITY OF SOUTHERN CALIFORNIA	\$0	\$-4,997	
Track D: Hidden water and extreme events: HydroGEN, a physically rigorous machine learning platform for hydrologic scenario generation	47.083	UA 643271	OIA-2134892	UNIVERSITY OF ARIZONA	\$0	\$20,007	
Integrative Activities Totals					\$0	\$15,010	
NSF Technology, Innovation, and Partnerships							
POSE Phase I: Observational health data sciences and informatics (OHDSI) open source ecosystem (OSE) development	47.084	JH 2005776450	2229587	JOHNS HOPKINS UNIVERSITY	\$0	\$64,277	
NSF Convergence Accelerator Track G: SONIC: Securely Operate through 5G Networks with Informed Control	47.084	UTAH 10065091-05-CU	ITE-2226437	UNIVERSITY OF UTAH	\$0	\$555	
NSF Convergence Accelerator Track F: Building Trust in Communication Systems by Addressing Online Abuse and Harassment	47.084	GWU 22-S29	ITE-2230683	GEORGE WASHINGTON UNIVERSITY	\$0	\$42,760	
NSF Technology, Innovation, and Partnerships Totals					\$0	\$107,592	
National Science Foundation Totals					\$193,637	\$5,128,607	
Total National Science Foundation Passthrough Award Programs					\$193,637	\$5,128,607	
Total National Science Foundation					\$12,222,092	\$108,291,239	
National Aeronautics & Space Administration							
Direct Awards							
Covid 19 Related Funding							
COVID-19-Decision and Information System for the Coastal Waters of Oman (DISCO) - an Integrative tool for Managing Coastal Resources under Changing Climate	43.001	NNX17AG66G			\$14,920	\$19,043	
Covid 19 Related Funding for National Aeronautics & Space Administration Totals					\$14,920	\$19,043	
Socioeconomic Data and Applications Distributed Active Archive Center (DAAC) for the EOS Data and Information Systems (EOSDIS)	43.RD	80GSFC18C0111			\$47,212	\$5,576,036	
The GAPS Experiment: A Search for Dark Matter Using Low-Energy Antiparticles	43.001	80NSSC21K1877			\$2,784,890	\$16,221,871	

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Account For Account for A determination of bioactive proteins secreted by the human vasculature in response to low dose space radiation: A completion of unfinished research	43.003	80NSSC22K0937			\$0	\$68,307
Performance decrement and carcinogenesis: Consistent analysis of multiple radiobiological data sets to inform exposure limits and radiation shielding	43.007	80NSSC23M0099			\$0	\$13,347
Dual Desalination/Concentrator Microfluidic Device for Amino Acid Sample Preparation for Search-For-Life Missions	43.012	80NSSC19K1180			\$0	\$173,023
National Aeronautics & Space Administration Totals					<u>\$2,832,102</u>	<u>\$22,052,584</u>
Total National Aeronautics & Space Administration Direct Award Programs					<u>\$2,847,022</u>	<u>\$22,071,627</u>
Pass-through Awards						
Covid 19 Related Funding						
Science						
COVID-19-Ecological and Sociodemographic Determinants and Impacts of Urbanization and Restoration on Intertwined Urban-Wetland-Estuarine Systems	43.001	CCONY CM00001790-04	80NSSC17K0258	City College of New York	\$0	\$1,609
Covid 19 Related Funding for Science Totals					<u>\$0</u>	<u>\$1,609</u>
Covid 19 Related Funding for National Aeronautics & Space Administration Totals					<u>\$0</u>	<u>\$1,609</u>
National Aeronautics & Space Administration						
Geostationary Littoral Imaging and Monitoring Radiometer (GLIMR) Instrument	43.RD	UNH L0141	80LARC21DA002	UNIVERSITY OF NEW HAMPSHIRE	\$0	\$1,227
Towards a fully predictive standard model of galaxy formation	43.RD	HST-HF2-51489.001-A	NAS5-26555	Space Telescope Science Institute	\$0	\$231,066
Monitoring the Extraordinary Timing Behavior of CCO Pulsars	43.RD	SAO GO0-21059X	NAS8-03060	Smithsonian Astrophysical Observatory	\$0	\$246,042
Columbia University Participation in The Nuclear Spectroscopic Telescope Array (NuSTAR): Bringing the High Energy Universe Into Focus (Bridge Phase)	43.RD	CALTECH S376760	NNG08FD60C	CALIFORNIA INSTITUTE OF TECHNOLOGY	\$0	\$67,059
National Aeronautics & Space Administration Totals					<u>\$0</u>	<u>\$545,394</u>
Science						
TREX: Toolbox for Research and Exploration	43.001	PSINST 1523 Columbia Universit	80ARC017M00005	PLANETARY SCIENCE INSTITUTE	\$0	\$20,666
Europa STI - Exploring Communication Techniques and Strategies for Sending Signals Through the ICE (STI) for an Ice-Ocean Probe	43.001	JH 155891	80NSSC19K0613	JOHNS HOPKINS UNIVERSITY	\$0	\$2,438
Three-Dimensional Observational Estimates of Mesoscale Eddy Kinetic Energy in the Global Ocean: Understanding the Energetics of the Climate System	43.001	UWASH UWSC11553	80NSSC19K1252	UNIVERSITY OF WASHINGTON SEATTLE WASHINGTON	\$0	\$5,684
Exploring Ocean Worlds: Ocean System Science to Support the Search for Life	43.001	WHOI A101471	80NSSC19K1427	WOODS HOLE OCEANOGRAPHIC INSTITUTION	\$0	\$53,017
Using Earth Observations and Statistical Models to Enhance Drought, Food Security, and Agricultural Outlooks in Eastern and Southern Africa	43.001	UCSB KK2043	80NSSC20K0159	UNIVERSITY OF CALIFORNIA, SANTA BARBARA	\$0	\$2,330
Fireball 2020 - The Faint Intergalactic-medium Redshifted Emission Balloon (FIREBall-2)	43.001	CALTECH S501834	80NSSC20K0395	CALIFORNIA INSTITUTE OF TECHNOLOGY	\$0	\$84,268

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Inferring Ocean Transport from SWOT	43.001	NYU F1533-01	80NSSC20K1142	NEW YORK UNIVERSITY	\$0	\$41,291	
Oxidizing Oases in the Paleoproterozoic Moodies Group, Barberton Greenstone Belt, South Africa	43.001	TAMU M2101726	80NSSC21K0443	TEXAS A&M UNIVERSITY	\$0	\$15,250	
Advancing Remote Sensing of Microplastics on the Surface Ocean	43.001	UCONN 434859	80NSSC21K0515	UNIVERSITY OF CONNECTICUT	\$0	\$13,039	
Technology for Sending Signals Through the Ice (STI Tech) on Ocean Worlds	43.001	JH 172059	80NSSC21K0995	JOHNS HOPKINS UNIVERSITY	\$0	\$174,129	
Gas and Galaxies Across Cosmic Time with Enzo-E	43.001	STSCI 52577	80NSSC21K1053	Space Telescope Science Institute	\$0	\$142,109	
High resolution imagery to train and validate deep learning models of inundation extent for multiple satellite sensors	43.001	UA 639401	80NSSC21K1163	UNIVERSITY OF ARIZONA	\$0	\$16,714	
Investigating the roles of turbulences and reconnection in generating supra thermal seed populations for SEP events	43.001	PU SUB0000545	80NSSC21K1326	PRINCETON UNIVERSITY	\$0	\$50,339	
Library of Terran Worlds: Assessing the Habitability of Earth-Similar Planets Among Nearby Stars	43.001	SETI SC-3769	80NSSC21K1703	SETI INSTITUTE	\$0	\$7,325	
Observational Estimates of Radiative Forcing by Greenhouse Gases in the Presence of Clouds	43.001	UMARY NASA0070-01	80NSSC21K1968	UNIVERSITY OF MARYLAND	\$0	\$28,456	
Pangeo ML - Open Source Tools and Pipelines for Scalable Machine Learning Using NASA Earth Observation Data	43.001	CBP SUBAWD003	80NSSC21M0065	CARBONPLAN	\$0	\$123,779	
A novel approach to maximize the astrophysical and cosmological information extracted from thermal Sunyaev-Zeldovich maps	43.001	CU 140792-21414	80NSSC22K0721	CORNELL UNIVERSITY	\$0	\$26,717	
Orbital Evolution and Multi-Messenger Signatures of Binary Black Holes with Circumbinary Disks	43.001	NYU F2073-01	80NSSC22K0822	NEW YORK UNIVERSITY	\$0	\$34,467	
Satellite Monitoring of Informal Settlement Dynamics and Displaced Person Mobility in the Complex Humanitarian Crisis of Tigray, Ethiopia	43.001	OREGSU NS354A-A	80NSSC22K1135	OREGON STATE UNIVERSITY	\$0	\$3,156	
Contributions of Tundra and Boreal Systems to Radiative Forcing in North America and Russia under Contemporary and Future Conditions	43.001	WCRC TG0701-01	80NSSC22K1245	WOODWELL CLIMATE RESEARCH CENTER	\$0	\$1,258	
Identification of Disadvantaged and Low-Capacity Communities Subject to Wildfire Risks PO # 2000066141	43.001	USOC 23-5039	80NSSC22K1554	UNIVERSITY OF SOUTH CAROLINA	\$0	\$17,204	
The FIREBall-2 (FB-2): The Next Generation of UV Science, Technology and Leadership	43.001	CALTECH S586899	80NSSC22K1649	CALIFORNIA INSTITUTE OF TECHNOLOGY	\$0	\$93,543	
Testing Galaxy Formation Models with Large-Scale Surveys of the Milky Way Stellar Halo	43.001	HST-HF2-51502.001-A	NAS5-26555	Space Telescope Science Institute	\$0	\$148,710	
Remote sensing of the ocean surface refractive index and oil spill detection for the PACE mission	43.001	TRI CU19-2545	NASA CU19-2545	TERRA RESEARCH INC	\$0	\$19,634	
Climate Modeling Simulations for LWP Studies	43.001	JPLCIT 1690062	NASA CU20-3509	JET PROPULSION LAB, CALIFORNIA INSTITUTE OF TECHNOLOGY	\$0	\$10,999	

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A Multi-Frequency Campaign to Probe Uranus Dynamics and Deep Atmospheric Structure	43.001	UCB 00009673	NNX16AK14G	UNIVERSITY OF CALIFORNIA, BERKELEY	\$0	\$15,430	
Valuation of Applications Benefits Linked with Earth Science (VALUABLES) Consortium	43.001	REFF 1619	NNX17AD26A	RESOURCES FOR THE FUTURE	\$0	\$208	
Science Totals					\$0	\$1,135,916	
Exploration							
pace radiation-induced persistent estrogenic response and risk of breast cancer development	43.003	GU 424468 GR413893-CU	80NSCC19K1649	GEORGETOWN UNIVERSITY	\$0	\$42,626	
Space radiation and gastrointestinal cancer: A comprehensive strategy for risk assessment and model development	43.003	GU 410967 GR410946-CU-Project	NNX15AI21G	GEORGETOWN UNIVERSITY	\$0	\$60,945	
Human Multi-tissue Platform to Study Effects of Space Radiation and Countermeasures/RAD0104	43.003	BCMH 7000001227	NNX16AO69A	BAYLOR COLLEGE OF MEDICINE--HOUSTON	\$0	\$668,903	
Exploration Totals					\$0	\$772,474	
Space Operations							
NASA directed study on space radiation and cancer risk assessment using mouse model approaches	43.007	GU 425255 GR425111-CU	80NSCC22K1279	GEORGETOWN UNIVERSITY	\$0	\$18,806	
Space Operations Totals					\$0	\$18,806	
Office of Stem Engagement (OSTEM)							
New York Space Grant Consortium	43.008	CU 90830-20366	80NSCC20M0096	CORNELL UNIVERSITY	\$0	\$30,004	
Office of Stem Engagement (OSTEM) Totals					\$0	\$30,004	
National Aeronautics & Space Administration Totals					\$0	\$2,502,594	
Total National Aeronautics & Space Administration Passthrough Award Programs					\$0	\$2,504,203	
Total National Aeronautics & Space Administration					\$2,847,022	\$24,575,830	
U.S. Department of Energy							
Direct Awards							
MOU/BNL for Oleg Gang	81.RD	BNL CU16-2135			\$0	\$267,324	
HIGH BETA TOKAMAK RESEARCH	81.049	DE-FG02-86ER53222			\$938,022	\$12,719,870	
Harnessing Microbial Batteries for Efficient, Sustainable Water Treatment and Recycling in Rural Areas	81.086	DE-EE0009506			\$3,882	\$209,323	
Next Generation Fiber-Encapsulated Nanoscale Hybrid Materials for Direct Air Capture with Selective Water Rejection	81.089	DE-FE0031963			\$103,271	\$175,003	
High Capacity Electrolyzers Based on Ultrathin Proton-Conducting Oxide Membranes	81.135	DE-AR0001567			\$1,023,762	\$4,160,144	
U.S. Department of Energy Totals					\$2,068,937	\$17,531,664	
Total U.S. Department of Energy Direct Award Programs					\$2,068,937	\$17,531,664	

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Pass-through Awards						
Department of Energy						
Infrared Nano-Imaging of Metastable States	81.RD	LBNL 7431739	DE-AC02-05CH11231	LAWRENCE BERKELEY NATIONAL LABORATORY	\$0	\$10,045
Hybrid Quantum/Classical Algorithms for Photochemistry and Nonadiabatic Dynamics	81.RD	SNAL No. 200586	DE-AC02-76SF00515	SLAC NATIONAL ACCELERATOR LABORATORY	\$0	\$18,808
Design of Carbide and Bimetallic Catalysts and Electrocatalysts	81.RD	BNL NO.233521	DE-AC02-98CH10886	Brookhaven National Laboratory	\$0	\$193,718
Design and Build Circuit for Electromechanical Testing	81.RD	ORNL CW33724	DE-AC05-00OR22725	OAK RIDGE NATIONAL LABORATORY	\$0	\$214,122
Polymer Upcycling Research	81.RD	PNNL 601758	DE-AC05-76RL01830	Pacific Northwest National Laboratory	\$0	\$225,951
Center for Thermal Energy Transport under Irradiation	81.RD	BEA No. 208385	DE-AC07-05ID14517	BATTELLE ENERGY ALLIANCE, LLC	\$0	\$259,404
Pathways to Achieving Pipe Parity for Solar Thermal Desalination of High Salinity Brines	81.RD	NREL SUB-2022-10085	DE-AC36-08GO28308	National Renewable Energy Laboratory	\$0	\$263,368
Bioprospecting and genetic tool development	81.RD	LLNS B653393	DE-AC52-07NA27344	Lawrence Livermore National Laboratory	\$0	\$437,324
AURORA: Autonomous and Resilient Operation of Energy Systems with Renewables	81.RD	SIEMENS 173-1	DE-EE0008768	SIEMENS CORPORATE RESEARCH, INCORPORATED	\$0	\$98,689
Climate Attribution through Enhanced Fingerprinting	81.RD	SANDIA 2331335	DE-NA0003525	SANDIA NATIONAL LABORATORIES	\$0	\$124,255
Co-Design Center for Quantum Advantage (C2QA)	81.RD	BNL No.390033	DE-SC0012704	Brookhaven National Laboratory	\$0	\$1,254,693
Dual Function Materials for Direct Air Capture of CO2	81.RD	SUSTEON S-038-1	DE-SC0020795	SUSTEON INC	\$0	\$100,935
Photonic Memory Controller Module (P-MCM)	81.RD	FPHOTO MCM-P2B	DOE CU18-0610	FREEDOM PHOTONICS	\$0	\$2,440
Photonic-Storage Subsystem Input/Output (P-SSIO) Interface	81.RD	FPHOTO S7146-01	DOE CU19-0376	FREEDOM PHOTONICS	\$0	\$203,966
Development of Nanoscale System with Regulated Enzymatic Activity and Local Motion Using DNA Structures	81.RD	BNL 366392	DOE CU19-1525	Brookhaven National Laboratory	\$0	\$105
Joint Appointment Agreement FY22 for Prof. Kumar	81.RD	BNL 22441	DOE CU21-1284	Brookhaven National Laboratory	\$0	\$5,791
Synthesis of Nanoporous Membranes by Self-Assembly Using Spray Deposition	81.RD	BNL 401599	DOE CU21-2635	Brookhaven National Laboratory	\$0	\$76,852

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Machine-Learned Design of Experiments for Optimal Model Calibration	81.RD	SANDIA 2306877	DOE CU21-3153	SANDIA NATIONAL LABORATORIES	\$0	\$59,799	
Machine-Learned Anisotropic Constitutive Modeling for an Aluminum Alloy	81.RD	SANDIA 2340278	DOE CU21-4014	SANDIA NATIONAL LABORATORIES	\$0	\$100,342	
Graduate Student Support Creating designated 3D structural matrices	81.RD	BNL 409302	DOE CU21-4062	Brookhaven National Laboratory	\$0	\$34,919	
Tackling Solid-State Electrochemical Interfaces from Structure to Function Through High Performance Computing and Machine Learning	81.RD	BNL 414881	DOE CU22-1196	Brookhaven National Laboratory	\$0	\$19,640	
Billinge Joint Appointment BNL	81.RD	BNL CU22-2696	DOE CU22-2696	Brookhaven National Laboratory	\$0	\$67,710	
Department of Energy Totals					\$0	\$3,772,876	
Department of Energy							
The Nanostructure Problem in Strongly Correlated Electron and Related Materials	81.RD	BNL CU08-9027	DE-AC02-98CH10886	Brookhaven National Laboratory	\$0	\$-37,404	
Department of Energy Totals					\$0	\$-37,404	
Weatherization Assistance for Low-Income Persons							
Development of high current highly charged laser ion source	81.042	BNL 421880	DE-SC0012704	Brookhaven National Laboratory	\$0	\$8,750	
Weatherization Assistance for Low-Income Persons Totals					\$0	\$8,750	
Office of Science Financial Assistance Program							
Center for Bio-Inspired Energy Science (CBES)	81.049	SP0027267-PROJ0011442	DE-SC0000989	NORTHWESTERN UNIVERSITY	\$0	\$160,574	
Rational Design of Innovative Catalytic Technologies for Biomass Derivative Utilization	81.049	UD 32826	DE-SC0001004	UNIVERSITY OF DELAWARE	\$0	\$128,513	
EFRC: Center for Mesoscale Conductivity	81.049	RFSUNY 68856/1178584/2	DE-SC0012673	RESEARCH FOUNDATION OF THE STATE UNIVERSITY OF NEW YORK	\$0	\$168,660	
GENESIS: A Next Generation Synthesis Center	81.049	SUNYSB 82192/1148574/2	DE-SC0019212	STATE UNIV. OF NEW YORK STONY BROOK	\$0	\$40,751	
Breakthrough Electrolytes for Energy Storage (BEES)	81.049	CWRU RES513723	DE-SC0019409	CASE WESTERN RESERVE UNIVERSITY	\$0	\$25,962	
Planar Systems for Quantum Information	81.049	CU 86856-11154	DE-SC0019481	CORNELL UNIVERSITY	\$0	\$403,036	
Early Stages in the Lifecycle of Polar Liquid-Bearing Clouds	81.049	PSU S001043-DOE	DE-SC0021004	PENNSYLVANIA STATE UNIVERSITY	\$0	\$22,432	
Modulating Integrated Multielectron Processes with Singlet Fission Chromophores	81.049	RFCUNY CM00006743-00	DE-SC0022036	GRADUATE CENTER- CITY UNIVERSITY OF NEWYORK	\$0	\$262,327	
Traversing the death valley separating short and long times in non-equilibrium quantum dynamical simulations of real materials	81.049	CALTECH S534322	DE-SC0022088	CALIFORNIA INSTITUTE OF TECHNOLOGY	\$0	\$321,159	

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Bridging Spatio-temporal Scales to Observationally Constrain the Cloud Feedback Pattern Effect	81.049	UIL 105688-18688	DE-SC0022110	UNIVERSITY OF ILLINOIS, BOARD OF TRUSTEES	\$0	\$119,377	
Understanding Multi-Stressor and Multi-Scale Drivers of Feedbacks, Cascading Failures, and Risk Management Pathways within Complex MSD Systems	81.049	PSU S002342-USDOE	DE-SC0022141	PENNSYLVANIA STATE UNIVERSITY	\$0	\$108,352	
From Structured Solvents to Hybrid Materials (SS2HM) for Chemically Selective Capture and Electromagnetic Release of CO2	81.049	CWRU RES516682	DE-SC0022214	CASE WESTERN RESERVE UNIVERSITY	\$0	\$120,978	
Building a Next-Generation Microphysics Scheme for E3SM: a Data-Driven, Physically Constrained, Single-Category Approach	81.049	UCAR SUBAWD003991	DE-SC0023151	UNIVERSITY CORPORATION FOR ATMOSPHERIC RESEARCH	\$0	\$34,499	
Account For Account for Autoxidation Mechanisms and Methods for Plastics Upcycling	81.049	UWIS 0000002713	DE-SC0023281	UNIVERSITY OF WISCONSIN	\$0	\$10,766	
Ensembles of Photosynthetic Nanoreactors	81.049	UCI 2022-1839	DE-SC0023431	UNIVERSITY OF CALIFORNIA, IRVINE	\$0	\$78,173	
Office of Science Financial Assistance Program Totals					\$0	\$2,005,559	
Conservation Research and Development							
Development of Tailored Fiber Placement, Multi-functional, High-Performance Composite Material Systems for High Volume Manufacture of Structural Battery Enclosure	81.086	GMAUTO 4301260198	DE-EE0009204	GENERAL MOTORS	\$0	\$120,576	
Integrated Reuse and Co-Utilization of Slag, Sludge and Dust With Inherent Heavy Metal Capture and Nanoscale Calcium Carbonate Production as an Enhanced Fluxing Agent in Steel Plants (INSIGHT)	81.086	CU 137181-20864	DE-EE0009391	CORNELL UNIVERSITY	\$0	\$226,709	
Cadmium (Cd)-Free Quantum Dots (QD) Building Blocks for Human Centric Lighting	81.086	OSRAMOS CU21-0426	DE-EE0009692	AMS-OSRAM USA INC.	\$0	\$485,022	
Conservation Research and Development Totals					\$0	\$832,307	
Renewable Energy Research and Development							
Development of Composite Photocatalyst Materials that are Highly Selective for Solar Hydrogen Production and their Evaluation in Z-Scheme Reactor Designs	81.087	UCI 2020-1298	DE-EE0008838	UNIVERSITY OF CALIFORNIA, IRVINE	\$0	\$10,671	
R2R Manufacturing of Metallic Electrode and Bipolar Plates for Flow Batteries	81.087	TST EE-0009793-COL	DE-EE0009793	TREADSTONE TECHNOLOGIES INC	\$0	\$103,691	
Renewable Energy Research and Development Totals					\$0	\$114,362	
Fossil Energy Research and Development							
Deepwater Methane Hydrate Characterization in the Gulf of Mexico: Scientific Assessment and Production Potential	81.089	UTA14-001159	DE-FE0023919	UNIVERSITY OF TEXAS AT AUSTIN	\$0	\$61,032	
Bench-Scale Development of a Novel Direct Air Capture Technology Using High-Capacity Structured Sorbents	81.089	SUST000007	DE-FE0032118	SUSTEON INC	\$0	\$189,321	
Collaborative Development Projects - Photonic Memory Controller Module (P-MCM)	81.089	PLCC CU18-0520	DOE CU18-0520	PLC CONNECTIONS	\$0	\$1,211	
Fossil Energy Research and Development Totals					\$0	\$251,564	
Defense Nuclear Nonproliferation Research							
Consortium for Monitoring, Technology, and Verification (MTV)	81.113	UMICH SUBK00009795	DE-NA003920	UNIVERSITY OF MICHIGAN	\$0	\$344,511	
Defense Nuclear Nonproliferation Research Totals					\$0	\$344,511	

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Predictive Science Academic Alliance Program							
Center for Micromorphic Multiphysics Porous and Particulate Materials Simulations Within Exascale Computing Workflows	81.124	UCOL 1559906	DE-NA0003962	UNIVERSITY OF COLORADO	\$0	\$185,429	
Predictive Science Academic Alliance Program Totals					<u>\$0</u>	<u>\$185,429</u>	
Advanced Research Projects Agency - Energy							
Assessment of CO2 Mineralization Potential in Tamarack s Ultramafic Bowl-Shaped Intrusion	81.135	RTNT CU21-3304	DE-AR0001593	RIO TINTO	\$0	\$6,213	
Advancing a Low Carbon Built Environment With Inherent Utilization of Waste Concrete and CO2 via Integrated Electrochemical, Chemical and Biological Routes (ADVENT)	81.135	CU 141167-21533	DE-AR0001608	CORNELL UNIVERSITY	\$0	\$86,295	
Advanced Research Projects Agency - Energy Totals					<u>\$0</u>	<u>\$92,508</u>	
U.S. Department of Energy Totals					<u>\$0</u>	<u>\$7,570,462</u>	
Total U.S. Department of Energy Passthrough Award Programs					<u>\$0</u>	<u>\$7,570,462</u>	
Total U.S. Department of Energy					<u>\$2,068,937</u>	<u>\$25,102,126</u>	
U.S. Department of Defense							
Direct Awards							
Covid 19 Related Funding							
COVID-19-COVID-19 Lung Injury, ARDS, and Thrombosis: Acute Disease and Long-Term Subphenotypes	12.420	W81XWH2110216			\$18,676	\$700,615	
Covid 19 Related Funding for U.S. Department of Defense Totals					<u>\$18,676</u>	<u>\$700,615</u>	
BISC: Bioelectronic Interfacing to Sensory Cortex with massive, fully implanted, flexible wireless CMOS surface recording and stimulating arrays	12.RD	N66001-17-C-4002			\$556,817	\$3,201,932	
New Forms of Quantum Matter Created with Ultra-Fast Nano-Light	12.300	N00014-19-1-2630			\$92,028	\$6,029,340	
Development of Inhibitors of the Aging Process of Organophosphate Adducts of AChE	12.351	HDTRA1-16-1-0053			\$1,254	\$929	
Novel methods for human skeletal muscle regeneration using gene edited pigs	12.420	W81XWH2020049			\$401,141	\$14,892,784	
3D Nanomaterial Architectures with Programmable Reconfiguration States and Functions	12.431	W911NF-22-2-0111			\$362,097	\$2,965,387	
Comparing Underlying Drivers of South-North Migration in Central America and West Africa	12.630	FA9550-22-1-0282			\$114,821	\$394,431	
Ensembles of Molecules in Controlled Quantum States for Quantum Simulations, Ultracold Reactions, and Precision Metrology	12.800	FA9550-21-1-0069			\$966,648	\$4,021,616	
Vaccine Efficacy and Tissue Immunity	12.910	W911NF2320018			\$2,866,687	\$10,696,390	
U.S. Department of Defense Totals					<u>\$5,361,493</u>	<u>\$42,202,809</u>	
Total U.S. Department of Defense Direct Award Programs					<u>\$5,380,169</u>	<u>\$42,903,424</u>	

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R&D Cluster						
Pass-through Awards						
Covid 19 Related Funding						
Department of the Army, Army Medical Research and Materiel Command						
COVID-19-Layer-by-Layer Multiple Antigen Nano-delivery Platform for SARSCoV-2 Vaccines	12.RD	LUNA 344103	W81XWH-21-C-0057	LUNA LABS USA LLC	\$0	\$69,055
Covid 19 Related Funding for Department of the Army, Army Medical Research and Materiel Command Totals					\$0	\$69,055
Covid 19 Related Funding for U.S. Department of Defense Totals					\$0	\$69,055
Intelligence Advanced Research ProjectsActivity						
PAUSIT: Privacy protection and Authorship attribution Using Style-based Interpretable Transfer	12.RD	UPENN 585968	2022-2272200005	UNIVERSITY OF PENNSYLVANIA	\$0	\$236,500
Columbia Entrepreneurship, Innovation, and Design Support for MD5 Staff	12.RD	CMI2 1904-01-012-01	47QTCA18D00DK	CIVIL-MILITARY INNOVATION INSTITUTE	\$0	\$13,636
Center for Heterogeneous Integration of Micro Electronic Systems (CHIMES)	12.RD	UPENN S003603-SRC	DARPA CU22-1806	PENNSYLVANIA STATE UNIVERSITY	\$0	\$100,555
CogniSense: Center on Cognitive Multispectral Sensors	12.RD	GIT AWD-004308-S1	DARPA CU22-1808	GEORGIA INSTITUTE OF TECHNOLOGY	\$0	\$110,390
Center for Ubiquitous Connectivity (CUBiC)	12.RD	SRC 2023-JU-3132	DARPA CU22-1847	Semiconductor Research Corporation	\$748,627	\$1,253,465
Optimizing Micro Resonator s Based Sensor	12.RD	IMO PO#4441083200	DOD CU20-2364	ISRAELI MINISTRY OF DEFENSE	\$33,457	\$149,267
Design of a Domain-Specific SoC Prototype with the ESP Platform for the RAMP-C Project	12.RD	IBM CW3546696	DOD CU22-1187	IBM CORPORATION	\$0	\$516,027
Long Term Potentiation Deficits after Repetitive Primary Blast	12.RD	SURVICE S21-095010	DOTC-19-04-INIT4280	SURVICE ENGINEERING	\$0	\$113,108
High Performance Computing (HPC) Network Topologies Utilizing Reconfigurable Photonics Switches	12.RD	BAHI A10119/PROJECT AB10438	FA807518D0004	BOOZ ALLEN HAMILTON INC	\$0	\$132,095
Exploring Bile Acid Metabolizing Gut Bacteria as a Modulator of Human Performance	12.RD	S-168-4X5-001	FA8650-19-D-6109/FA8650-20-F-	UES INC	\$0	\$64,288
Simultaneous Transmit and Receive Wideband Adaptive Reconfigurable Self-Interference-canceller (STARWARS)	12.RD	BAESNSS 1106443	FA8650-21-C-7002	Bae Systems National Security SolutionsInc	\$0	\$295,693
Suppression by Reflective Filtering using Wideband N-Way Circulators (SURFIN)	12.RD	RAYTHN 4202508979	FA8650-21-C-7008	RAYTHEON COMPANY	\$0	\$57,031
BioMINE: Biologically Based System for Mining and Separation of REEs	12.RD	BMI 0000855183	FA8650-22-C-7213	Battelle Memorial Institute	\$0	\$646,967
Investigating methods for estimating causally identifiable functionals	12.RD	CMU 22-00092-SUB-000	FA8702-15-D0002	CARNEGIE MELLON UNIVERSITY	\$0	\$99,366

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Photonic IC (PIC) and Laser Source Development for Silicon Photonic Designs	12.RD	INTEL CW2070504	HR00111830002	INTEL CORPORATION	\$0	\$1,094,074	
EPOCHS: Efficient Programmability of Cognitive Heterogeneous Systems	12.RD	IBM CW2912424	HR0011-18-C-0122	IBM THOMAS J WATSON RES. CTR.	\$0	\$345,078	
Photonic IC (PIC) and Laser Source Development for Silicon Photonic Designs	12.RD	INTEL CW2081699	HR0011-19-3-0003	INTEL CORPORATION	\$0	\$367,075	
FROMAGER: Formal Reasoning OverMachine-code Assets, Given with Explicit Reticence	12.RD	GALOIS No. 2020-008	HR00111950076	GALOIS INC	\$0	\$201,234	
Secure Handling of Isolated Executables without Leaking Data (SHIELD)	12.RD	PERSPECTA PO-0018620	HR0011-19-S0017	PERSPECTA LABS	\$0	\$71,294	
OPTICS	12.RD	PERSPECTA PO-0020017	HR001119S0082	PERSPECTA LABS	\$0	\$261,648	
Detection of novel attacks from unknown toolchain through embedding designs / reverse attack vector	12.RD	GEGR 401168808	HR00112090133	GE GLOBAL RESEARCHLOPMENT COMPANY	\$0	\$35,586	
Semantic Information Defender	12.RD	KITWARE K003088-00-S01	HR001120C0123	Kitware, Inc.	\$0	\$623,636	
Fast Event-based Neuromorphic Camera and Electronics	12.RD	ASUB00000852	HR0011-21-C-0134	ARIZONA STATE UNIVERSITY	\$0	\$95,251	
III-nitride flat optics device for broadband infrared to visible nonlinear conversion	12.RD	BBN 90224	HR0011-21-C-0244	BBN TECHNOLOGIES CORP.	\$0	\$69,533	
ANGEL: Assistant Navigating a Graphical Event Library	12.RD	KITWARE K003623-00-S02	HR001122C0007	Kitware, Inc.	\$0	\$417,291	
DARPA Space-BACN Phase 1	12.RD	INTEL CW2079168	HR001122C0040	INTEL CORPORATION	\$101,908	\$391,454	
Efficient Integrated GaN Millimeter Arrays (ENIGMA)	12.RD	HRL 21063-223366-QS	HR0011-22-C-0123	HRL Laboratories, LLC	\$0	\$91,606	
Low-loss Efficient G-band Arrays using Tiled monolithics (LEGATO)	12.RD	RAYTHN 4202674099	HR001122C0124	RAYTHEON COMPANY	\$0	\$36,558	
IBIS: Implantable bioluminescence interface for an all-optical neuroprosthesis to the visual cortex	12.RD	JBPL 295-B Phase III	N66001-17-C-4012	JOHN B. PIERCE LABORATORY	\$0	\$348,854	
Magnetic Optical and Acoustic Neural Access (MOANA) System	12.RD	RICEUNIV X03061850	N6600119C4020	RICE UNIVERSITY	\$0	\$200,589	
ARION: A Real-time HPC Platform with In-memory Non-Von-Neumann Processing and Optical Networking	12.RD	GIT AWD-000785-S1	N6600120C4002	GEORGIA INSTITUTE OF TECHNOLOGY	\$0	\$379,466	
REFUEL: Verified Composition and Flattening of Unified Enclave Layers	12.RD	YU CON-80004114(GR119003)	N6600121C4018	YALE UNIVERSITY	\$0	\$475,708	
Energy Efficient, Non-Silicon Digital Signal Processing (DSP)	12.RD	HYPRES HYP-N68335-18-C-0654	NAVY CU18-0788	HYPRES INC	\$0	\$1,993	

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						<u>Total Expenditures (Includes Subrecipients)</u>
Multicenter Randomized Trial of Everolimus in Pediatric Heart Transplantation	12.RD	CHMCB CU17-3614	W81XWH-17-1-0532	CHILDREN'S HOSPITAL BOSTON	\$0	\$2,933
Abelian Bridge to Non-Abelian Anyons in Ultra-Cold Atoms and Graphene	12.RD	UCSB KK1813	W911NF-17-1-0323	UNIVERSITY OF CALIFORNIA, SANTA BARBARA	\$0	\$151,775
Adaptable Tactical Communications Phase 2	12.RD	ACGI PO#1063	W911NF21C0021	ASPEN CONSULTING GROUP INC.	\$0	\$57,916
NEQST SuperVan 2	12.RD	RAYTHN PO#4202696872	W911NF-22-C-0021	RAYTHEON COMPANY	\$0	\$176,787
Forensic Analysis of Low Level ionizing radiation expOsUre over Time (FALLOUT)	12.RD	SS S1283	W911NF22C0051	SIGNATURE SCIENCE	\$0	\$212,376
Cone of Silence Phase 2	12.RD	DZYNET DRP009-S-001	W912CG-22-C-0010	DZYNE Technologies LLC	\$0	\$101,008
Defense Advanced Research Projects Agency Totals					\$883,992	\$9,999,111
Basic and Applied Scientific Research						
Reasoning about Event Schemas for Induction of Knowledge (RESIN)	12.300	RPI A20-0047-S001	FA8750-19-2-1004	RENSSELAER POLYTECHNIC INSTITUTE	\$0	\$564,263
Government Secure Voice Architecture	12.300	TAMU M2100433	FA8750-20-2-1005	TEXAS A&M UNIVERSITY	\$0	\$3,888
Extended-Range Prediction with Low-Dimensional, Stochastic-Dynamic Models: A Data-driven Approach	12.300	UCLA 2090 G QA272	N00014-16-1-2073	UNIVERSITY OF CALIFORNIA, LOS ANGELES	\$0	\$-2,650
ABIDES: Adaptive Binary DEbloating and Security	12.300	SIT 2102747-02	N00014-17-1-2788	STEVENS INSTITUTE OF TECHNOLOGY	\$0	\$-1,410
Virtually Co-located Augmented Reality Spaces for Visualization, Training and Navigation	12.300	VU UNIV61657	N00014-20-1-2719	VANDERBILT UNIVERSITY	\$0	\$29,345
Optical Detection of Ensonified Ocean Waves	12.300	INTCON C3242	N00014-21-1-2496	INTEGRAL CONSULTING	\$0	\$79,429
Basic and Applied Scientific Research Totals					\$0	\$672,865
Scientific Research - Combating Weapons of Mass Destruction						
Exogenous regulation of acute lung injury	12.351	CCONY CM00004481-05	HDTRA11810049	City College of New York	\$0	\$93,423
Scientific Research - Combating Weapons of Mass Destruction Totals					\$0	\$93,423
Pest Management and Vector Control Research						
Novel Evaluation of Control and Prevention Strategies for Ticks and Tick-Borne Disease	12.355	CU 89560-11268	W911QY1910006	CORNELL UNIVERSITY	\$0	\$45,801
Pest Management and Vector Control Research Totals					\$0	\$45,801
Military Medical Research and Development						
Effects of Traumatic Brain Injury (TBI) and Post Traumatic Stress Disorder (PTSD) on Alzheimer s Disease (AD) in Veterans Using Imaging and Biomarkers in the AD Neuroimaging Initiative (ADNI) (DoD)	12.420	USC 69091938	W81XWH-12-2-0012	UNIVERSITY OF SOUTHERN CALIFORNIA	\$0	\$13,100

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Effects of Traumatic Brain Injury and Post-Traumatic Stress Disorder on Alzheimer s Disease (AD) in Veterans with Mild Cognitive Impairment (MC) using the Alzheimer s disease neuroimaging initiative (12.420	USC 78227300	W81XWH-13-1-0259	UNIVERSITY OF SOUTHERN CALIFORNIA	\$0	\$72,064	
Investigation of the NMDA Antagonist Ketamine as a Treatment for Tinnitus	12.420	RFMH 26965	W81XWH1810221	RESEARCH FOUNDATION FOR MENTAL HYGIENEINC	\$0	\$12,577	
Prostate Cancer Clinical Consortium Clinical Research Site: TargetedTherapies	12.420	WCMC 220154	W81XWH1820032	CORNELL UNIVERSITY	\$0	\$63,035	
HIV Immunoprophylaxis with bispecific antibody	12.420	HJFAMM 5795	W81XWH-18-2-0400	Jackson (Henry M.) Foundation for the Advancement of Military Medicine	\$0	\$98,617	
New Strategies to Target Pancreatic Cancer	12.420	UC 705779	W81XWH2010611	UNIVERSITY OF CALIFORNIA, SAN DIEGO	\$0	\$59,621	
Heating cold prostate tumors with PSMA-targeted alpha therapy and pembrolizumab	12.420	WCMC 226246	W81XWH2010706	WEILL (JOAN AND SANFORD I.) MEDICAL COLLEGE OF CORNELL UNIVERSITY	\$0	\$18,345	
Determinants of Aneurysm Formation in Autosomal Dominant Polycystic Kidney Disease	12.420	UMARY F303852-1	W81XWH2010762	UNIVERSITY OF MARYLAND	\$0	\$71,663	
Piezo1-Mediated Mechanotransduction as Key Regulator of Bone Health in Adult Mice	12.420	HMS 158310.5117872.0002	W81XWH-21-1-0449	HARVARD MEDICAL SCHOOL	\$0	\$37,738	
Novel complex structural variants and epigenetic alterations link the genomes of prostate cancer in African Americans with outcome disparity	12.420	WCMC 210043	W81XWH2110762	WEILL (JOAN AND SANFORD I.) MEDICAL COLLEGE OF CORNELL UNIVERSITY	\$0	\$3,025	
Enhancing Renal Cell Carcinoma Immunotherapy with Neopeptide Vaccination Strategies	12.420	SUNYBF R13185041	W81XWH2210562	RESEARCH FOUNDATION OF THE STATE UNIVERSITY OF NEW YORK	\$0	\$37,420	
Development of a Comprehensive Tick-Borne Pathogen and Febrile Illness Detection Panel	12.420	CU 141469-21527	W81XWH2210891	CORNELL UNIVERSITY	\$0	\$8,604	
ARChitecture for Effects of Low doses ON Skin (ARCHELONS)	12.420	AZ 401746	W911NF 22 C 0064	ARETE	\$0	\$116,107	
				Military Medical Research and Development Totals	\$0	\$611,916	
Basic Scientific Research							
Bio-inspired Design of Adaptive Catalysis Center	12.431	UTAH10034220-S4	W911NF-14-1-0263	UNIVERSITY OF UTAH	\$0	\$8,934	
Multiscale Integration of Neural, Social, and Network Theory to Understand and Predict Transitions from Illness to Wellness: A Proof of Concept with Mindfulness, Hypnosis and Alcohol Use Disorders	12.431	UPENN 574211	W911NF1810244	UNIVERSITY OF PENNSYLVANIA	\$0	\$272,068	
Towards a Multi-Scale Theory on Coupled Human Mobility and Environmental Change	12.431	UFLRDA UFDSP00012221	W911NF1810267	UNIVERSITY OF FLORIDA	\$0	\$82,074	
Anomalous Polar Textures in Quasi-1D Chalcogenides and Heterostructures	12.431	USC SCON-00002260	W911NF-21-1-0327	UNIVERSITY OF SOUTHERN CALIFORNIA	\$0	\$287,130	
Multifunctional devices in precisely engineered van der Waals homojunctions	12.431	HARVARD 134396-5117991	W911NF2120147	HARVARD UNIVERSITY	\$0	\$293,501	
Molecular Triplet Qubits	12.431	MIT S5864 PO#833359	W911NF2210120	MASSACHUSETTS INSTITUTE OF TECHNOLOGY	\$0	\$61,114	

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HARMME: Center for Harnessing Microbiota from Military Environments	12.431	MIT s5829	W911NF2220210	MASSACHUSETTS INSTITUTE OF TECHNOLOGY	\$0	\$204,839	
Basic Scientific Research Totals					\$0	\$1,209,660	
Basic, Applied, and Advanced Research in Science and Engineering							
Micro and Meso Signatures of Success in Human-Autonomy Teams	12.630	NU 504149-78051	W911NF1920135	NORTHEASTERN UNIVERSITY	\$0	\$67,421	
Neural Network Models of Competency Status To Enhance Human-Agent Team Performance	12.630	UDELWARE 59130	W911NF2020080	UNIVERSITY OF DELAWARE	\$0	\$105,499	
Basic, Applied, and Advanced Research in Science and Engineering Totals					\$0	\$172,920	
Uniformed Services University Medical Research Projects							
Investigating the transcriptional landscape of blast-related traumatic brain injury on the single cell level- a pilot study	12.750	USU 5741	HU00011920008	Jackson (Henry M.) Foundation for the Advancement of Military Medicine	\$0	\$-1,112	
Uniformed Services University Medical Research Projects Totals					\$0	\$-1,112	
Air Force Defense Research Sciences Program							
Hydrogen Storage via Functionalized Nanoporous Materials	12.800	UTEXAS FA9550-12-1-0159-03	FA9550-12-1-0159	UNIVERSITY OF TEXAS - RIO GRANDE VALLEY	\$0	\$-13,731	
Magnet-Free Non-Reciprocal Metamaterials Based on Spatio-Temporal Modulation	12.800	RFCUNY CM00001529-00	FA9550-18-1-0379	RESEARCH FOUNDATION OF CITY UNIVERSITY OF NEW YORK	\$0	\$734,732	
(MURI) Integrating Multiscale Modeling and Experiments to Develop a Meso-Informed Predictive Capability for Explosives Safety and Performance	12.800	UMISS C00064537-6	FA9550-19-1-0318	UNIVERSITY OF MISSOURI	\$0	\$189,913	
Mechanistic Studies of Microdroplet Chemistry	12.800	SU 62742083-204669	FA9550-21-0170	STANFORD UNIVERSITY	\$0	\$284,279	
(MURI-21) Molecular Systems Control in Networks of Communicating, Phase-Separated Droplets in Yeast	12.800	RFCUNY CM00005568-00	FA9550-21-1-0091	RESEARCH FOUNDATION OF CITY UNIVERSITY OF NEW YORK	\$0	\$50,093	
Comprehensive Minimally/non-invasive multifaceted assessment of Nano-/microelectronic Devices (CoMMAND)	12.800	SUNYBF R1316430	FA9550-22-1-0312	STATE UNIVERSITY OF NEW YORK AT BUFFALO	\$0	\$42,969	
Air Force Defense Research Sciences Program Totals					\$0	\$1,288,255	
Research and Technology Development							
Non-Equilibrium Order Parameter Optoelectronics for Quantum Information Processing	12.910	UCSD 122059822 (S9002421)	D18AC00014	UNIVERSITY OF CALIFORNIA, SAN DIEGO	\$0	\$54,714	
DECADES: Deeply-Customized Accelerator-Oriented Data Supply Systems Synthesis	12.910	PU SUB0000254	FA8650-18-2-7862	PRINCETON UNIVERSITY	\$0	\$88,389	
Electrogenic Regulation of Sleep Biomolecules for Circadian Cycle Adjustment	12.910	SU 62621899-192767	FA8650-21-2-7121	STANFORD UNIVERSITY	\$0	\$299,351	
Generating Alternatives for Interpretation and Analysis (GAIA)	12.910	USC 98328001	FA8750-18-2-0014	UNIVERSITY OF SOUTHERN CALIFORNIA	\$0	\$169,480	
CORAL: Combined Representations for Adept Learning	12.910	USC 124130701	FA8750-19-1-1000	UNIVERSITY OF SOUTHERN CALIFORNIA	\$0	\$145,260	

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						<u>Total Expenditures (Includes Subrecipients)</u>
ZK Proofs Unbound: Next-Generation Pipelines for Real-world Applications	12.910	NYU F1400-1	HR00112020022	NEW YORK UNIVERSITY	\$0	\$98,007
TÖNIC: Trusted Online Content	12.910	UCB 00010808	HR00112020054	UNIVERSITY OF CALIFORNIA, BERKELEY	\$0	\$218,034
Efficient infrared-to-visible conversion with an upconverting nanoparticle microlaser	12.910	UNIVMEL TA106974-CU	HR00112220006	University of Melbourne	\$0	\$313,450
HEPIUS: Holistic electrical, ultrasonic, and physiological interventions unburdening those with spinal cord injury	12.910	JHU 2005628110	N6600012024075	JOHNS HOPKINS UNIVERSITY	\$0	\$435,326
Discovering Common Sense from Video, Images, Text and Knowledge Bases	12.910	USC 123870980	N660011924032	UNIVERSITY OF SOUTHERN CALIFORNIA	\$0	\$259,597
Synthesizing and Quantifying Novel Videos for Classifying, Detecting, and Tracking Activities	12.910	UMARY 85946-Z9448201	W911NF2020009	UNIVERSITY OF MARYLAND	\$0	\$112,200
Research and Technology Development Totals					\$0	\$2,193,808
U.S. Department of Defense Totals					\$883,992	\$16,286,647
Total U.S. Department of Defense Passthrough Award Programs					\$883,992	\$16,355,702
Total U.S. Department of Defense					\$6,264,161	\$59,259,126
U.S. Department of Commerce						
Direct Awards						
Covid 19 Related Funding						
COVID-19-Understanding Methane Changes in Cities Affected by COVID-19 Shutdowns	11.431	NA21OAR4310235			\$0	\$163,044
Covid 19 Related Funding for U.S. Department of Commerce Totals					\$0	\$163,044
NOAA GML Collaborative Work on pCO2 Systems/Projects	11.RD	1305M322PNRMJ0338			\$0	\$60,245
Developing Novel Methods to Measure Historic Wetland Accretion	11.420	NA20NOS4200140			\$0	\$8,868
Supporting Regional Implementation of Integrated Climate Resilience Consortium for Climate Risk in the Urban Northeast (CCRUN) Phase III	11.431	NA21OAR4310313			\$316,345	\$2,164,920
Maintenance and Development of the Subseasonal to Seasonal Prediction Project (S2S) Database and Tools in IRI Data Library	11.459	NA21OAR4590266			\$0	\$127,928
Development and Evaluation of New Statistical Calibration Methods for Multi-Model Ensemble Week 3-4 Probabilistic Forecasts	11.468	NA18NWS4680067			\$0	\$43,706
Experimentally-driven mapping of QoS-to-QoE for Mission-Critical Voice	11.609	70NANB19H003			\$154,726	\$693,314
U.S. Department of Commerce Totals					\$471,071	\$3,098,981
Total U.S. Department of Commerce Direct Award Programs					\$471,071	\$3,262,025

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Pass-through Awards							
National Oceanic & Atmospheric Administration/Department of Commerce							
High-resolution Shipboard Measurements of Phytoplankton Functional Types, Size Classes and Photosynthetic Competency in Support of SUOMI-VIIRS Ocean Color Observations	11.RD	GSTI SA18-CUNY01	ST-1330-17-CQ-0050	GLOBAL SCIENCE & TECHNOLOGY INC	\$0	\$75,686	
National Oceanic & Atmospheric Administration/Department of Commerce Totals					\$0	\$75,686	
Integrated Ocean Observing System (IOOS)							
MARACOOS (Mid-Atlantic IOOS): Powering Understanding and Prediction of the Mid-Atlantic Ocean, Coast, and Estuaries	11.012	UDELAWARE UDR0000257	NA21NOS0120096	UNIVERSITY OF DELAWARE	\$0	\$73,042	
Integrated Ocean Observing System (IOOS) Totals					\$0	\$73,042	
Marine Sanctuary Program							
Telepresence-enabled Exploration and Outreach in National Marine Sanctuaries	11.429	OET 10302-1	NA18NOS4290215	OCEAN EXPLORATION TRUST	\$0	\$14,943	
Marine Sanctuary Program Totals					\$0	\$14,943	
Climate and Atmospheric Research							
Weddell Sea Moorings	11.431	UCAR SUBAWD001040	NA18OAR4310253B	UNIVERSITY CORPORATION FOR ATMOSPHERIC RESEARCH	\$0	\$64,432	
RSFO - CCRUN - Resilience of Small and Medium Businesses in Coastal Communities in the New York - New Jersey Metropolitan Region	11.431	UCAR SUBAWD002736	NA20OAR4310253C	UNIVERSITY CORPORATION FOR ATMOSPHERIC RESEARCH	\$14,716	\$18,120	
Climate and Atmospheric Research Totals					\$14,716	\$82,552	
National Oceanic and Atmospheric Administration (NOAA) Cooperative Institutes							
Ocean Exploration Cooperative Institute (OECI): Discovering the New America	11.432	OET 60500-1	NA19OAR4320072	OCEAN EXPLORATION TRUST	\$0	\$-6,295	
Innovative SubX Prediction Science: MJO-ENSO Interference	11.432	UMIAMI OS00000809	NA20OAR4320472	UNIVERSITY OF MIAMI	\$0	\$111,351	
National Oceanic and Atmospheric Administration (NOAA) Cooperative Institutes Totals					\$0	\$105,056	
Weather and Air Quality Research							
Enhancements to the RTE+RRTMGP Radiation Code in Support of NOAA Operational Forecasts	11.459	AER P2516-001	NA21OAR4590161	ATMOSPHERIC AND ENVIRONMENTAL RESEARCH	\$0	\$89,499	
Diagnostics Package for MJO-Teleconnections	11.459	GMU E2059981	NA22OAR4590216	GEORGE MASON UNIVERSITY	\$0	\$24,293	
Weather and Air Quality Research Totals					\$0	\$113,792	
U.S. Department of Commerce Totals					\$14,716	\$465,071	
Total U.S. Department of Commerce Passthrough Award Programs					\$14,716	\$465,071	
Total U.S. Department of Commerce					\$485,787	\$3,727,096	
U.S. Department of Education							
Direct Awards							
CU-NYU Latin American & Caribbean Studies Consortium Project	84.015	P015A180149 - 21			\$66,960	\$652,418	

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Fulbright-Hays Doctoral Dissertation Research Abroad	84.022	P022A220035			\$0	\$240,468	
Efficient and Flexible Tools for Complex Multilevel and Latent Variable Modeling in Education Research	84.305	R305D190048 - 21			\$2,251	\$5,742	
U.S. Department of Education Totals					<u>\$69,211</u>	<u>\$898,628</u>	
Total U.S. Department of Education Direct Award Programs					<u>\$69,211</u>	<u>\$898,628</u>	
Pass-through Awards							
Education Research, Development and Dissemination							
Early First-Dollar Categorical Need-Based Aid: A New Model for Making College Affordable?	84.305	UMICHG SUBK00018294	R305A220070	UNIVERSITY OF MICHIGAN	\$0	\$32,398	
Education Research, Development and Dissemination Totals					<u>\$0</u>	<u>\$32,398</u>	
U.S. Department of Education Totals					<u>\$0</u>	<u>\$32,398</u>	
Total U.S. Department of Education Passthrough Award Programs					<u>\$0</u>	<u>\$32,398</u>	
Total U.S. Department of Education							
Japan US Friendship Commission							
Direct Awards							
2022-2023 Japan-US Friendship Commission Prize for the Translation of Japanese Literature	90.300	JAPUS 22-17			\$0	\$6,804	
Japan US Friendship Commission Totals					<u>\$0</u>	<u>\$6,804</u>	
Total Japan US Friendship Commission Direct Award Programs					<u>\$0</u>	<u>\$6,804</u>	
Total Japan US Friendship Commission					<u>\$0</u>	<u>\$6,804</u>	
National Endowment for the Arts and Humanities							
Direct Awards							
An Integrated Online Archive for International History	45.149	PW-277555-21			\$0	\$154,998	
National Endowment for the Arts and Humanities Totals					<u>\$0</u>	<u>\$154,998</u>	
Total National Endowment for the Arts and Humanities Direct Award Programs					<u>\$0</u>	<u>\$154,998</u>	
Total National Endowment for the Arts and Humanities					<u>\$0</u>	<u>\$154,998</u>	
Other Agencies / Government							
Direct Awards							
Immunogens of high impact livestock pathogens	99.RD	KSU-1048			\$0	\$273,169	
Other Agencies / Government Totals					<u>\$0</u>	<u>\$273,169</u>	
Total Other Agencies / Government Direct Award Programs					<u>\$0</u>	<u>\$273,169</u>	

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Pass-through Awards						
Social Security Administration/DHHS						
Early Intervention Mental Health Demonstration Study	99.RD	WESTAT 6464-S02	SS001660014	WESTAT	\$0	\$22,519
Social Security Administration/DHHS Totals					\$0	\$22,519
Other Agencies / Government Totals					\$0	\$22,519
Total Other Agencies / Government Passthrough Award Programs					\$0	\$22,519
Total Other Agencies / Government					\$0	\$295,688
U.S. Department of Agriculture						
Direct Awards						
Covid 19 Related Funding						
COVID-19-Targeted surveillance of SARS-CoV-2 in White-Tailed Deer	10.028	AP23WSNWRC00C013			\$0	\$169,534
Covid 19 Related Funding for U.S. Department of Agriculture Totals					\$0	\$169,534
Prediction of viral zoonoses and reverse zoonoses using Next Generation Serodiagnostics (NGSeroDx)	10.001	USDA 58-3022-2-021			\$0	\$94,044
Multi-Breadbasket Failures and Shocks to Food Systems: AgMIP Simulations	10.250	59-6000-0-0071			\$0	\$8,523
An Integrated Approach to a Zero-Energy Greenhouse Using Solar and Geothermal Energy	10.310	USDA 2021-67021-34201			\$0	\$25,883
Puerto Rico Forest Disturbance and Regrowth Data Collection	10.684	USFS 19-DG-11132762-045			\$0	\$985
U.S. Department of Agriculture Totals					\$0	\$129,435
Total U.S. Department of Agriculture Direct Award Programs					\$0	\$298,969
Pass-through Awards						
Agricultural Research Basic and Applied Research						
Sciolog:MZT/Impact of Climate Variability on Foreign Animal Disease: Forecasting Highly Pathogenic Avian Influenza	10.001	RCSA 29031	58-3022-0-005	RES. CORP. FOR SCIENCE ADVANCEMENT	\$0	\$22,900
Molecular characterization of innate immune responses during HIV-1 and Zika virus coinfection of macrophages	10.001	CRDF R-202104-67759	NIAID	CIVILIAN RESEARCH AND DEVELOPMENT FOUNDATION	\$0	\$20,001
Agricultural Research Basic and Applied Research Totals					\$0	\$42,901

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R&D Cluster						
Agriculture and Food Research Initiative (AFRI)						
Freeze/Thaw Pulsing of Nitric Oxide: Mechanism, Magnitude, And Regional Impacts	10.310	RFCUNY CM00007730-00	2021-67020-34998	RESEARCH FOUNDATION OF CITY UNIVERSITY OF NEW YORK	\$0	\$91,845
Climate change and calorie crops - global impacts, adaptation and implications for US agricultural communities: Collaborative research with Columbia University and Boston University	10.310	BU 4500004250	2022-67023-36400	BOSTON UNIVERSITY	\$0	\$87,624
Agriculture and Food Research Initiative (AFRI) Totals					\$0	\$179,469
U.S. Department of Agriculture Totals					\$0	\$222,370
Total U.S. Department of Agriculture Passthrough Award Programs					\$0	\$222,370
Total U.S. Department of Agriculture					\$0	\$521,339
U.S. Department of Housing and Urban Development						
Direct Awards						
Urban fungal exposure, sensitization and asthma among a low-income population	14.906	NYHHU0042-18			\$0	\$-7,385
U.S. Department of Housing and Urban Development Totals					\$0	\$-7,385
Total U.S. Department of Housing and Urban Development Direct Award Programs					\$0	\$-7,385
Pass-through Awards						
Lead Technical Studies Grants						
Better Recognition of Exposure to Asthma Triggers in the Home Environment using Smartphones (BREATHE-Smart)	14.902	OSU SPC-1000004622/GR122799	OHHHU0057-20	OHIO STATE UNIVERSITY	\$0	\$6,849
Lead Technical Studies Grants Totals					\$0	\$6,849
U.S. Department of Housing and Urban Development Totals					\$0	\$6,849
Total U.S. Department of Housing and Urban Development Passthrough Award Programs					\$0	\$6,849
Total U.S. Department of Housing and Urban Development					\$0	\$-536
U.S. Department of Interior						
Direct Awards						
Measurement of Tritium, Helium, Neon, 3He/4He and Noble Gases in Ground Water Samples	15.RD	USGS G15PC00070			\$0	\$-64
Enabling Enhanced Water Recovery and Minimized Concentrate for Desalination of San Joaquin Valley Irrigation Drainage	15.506	DIBR R21AC10032			\$0	\$74,114
Earthquake Simulators and Next Generation Hazard Models (UCERF4): Collaborative Research with Columbia University and USGS Golden	15.807	G22AP00278-00			\$0	\$111,250
U.S. Department of Interior Totals					\$0	\$185,300
Total U.S. Department of Interior Direct Award Programs					\$0	\$185,300
Pass-through Awards						
U.S. Geological Survey Research and Data Collection						
2022 SCEC-USGS Research Collaboration at Columbia University	15.808	USC SCON-00003727	G22AC00070-01	UNIVERSITY OF SOUTHERN CALIFORNIA	\$0	\$49,445
U.S. Geological Survey Research and Data Collection Totals					\$0	\$49,445

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National and Regional Climate Adaptation Science Centers							
Host Cycle II of the Northeast Climate Adaption Science Center	15.820	UMASSAMH 22-015184 F 03	G19AC00091	UNIVERSITY OF MASSACHUSETTS AMHERST	\$0	\$45,950	
National and Regional Climate Adaptation Science Centers Totals					\$0	\$45,950	
U.S. Department of Interior Totals					\$0	\$95,395	
Total U.S. Department of Interior Passthrough Award Programs					\$0	\$95,395	
Total U.S. Department of Interior					\$0	\$280,695	
U.S. Department of Justice							
Pass-through Awards							
Second Chance Act Reentry Initiative							
Learning Lab for Justice-Involved Emerging Adults in Massachusetts	16.812	UTEC CU20-2547	BJA 2017-11540	UTEC	\$0	\$33	
Evaluation and Development Services in Support of DOJ-Funded Reentry Initiatives	16.812	UTEC CU21-3870	DOJ 2020-CY-BX-0019	UTEC	\$0	\$16,459	
Second Chance Act Reentry Initiative Totals					\$0	\$16,492	
U.S. Department of Justice Totals					\$0	\$16,492	
Total U.S. Department of Justice Passthrough Award Programs					\$0	\$16,492	
Total U.S. Department of Justice					\$0	\$16,492	
U.S. Department of State							
Direct Awards							
Correlation Detection and Location of Small Seismic Events in a Broad Region of Interest using data from a Rare Deployment	19.RD	19AQMM20P1944			\$0	\$9,613	
Open Start Up Morocco 2	19.040	SMO55021CA3030			\$0	\$79,881	
Supporting Chain of Command Analysis, Documentation, Preservation and Building Capacity of Civil Society to Pursue Justice and Accountability for Abuses Committed in Syria	19.345	SLMAQM20GR2491			\$305,467	\$407,665	
U.S. Department of State Totals					\$305,467	\$497,159	
Total U.S. Department of State Direct Award Programs					\$305,467	\$497,159	
Pass-through Awards							
International Programs to Support Democracy, Human Rights and Labor							
CYRILLA Phase II: Empowering digital rights policy and advocacy by expanding impact of digital rights legal data	19.345	SAQMIP22GR0131- CGFoE	SAQMIP22GR0131	STRATHMORE UNIVERSITY	\$0	\$2,226	
Developing Transitional Justice	19.345	NED 2020-08117	S-LMAQM-20-GR-2006	NATIONAL ENDOWMENT FOR DEMOCRACY	\$0	\$40,252	
International Programs to Support Democracy, Human Rights and Labor Totals					\$0	\$42,478	
U.S. Department of State Totals					\$0	\$42,478	
Total U.S. Department of State Passthrough Award Programs					\$0	\$42,478	
Total U.S. Department of State					\$305,467	\$539,637	

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U.S. Department of Transportation							
Pass-through Awards							
Highway Research and Development Program							
Inspection and Evaluation of Suspension Bridge Cables	20.200	MM CU18-2437	DTFH61-13-H-00024	MODJESKI AND MASTERS INC.	\$0	\$-65	
Highway Research and Development Program Totals					\$0	\$-65	
University Transportation Centers Program							
Center for Advanced Infrastructure and Transportation (CAIT) Regional UTC Consortium	20.701	RUTGER PO 966112/PID#824227	DOT 69A3551847102	RUTGERS, THE STATE UNIVERSITY OF NEW JERDEPARTMENT OF RADIOLOGY	\$0	\$118,485	
University Transportation Centers Program Totals					\$0	\$118,485	
U.S. Department of Transportation Totals					\$0	\$118,420	
Total U.S. Department of Transportation Passthrough Award Programs					\$0	\$118,420	
Total U.S. Department of Transportation					\$0	\$118,420	
U.S. Environmental Protection Agency							
Direct Awards							
Automated Model Reduction for Chemical Mechanisms	66.509	EPA 84001301			\$0	\$261,353	
U.S. Environmental Protection Agency Totals					\$0	\$261,353	
Total U.S. Environmental Protection Agency Direct Award Programs					\$0	\$261,353	
Pass-through Awards							
Long Island Sound Program							
Refined Integration of Remote Sensing with Biological Parameters for Improved Management of LIS Water Quality/Long Island Sound Study 2018-2022	66.437	CCONY CM00005171-01	LI-96261317-0	City College of New York	\$0	\$3,772	
Long Island Sound Program Totals					\$0	\$3,772	
Science To Achieve Results (STAR) Research Program							
Mainstream Deammonification with Biological Phosphorus Removal	66.509	WARF 5096	EPA 84008601-0	WATER RESEARCH FOUNDATION	\$0	\$179,415	
Science To Achieve Results (STAR) Research Program Totals					\$0	\$179,415	
Office of Research and Development Consolidated Research/Training/Fellowships							
Accounting for the Health Benefits of Air Pollution Regulations in China, 2008-2020	66.511	BU 4500004676	EPA CR-83998101	BOSTON UNIVERSITY	\$0	\$28,457	
Office of Research and Development Consolidated Research/Training/Fellowships Totals					\$0	\$28,457	
U.S. Environmental Protection Agency Totals					\$0	\$211,644	
Total U.S. Environmental Protection Agency Passthrough Award Programs					\$0	\$211,644	
Total U.S. Environmental Protection Agency					\$0	\$472,997	

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<u>Federal Grantor / Pass-through Grantor</u>	<u>Assistance Listing No.</u>	<u>Award Identification No.</u>	<u>Pass-through Contract Number</u>	<u>Passthrough Name</u>	<u>Subrecipients</u>	<u>R&D Cluster</u> <u>Total Expenditures (Includes Subrecipients)</u>
United States Agency for International Development						
Direct Awards						
Nolkup: an app to access low arsenic water in Bangladesh	98.RD	7200AA21FA00010			\$0	\$2,102
United States Agency for International Development Totals					<u>\$0</u>	<u>\$2,102</u>
Total United States Agency for International Development Direct Award Programs					<u>\$0</u>	<u>\$2,102</u>
Pass-through Awards						
U.S. Agency for International Development						
Climate Adaptation Support Activity (CASA)	98.RD	TETRAARD 1891-CASA IQS-IRI	GS00Q14OADU138/7200AA22N 00003	TETRA TECH ARD	\$0	\$7,518
U.S. Agency for International Development Totals					<u>\$0</u>	<u>\$7,518</u>
USAID Foreign Assistance for Programs Overseas						
Developing Acute Care and Emergency Referral Systems	98.001	CATHOLICRS CU 18-2493	7200AA18CA00051	CATHOLIC RELIEF SERVICES	\$0	\$153,353
The Microbicide 2021 Introduction and Access Project	98.001	FHID PO22001429	7200AA21CA00011	FHI DEVELOPMENT 360 LLC	\$0	\$393,017
SERVIR West Africa 2	98.001	ICRISAT 01/2022/ICRISAT/CU	72062422IO00002	ICRISAT	\$0	\$38,171
Malaria Lab Resistance Mutants (Columbia)	98.001	MMV RD-08-0015	AID CU09-1816	Medicines for Malaria Venture	\$0	\$428,730
Evaluating the implementation and effectiveness of an integrated psychosocial intervention to reduce psychological distress and intimate partner violence among forced migrants in Ecuador and Panama	98.001	FY20-A04-6024	AID-OAA-A-17-00002	HIAS	\$0	\$19,845
Clean Air Catalyst: A Global Partnership for Accelerating Clean Air Solutions	98.001	WRI G2264	USAID 7200AA20CA00014	WORLD RESOURCES INSTITUTE	\$0	\$143,415
USAID Foreign Assistance for Programs Overseas Totals					<u>\$0</u>	<u>\$1,176,531</u>
United States Agency for International Development Totals					<u>\$0</u>	<u>\$1,184,049</u>
Total United States Agency for International Development Passthrough Award Programs					<u>\$0</u>	<u>\$1,184,049</u>
Total United States Agency for International Development					<u>\$0</u>	<u>\$1,186,151</u>
Total RESEARCH AND DEVELOPMENT					<u>\$143,542,954</u>	<u>\$995,667,608</u>

The accompanying footnotes are an integral part of the Schedule of Expenditures of Federal Awards

The Trustees of Columbia University in the City of New York
Schedule of Expenditures of Federal Awards
For year ended June 30, 2023

<u>Federal Grantor / Pass-through Grantor</u>	<u>Assistance Listing No.</u>	<u>Award Identification No.</u>	<u>Pass-through Contract Number</u>	<u>Passthrough Name</u>	Student Financial Aid Cluster	
					<u>Subrecipients</u>	<u>Total Expenditures (Includes Subrecipients)</u>
Student Financial Assistance Cluster						
U.S. Department of Health and Human Services						
Direct Awards						
Nurse Faculty Loan Program (NFLP)	93.264	2 E01HP27012 03 00			\$0	\$90,211
Health Professions Student Loans, Including Primary Care Loans and Loans for Disadvantaged Students	93.342	4E11HP27286 04 00			\$0	\$12,711,652
Nursing Students	93.364				\$0	\$1,362,508
U.S. Department of Health and Human Services Totals					<u>\$0</u>	<u>\$14,164,371</u>
Total U.S. Department of Health and Human Services Direct Award Programs					<u>\$0</u>	<u>\$14,164,371</u>
Total U.S. Department of Health and Human Services (Excluding NIH)					<u>\$0</u>	<u>\$14,164,371</u>
U.S. Department of Education						
Direct Awards						
Federal Supplemental Education Opportunity Grant 2022-2023	84.007	P007A222737			\$0	\$927,907
Federal Work-Study 2022-2023	84.033	P033A222737			\$0	\$7,838,470
Federal Perkins Loans	84.038				\$0	\$21,801,957
Federal PELL Grant Program 2022-2023	84.063	P063P221840			\$0	\$11,629,006
Federal Direct Loan Program 2022/2023	84.268	P268K231840			\$0	\$320,185,545
U.S. Department of Education Totals					<u>\$0</u>	<u>\$362,382,885</u>
Total U.S. Department of Education Direct Award Programs					<u>\$0</u>	<u>\$362,382,885</u>
Total Student Financial Assistance Cluster					<u>\$0</u>	<u>\$376,547,256</u>

The accompanying footnotes are an integral part of the Schedule of Expenditures of Federal Awards

The Trustees of Columbia University in the City of New York
Schedule of Expenditures of Federal Awards
For year ended June 30, 2023

<u>Federal Grantor / Pass-through Grantor</u>	<u>Assistance Listing No.</u>	<u>Award Identification No.</u>	<u>Pass-through Contract Number</u>	<u>Passthrough Name</u>	<u>Subrecipients</u>	<u>Total Expenditures (Includes Subrecipients)</u>
Global Aids						
U.S. Department of Health and Human Services						
Direct Awards						
Covid 19 Related Funding						
COVID-19-GH20-2024 Achieving and Maintaining Epidemic Control through Comprehensive HIV/AIDS Prevention, Care and Treatment Services in the Haut Katanga Region of the Democratic Republic of Congo under PEPFAR	93.067	6NU2HGH000083-02-03			\$0	\$3,482,871
Covid 19 Related Funding for U.S. Department of Health and Human Services Totals					<u>\$0</u>	<u>\$3,482,871</u>
Global AIDS	93.067	6NU2GGH002368-02-05			\$15,319,067	\$165,582,466
U.S. Department of Health and Human Services Totals					<u>\$15,319,067</u>	<u>\$165,582,466</u>
Total U.S. Department of Health and Human Services Direct Award Programs					<u>\$15,319,067</u>	<u>\$169,065,337</u>
Pass-through Awards						
Global AIDS						
Improving Mental Health and HIV/TB Service Integration (IMHSI) in South Africa under the President s Emergency Plan for AIDS Relief (PEPFAR)	93.067	FPD CU22-2375	1NU2GGH002393-01-00	FOUNDATION FOR PROFESSIONAL DEVELOPMENT	\$0	\$20,999
Delivering Comprehensive and Sustainable HIV/AIDS Clinical and Community Services to Achieve HIV Epidemic Control in Subnational Units in Nigeria under the President s Emergency Plan for AIDS Relief (	93.067	CIHP CU22-0527	NU2GGH002418-01	CENTRE FOR INTEGRATED HEALTH PROGRAMS	\$0	\$88,415
Global AIDS Totals					<u>\$0</u>	<u>\$109,414</u>
U.S. Department of Health and Human Services Totals					<u>\$0</u>	<u>\$109,414</u>
Total U.S. Department of Health and Human Services Passthrough Award Programs					<u>\$0</u>	<u>\$109,414</u>
Total U.S. Department of Health and Human Services (Excluding NIH)					<u>\$15,319,067</u>	<u>\$169,174,751</u>
Grand Total: U.S. Department of Health & Human Services					<u>\$15,319,067</u>	<u>\$169,174,751</u>
Total Global Aids					<u>\$15,319,067</u>	<u>\$169,174,751</u>

The accompanying footnotes are an integral part of the Schedule of Expenditures of Federal Awards

The Trustees of Columbia University in the City of New York
Schedule of Expenditures of Federal Awards
For year ended June 30, 2023

Higher Education Emergency Relief Fund

<u>Federal Grantor / Pass-through Grantor</u>	<u>Assistance Listing No.</u>	<u>Award Identification No.</u>	<u>Pass-through Contract Number</u>	<u>Passthrough Name</u>	<u>Subrecipients</u>	<u>Total Expenditures (Includes Subrecipients)</u>
Higher Education Emergency Relief Fund						
U.S. Department of Education						
Direct Awards						
Covid 19 Related Funding						
COVID-19-Columbia University CARE Act Application	84.425E	P425E202142			\$0	\$195,970
COVID-19-Columbia University HEERF II Application - Institutional Portion	84.425F	P425F205200			\$0	\$222,692
Covid 19 Related Funding for U.S. Department of Education Totals					<u>\$0</u>	<u>\$418,662</u>
Total U.S. Department of Education Direct Award Programs					<u>\$0</u>	<u>\$418,662</u>
Total Higher Education Emergency Relief Fund					<u>\$0</u>	<u>\$418,662</u>

The accompanying footnotes are an integral part of the Schedule of Expenditures of Federal Awards

The Trustees of Columbia University in the City of New York
Schedule of Expenditures of Federal Awards
For year ended June 30, 2023

Highway Safety Cluster

<u>Federal Grantor / Pass-through Grantor</u>	<u>Assistance Listing No.</u>	<u>Award Identification No.</u>	<u>Pass-through Contract Number</u>	<u>Passthrough Name</u>	<u>Subrecipients</u>	<u>Total Expenditures (Includes Subrecipients)</u>
Highway Safety Cluster						
U.S. Department of Transportation						
Pass-through Awards						
National Priority Safety Programs						
Integrating Single and Polysubstance Impaired Driving Data into the Crash Outcome Data Evaluation System (CODES)	20.616	HRI 6582-03	DOT CU20-1445	Health Research Inc	\$0	\$75,869
National Priority Safety Programs Totals					\$0	\$75,869
Total U.S. Department of Transportation Passthrough Award Programs					\$0	\$75,869
Total U.S. Department of Transportation					\$0	\$75,869
Total Highway Safety Cluster					\$0	\$75,869

The accompanying footnotes are an integral part of the Schedule of Expenditures of Federal Awards

The Trustees of Columbia University in the City of New York
Schedule of Expenditures of Federal Awards
For year ended June 30, 2023

<u>Federal Grantor / Pass-through Grantor</u>	<u>Assistance Listing No.</u>	<u>Award Identification No.</u>	<u>Pass-through Contract Number</u>	<u>Passthrough Name</u>	<u>Subrecipients</u>	TRIO Cluster <u>Total Expenditures (Includes Subrecipients)</u>
TRIO Cluster						
U.S. Department of Education						
Direct Awards						
Talent Search Program at Columbia University s Double Discovery Center	84.044	P044A210414			\$0	\$425,808
TRIO Upward Bound Program	84.047	P047A170670-21			\$0	\$593,086
U.S. Department of Education Totals					<u>\$0</u>	<u>\$1,018,894</u>
Total U.S. Department of Education Direct Award Programs					<u>\$0</u>	<u>\$1,018,894</u>
Total TRIO Cluster					<u>\$0</u>	<u>\$1,018,894</u>

The accompanying footnotes are an integral part of the Schedule of Expenditures of Federal Awards

The Trustees of Columbia University in the City of New York
Schedule of Expenditures of Federal Awards
For year ended June 30, 2023

<u>Federal Grantor / Pass-through Grantor</u>	<u>Assistance Listing No.</u>	<u>Award Identification No.</u>	<u>Pass-through Contract Number</u>	<u>Passthrough Name</u>	<u>Subrecipients</u>	<u>Total Expenditures (Includes Subrecipients)</u>
Other Programs						
U.S. Department of Health and Human Services						
Direct Awards						
National Institute for Occupational Safety & Health/CDC/DHHS	93 .U01	20IPA2014150			\$0	\$35,249
Nurse Anesthetist Traineeship	93.124	5A22HP33098-04-00			\$0	\$53,364
HIV-Related Training and Technical Assistance	93.145	5U10HA29291-09-00			\$2,625,175	\$5,497,187
Research on Healthcare Costs, Quality and Outcomes	93.226	1R13HS027726-01			\$0	\$64,803
Health Systems Strengthening and HIV/AIDS Prevention, Care and Treatment under the President's Emergency Plan for AIDS Relief	93.266	4UH6HA30739 04 11			\$0	\$1,075,143
Protecting and Improving Health Globally: Building and Strengthening Public Health Impact, Systems, Capacity and Security	93.318	5NU2HGH000035-03-00			\$0	\$7,100,845
Congressional Directives	93.493	1H79FG000751-01			\$0	\$1,218
U.S. Department of Health and Human Services Totals					<u>\$2,625,175</u>	<u>\$13,827,809</u>
Total U.S. Department of Health and Human Services Direct Award Programs					<u>\$2,625,175</u>	<u>\$13,827,809</u>
Pass-through Awards						
National Bioterrorism Hospital Preparedness Program						
NYC Healthcare Emergency Surge Staffing	93.889	PUBHS 22-TCU-01	U3REP190597	Public Health Solutions	\$0	\$95,000
National Bioterrorism Hospital Preparedness Program Totals					<u>\$0</u>	<u>\$95,000</u>
Ryan White HIV/AIDS Dental Reimbursement and Community Based Dental Partnership Grants						
Ryan White Part F / Dental Reimbursement Program (DRP)	93.924	NYPH CU23-1195	1T22HA46946 01 00	PRESBYTERIAN HOSPITAL IN THE CITY OF NEWYORK	\$0	\$163,825
Ryan White HIV/AIDS Dental Reimbursement and Community Based Dental Partnership Grants Totals					<u>\$0</u>	<u>\$163,825</u>
HIV Prevention Activities Non-Governmental Organization Based						
ASCLM/Alliance CDC PS21-2102	93.939	ASCNYC CU22-0732	1NU62PS924688-01-00	AIDS SERVICE CENTER OF LOWER MANHATTANINC	\$0	\$79,424
Comprehensive High-Impact HIV Prevention Prog	93.939	NYPH CU22-1358	1NU62PS924702-01-00	PRESBYTERIAN HOSPITAL IN THE CITY OF NEWYORK	\$0	\$125,743
HIV Prevention Activities Non-Governmental Organization Based Totals					<u>\$0</u>	<u>\$205,167</u>
U.S. Department of Health and Human Services Totals					<u>\$0</u>	<u>\$463,992</u>
Total U.S. Department of Health and Human Services Passthrough Award Programs					<u>\$0</u>	<u>\$463,992</u>
Total U.S. Department of Health and Human Services (Excluding NIH)					<u>\$2,625,175</u>	<u>\$14,291,801</u>

The accompanying footnotes are an integral part of the Schedule of Expenditures of Federal Awards

The Trustees of Columbia University in the City of New York
Schedule of Expenditures of Federal Awards
For year ended June 30, 2023

<u>Federal Grantor / Pass-through Grantor</u>	<u>Assistance Listing No.</u>	<u>Award Identification No.</u>	<u>Pass-through Contract Number</u>	<u>Passthrough Name</u>	<u>Subrecipients</u>	<u>Other Programs</u> <u>Total Expenditures (Includes Subrecipients)</u>
National Institute of Health						
Pass-through Awards						
Covid 19 Related Funding						
Family Violence Prevention and Services/ Sexual Assault/Rape Crisis Services and Supports						
COVID-19-Family Violence Prevention and Services Act Rape Crisis Centers and Sexual Assault Programs Supplemental COVID-19 Funding	93.497	SOCFS CU23-0524	2202NYFSC6	New York State Office of Children & Family Services	\$0	\$44,283
Covid 19 Related Funding for Family Violence Prevention and Services/ Sexual Assault/Rape Crisis Services and Supports Totals					\$0	\$44,283
Covid 19 Related Funding for National Institute of Health Totals					\$0	\$44,283
Department of Health & Human Services						
Development and Delivery of Childcare Emergency Operations Plans Trainings in Puerto Rico	93 .U02	PRDFA 241-2023-001867	DHHS CU21-1274	PUERTO RICO DEPARTMENT OF FAMILY AFFAIRS	\$0	\$108,955
Department of Health & Human Services Totals					\$0	\$108,955
National Institute of Health Totals					\$0	\$108,955
Total National Institute of Health Passthrough Award Programs					\$0	\$153,238
Total National Institute of Health					\$0	\$153,238
Grand Total: U.S. Department of Health & Human Services					\$2,625,175	\$14,445,039
National Aeronautics & Space Administration						
Direct Awards						
Variable Stiffness Compliant Mechanisms for Deployable, Reconfigurable Structures	43.012	80NSSC20K0587			\$0	\$57,664
National Aeronautics & Space Administration Totals					\$0	\$57,664
Total National Aeronautics & Space Administration Direct Award Programs					\$0	\$57,664
Pass-through Awards						
National Aeronautics & Space Administration						
Assistance in the Organization of the 2021 Salinity Science Conference	43 .U01	JPLCIT 1661438	NASA CU20-4421	JET PROPULSION LAB, CALIFORNIA INSTITUTE OF TECHNOLOGY	\$0	\$21,003
National Aeronautics & Space Administration Totals					\$0	\$21,003
National Aeronautics & Space Administration Totals					\$0	\$21,003
Total National Aeronautics & Space Administration Passthrough Award Programs					\$0	\$21,003
Total National Aeronautics & Space Administration					\$0	\$78,667

The accompanying footnotes are an integral part of the Schedule of Expenditures of Federal Awards

The Trustees of Columbia University in the City of New York
Schedule of Expenditures of Federal Awards
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<u>Federal Grantor / Pass-through Grantor</u>	<u>Assistance Listing No.</u>	<u>Award Identification No.</u>	<u>Pass-through Contract Number</u>	<u>Passthrough Name</u>	<u>Subrecipients</u>	<u>Other Programs</u> <u>Total Expenditures</u> <u>(Includes Subrecipients)</u>
U.S. Department of Energy						
Direct Awards						
International Workshop on Recent Developments in Electronic Structure	81.049	DE-SC0023089			\$0	\$10,000
					U.S. Department of Energy Totals	\$0
					Total U.S. Department of Energy Direct Award Programs	\$0
					Total U.S. Department of Energy	\$10,000
U.S. Department of Defense						
Direct Awards						
The Mixed-Integer Programming Workshop 2020	12.300	N00014-20-1-2082			\$0	\$686
Decentralized Information Management in the Environmental and Computational Sciences	12.431	W911NF-23-1-0044			\$0	\$938
					U.S. Department of Defense Totals	\$0
					Total U.S. Department of Defense Direct Award Programs	\$0
					Total U.S. Department of Defense	\$1,624
U.S. Department of Education						
Direct Awards						
Middle East Institute 2022 FLAS Application	84.015	P015B220112			\$2,920	\$908,794
					U.S. Department of Education Totals	\$2,920
					Total U.S. Department of Education Direct Award Programs	\$2,920
					Total U.S. Department of Education	\$908,794
National Archives and Records Administration						
Direct Awards						
Preserving Government Responses to the Pandemic	89.003	NHPRC RH-103451-22			\$0	\$62,836
					National Archives and Records Administration Totals	\$0
					Total National Archives and Records Administration Direct Award Programs	\$0
					Total National Archives and Records Administration	\$62,836

The accompanying footnotes are an integral part of the Schedule of Expenditures of Federal Awards

The Trustees of Columbia University in the City of New York
Schedule of Expenditures of Federal Awards
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Other Programs

<u>Federal Grantor / Pass-through Grantor</u>	<u>Assistance Listing No.</u>	<u>Award Identification No.</u>	<u>Pass-through Contract Number</u>	<u>Passthrough Name</u>	<u>Subrecipients</u>	<u>Total Expenditures (Includes Subrecipients)</u>
National Endowment for the Arts and Humanities						
Direct Awards						
EARLY / MODERN: Pre-Classical to Contemporary Concerts (Early Music, Jazz, Composer Portraits)	45.024	NEA 1905617-31-23			\$0	\$15,000
Archives as Data: An Institute for Advanced Topics in the Digital Humanities	45.169	HT-288201-22			\$0	\$37,300
National Endowment for the Arts and Humanities Totals					\$0	\$52,300
Total National Endowment for the Arts and Humanities Direct Award Programs					\$0	\$52,300
Total National Endowment for the Arts and Humanities					\$0	\$52,300
Other Agencies / Government						
Direct Awards						
ReNew Court Pilot Phase 2	99 .U01	USDCNJ CU22-1791			\$0	\$169,175
Other Agencies / Government Totals					\$0	\$169,175
Total Other Agencies / Government Direct Award Programs					\$0	\$169,175
Pass-through Awards						
Small Business Development Centers						
The New York Small Business Development Center (NY SBDC) 2022-2023	59.037	SUNYRF CU23-1441	SBAOEDSB230002-01-00	RESEARCH FOUNDATION OF THE STATE UNIVERSITY OF NEW YORK	\$0	\$203,873
Small Business Development Centers Totals					\$0	\$203,873
Other Agencies / Government Totals					\$0	\$203,873
Total Other Agencies / Government Passthrough Award Programs					\$0	\$203,873
Total Other Agencies / Government					\$0	\$373,048
U.S. Department of Homeland Security						
Direct Awards						
Designing and Administering Custom Housing Programs for State, Tribal, and Territorial Governments	97.005	EMW-2020-CA-00064-S01			\$0	\$2,069,587
U.S. Department of Homeland Security Totals					\$0	\$2,069,587
Total U.S. Department of Homeland Security Direct Award Programs					\$0	\$2,069,587
Pass-through Awards						
Covid 19 Related Funding						
State and Local Homeland Security National Training Program						
COVID-19-Disaster Grants - Public Assistance (Presidentially Declared Disasters)	97.036	4480DR-NY	061-UXQLI-00	New York; Major Disaster and Related Determinations	\$0	\$10,202,141
Covid 19 Related Funding for State and Local Homeland Security National Training Program Totals					\$0	\$10,202,141
Covid 19 Related Funding for U.S. Department of Homeland Security Totals					\$0	\$10,202,141
Total U.S. Department of Homeland Security Passthrough Award Programs					\$0	\$10,202,141
Total U.S. Department of Homeland Security					\$0	\$12,271,728

The accompanying footnotes are an integral part of the Schedule of Expenditures of Federal Awards

The Trustees of Columbia University in the City of New York
Schedule of Expenditures of Federal Awards
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<u>Federal Grantor / Pass-through Grantor</u>	<u>Assistance Listing No.</u>	<u>Award Identification No.</u>	<u>Pass-through Contract Number</u>	<u>Passthrough Name</u>	<u>Subrecipients</u>	<u>Total Expenditures (Includes Subrecipients)</u>
U.S. Department of State						
Direct Awards						
FY 2019 Ngawang Choephel Fellows Program	19.012	S-ECAGD-19-GR-0128			\$0	\$247,634
Capacity Building, Knowledge Sharing, and Air Quality Improvement for Anglophone and Francophone West Africa	19.017	SLMAQM21CA3263			\$41,002	\$228,812
To Implement Renovation of Badinan Gate Project Which Restore Damaged Historic Aspects of the Gate to its Original State	19.021	SIZ-100-19-GR0031			\$102,824	\$250,710
Integrating Climate Risk Management in Agricultural Curricula in Senegal	19.040	SSG20022GR0011			\$0	\$33,969
U.S. Department of State Totals					<u>\$143,826</u>	<u>\$761,125</u>
Total U.S. Department of State Direct Award Programs					<u>\$143,826</u>	<u>\$761,125</u>
Total U.S. Department of State					<u>\$143,826</u>	<u>\$761,125</u>
U.S. Department of Treasury						
Pass-through Awards						
Covid 19 Related Funding						
Department of Treasury						
COVID-19-Preparing Vulnerable Workers for Job Re-entry in Los Angeles County (WDACS)	21.027	LADEO PRRR-WFR-01	SLFRP0137	Los Angeles Department of Economic Opportunity	\$0	\$46,427
Covid 19 Related Funding for Department of Treasury Totals					<u>\$0</u>	<u>\$46,427</u>
Covid 19 Related Funding for U.S. Department of Treasury Totals					<u>\$0</u>	<u>\$46,427</u>
Total U.S. Department of Treasury Passthrough Award Programs					<u>\$0</u>	<u>\$46,427</u>
Total U.S. Department of Treasury					<u>\$0</u>	<u>\$46,427</u>
U.S. Department of Veterans Affairs						
Direct Awards						
Post exertion malaise in GWI Brain autonomic and behavioral interactions	64 .U01	36C24E19D0034			\$0	\$150,738
U.S. Department of Veterans Affairs Totals					<u>\$0</u>	<u>\$150,738</u>
Total U.S. Department of Veterans Affairs Direct Award Programs					<u>\$0</u>	<u>\$150,738</u>
Pass-through Awards						
Department of Veterans Affairs						
IPA Jason Nagati	64 .U02	JJPVA CU23-1127	DEPARTMENT OF VETERANS AFFAIRS	JAMES J PETERS VA MEDICAL CENTER	\$0	\$27,169
Department of Veterans Affairs Totals					<u>\$0</u>	<u>\$27,169</u>
U.S. Department of Veterans Affairs Totals					<u>\$0</u>	<u>\$27,169</u>
Total U.S. Department of Veterans Affairs Passthrough Award Programs					<u>\$0</u>	<u>\$27,169</u>
Total U.S. Department of Veterans Affairs					<u>\$0</u>	<u>\$177,907</u>

The accompanying footnotes are an integral part of the Schedule of Expenditures of Federal Awards

The Trustees of Columbia University in the City of New York
Schedule of Expenditures of Federal Awards
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<u>Federal Grantor / Pass-through Grantor</u>	<u>Assistance Listing No.</u>	<u>Award Identification No.</u>	<u>Pass-through Contract Number</u>	<u>Passthrough Name</u>	<u>Subrecipients</u>	<u>Total Expenditures (Includes Subrecipients)</u>
United States Agency for International Development						
Direct Awards						
Malaria Diagnosis and Treatment Activity	98.001	72066318CA00005			\$0	\$5,466,214
United States Agency for International Development Totals					<u>\$0</u>	<u>\$5,466,214</u>
Total United States Agency for International Development Direct Award Programs					<u>\$0</u>	<u>\$5,466,214</u>
Pass-through Awards						
U.S. Agency for International Development						
Global Fund for Women Localization Activity Learning Partnership	98 .U01	GFW 22-60374R	7200AA22FA00010	Global Fund for Women	\$0	\$33,019
Egyptian Economic Governance for Development Project II	98 .U02	DAI 1004369-21S-35968-00	AID 7200AA18D00008/72026320F00	DAI	\$0	\$172,969
U.S. Agency for International Development Totals					<u>\$0</u>	<u>\$205,988</u>
USAID Foreign Assistance for Programs Overseas						
Meeting Targets and Maintaining Epidemic Control	98.001	JHPIEGO 19-SBA-149	7200AA19CA00003	JOHNS HOPKINS PROG FOR INTRNL EDUCA. INGYN/OB	\$209,715	\$6,502,430
One Health Workforce - Next Generation (OHW-NG)	98.001	UCD A20-1412-S007	7200AA19CA00018	UNIVERSITY OF CALIFORNIA, DAVIS	\$0	\$460,309
Young Southeast Asian Leaders Initiative Mekong Leadership Program (YSEALI-MLP)	98.001	EDC 2023-0013	72044022CA00004	EDUCATION DEVELOPMENT CENTER	\$0	\$185,798
USAID Foreign Assistance for Programs Overseas Totals					<u>\$209,715</u>	<u>\$7,148,537</u>
United States Agency for International Development Totals					<u>\$209,715</u>	<u>\$7,354,525</u>
Total United States Agency for International Development Passthrough Award Programs					<u>\$209,715</u>	<u>\$7,354,525</u>
Total United States Agency for International Development					<u>\$209,715</u>	<u>\$12,820,739</u>
Provider Relief Fund						
Direct Awards						
Covid 19 Related Funding						
COVID-19-Provider Relief Fund and American Rescue Plan (ARP) Rural Distribution	93.498	General and Administrative (G&A) Expenses			\$0	\$6,044,552
Covid 19 Related Funding for Provider Relief Fund Totals					<u>\$0</u>	<u>\$6,044,552</u>
Total Provider Relief Fund Direct Award Programs					<u>\$0</u>	<u>\$6,044,552</u>
Total Provider Relief Fund					<u>\$0</u>	<u>\$6,044,552</u>
Total Other Programs					<u>\$2,981,636</u>	<u>\$48,054,786</u>
Total Federal Award Expenditures:					<u>\$161,843,657</u>	<u>\$1,590,957,826</u>

The accompanying footnotes are an integral part of the Schedule of Expenditures of Federal Awards

The Trustees of Columbia University in the City of New York
Notes to Summary Schedule of Expenditures of Federal Awards
Year ended June 30, 2023

1. Basis of Presentation

The accompanying Schedule of Expenditures of Federal Awards (the “Schedule”) has been prepared in accordance with OMB Uniform Guidance. The purpose of the Schedule is to present a summary of those activities of the University for the year ended June 30, 2023, which have been financed by the U.S. Government (“Federal awards”). For purposes of the Schedule, Federal awards include all Federal assistance entered into directly between the University and the Federal government and also between the University and other primary recipients of Federal government funds (pass-through), recorded on the accrual basis of accounting. Negative amounts listed on the Schedule represent adjustments, in the normal course of business, to amounts included on the prior year’s Schedule. The Award Identification No. on the Schedule represents the number assigned by the direct or originating sponsor, and when not available an alpha-numeric number is assigned by the University to manage sponsored project spending. The pass-through contract number on the Schedule represents the number assigned by the pass-through entity to the applicable program. Federal award Assistance Listing numbers and pass-through numbers are provided when available.

2. Facility and Administrative Costs

Expenditures include a portion of costs associated with general University activities (facilities and administrative) which are allocated to federal awards under negotiated formulas commonly referred to as facilities and administrative rates. The University applies its predetermined approved facilities and administrative rate when charging indirect costs to federal awards rather than the 10% de minimis cost rate as described in Section 200.414 of the Uniform Guidance.

3. Student Loan Programs

With respect to the Federal Direct Loan Program (Federal Assistance Listing #84.268), the University is only responsible for the performance of certain administrative duties; therefore, the transactions and the balances of loans outstanding related to this program are not included in the University's consolidated financial statements. The schedule includes the amounts loaned to students during the year ended June 30, 2023. It is not practical to estimate the outstanding balance of loans under this program.

The University is responsible for the oversight and management of the U.S. Department of Education's Federal Title IV Program which includes Federal Perkins Loan Programs, as well as Health Resources and Services Administration (HRSA) Title VII and Title VIII loanprograms funded by the Department of Health and Human Services:

(Amounts in thousands)

Federal Agency	Loan Program	Federal Assistance Listing Number	Outstanding Principal Balance at June 30, 2023
Education	Perkins Loan	84.038	\$ 12,075
DHHS	Health Professionals	93.342	9,942
DHHS	Nursing Students	93.364	1,147
			\$ 23,165

The Trustees of Columbia University in the City of New York

Notes to Summary Schedule of Expenditures of Federal Awards

Year ended June 30, 2023

Loans outstanding at the beginning of the fiscal year 2023 are included in the federal expenditures presented in the Schedule.

The federally approved administrative cost allowed under the Title IV program for Federal Work study, Federal Perkins and Federal SEOG for the fiscal year ending June 30, 2023 was \$414 thousand. This expense was charged to the Federal Work Study Program.

4. Provider Relief Fund and American Rescue Plan (ARP) Rural Distribution

The Schedule includes grant activity related to the Provider Relief Fund and American Rescue Plan (ARP) Rural Distribution (Federal Assistance Listing #93.498). As required, based on guidance in the 2023 OMB Compliance Supplement, the Schedule includes all Period 4 funds received between July 1, 2021 and December 31, 2021, as reported to HRSA via the PRF Reporting Portal. There was no Period 5 funding. In addition, the University received other COVID-19 related funding, identified on separate lines in the Schedule by Federal Assistance Listing number with “COVID-19” as a prefix added to the program name in the specific cluster where they reside.

5. Disaster Grants-Public Assistance (Presidentially Declared Disasters)

For the year ended June 30, 2023, the University recorded \$10,202,141 of claims to Federal Emergency Management Agency (FEMA) under Federal Assistance Listing #97.036. The claims submitted represented incurred eligible capital and operating expenses attributed to the University’s response to COVID-19, which were not only expended, but also approved by the federal and state agencies. The University has additional claims outstanding and under review with FEMA as of June 30, 2023 which will be recognized in the year the related funds are approved by FEMA at the federal and state agencies.

The Trustees of Columbia University in the City of New York
Schedule of Financial Responsibility Data
For the Years Ended June 30, 2023 and 2022
(in thousands of dollars, unless otherwise noted)

Location in financial statements or related notes	Financial element	GAAP financial statement line item or disclosure	Amount used as ratio input
Primary Reserve Ratio: Expendable Net Assets			
Statement of financial position	Net assets without donor restrictions	\$ 8,383,806	\$ 8,383,806
Statement of financial position	Net assets with donor restrictions	10,334,014	10,334,014
Note 22, Financial Responsibility Standards	Unsecured related party receivable		11,396
Note 22, Financial Responsibility Standards	Total property, plant, and equipment, net		4,475,279
Note 22, Financial Responsibility Standards	Property, plant and equipment, net - pre-implementation		4,475,279
Note 22, Financial Responsibility Standards	Property, plant and equipment, net - post-implementation with outstanding debt for original purchase		21,739
Note 22, Financial Responsibility Standards	Property, plant and equipment, net - post-implementation without outstanding debt for original purchase		1,322,303
Note 22, Financial Responsibility Standards	Construction in progress		231,150
Statement of financial position	Total lease right-of-use assets	268,267	
N/A	Lease right-of-use assets, pre-implementation		-
Statement of financial position	Lease right-of-use assets, post-implementation		268,267
N/A	Intangible assets		-
Statement of financial position	Post-employment and pension liabilities (Accrued employee benefit liabilities)	490,463	490,463
Note 22, Financial Responsibility Standards	Total long-term debt for the purchase of PPE		
Note 22, Financial Responsibility Standards	Long-term debt - for long-term purposes pre-implementation		1,494,897
Note 22, Financial Responsibility Standards	Long-term debt - for long-term purposes post-implementation		446,070
N/A	Line of Credit for Construction in progress		-
Statement of financial position	Total liability related to lease right-of-use assets	279,423	
N/A	Liability related to lease right-of-use assets - pre-implementation		-
Statement of financial position	Liability related to lease right-of-use assets - post-implementation		279,423
Note 22, Financial Responsibility Standards	Annuities and life income funds with donor restrictions		82,389
Note 22, Financial Responsibility Standards	Term endowments with donor restrictions		4,670,926
Note 22, Financial Responsibility Standards	Net assets with donor restrictions: restricted in perpetuity		4,772,432
Primary Reserve Ratio: Expenses and Losses			
Note 22, Financial Responsibility Standards	Total expenses and losses without donor restrictions		\$ 6,070,107
Equity Ratio: Modified Net Assets			
Statement of financial position	Net assets without donor restrictions	\$ 8,383,806	\$ 8,383,806
Statement of financial position	Net assets with donor restrictions	10,334,014	10,334,014
N/A	Intangible assets		-
Note 22, Financial Responsibility Standards	Unsecured related party receivable		11,396
Equity Ratio: Modified Assets			
Statement of financial position	Total assets	\$ 23,594,888	\$ 23,594,888
N/A	Lease right-of-use assets, pre-implementation		-
N/A	Intangible assets		-
Note 22, Financial Responsibility Standards	Unsecured related party receivable		11,396
Net Income Ratio			
Statement of activities	Change in net assets without donor restrictions	\$ 80,480	\$ 80,480
Note 22, Financial Responsibility Standards	Total revenues and gains without donor restrictions		6,138,546

See accompanying independent auditors' report.



Report of Independent Auditors on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance with *Government Auditing Standards*

To The Trustees of Columbia University in the City of New York

We have audited, in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States, the consolidated financial statements of The Trustees of Columbia University in the City of New York and its subsidiaries (the “University”), which comprise the consolidated statements of financial position as of June 30, 2023, and the related consolidated statements of activities and of cash flows for the year then ended, including the related notes (collectively referred to as the “consolidated financial statements”), and have issued our report thereon dated October 17, 2023, except for footnotes 19 and 22 with respect to the consolidated financial statements and the opinion on the schedule of financial responsibility data, as to which the date is March 25, 2024.

Report on Internal Control Over Financial Reporting

In planning and performing our audit of the consolidated financial statements, we considered the University’s internal control over financial reporting (internal control) as a basis for designing audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the consolidated financial statements, but not for the purpose of expressing an opinion on the effectiveness of the University’s internal control. Accordingly, we do not express an opinion on the effectiveness of the University’s internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control such that there is a reasonable possibility that a material misstatement of the entity’s financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses or significant deficiencies may exist that were not identified.

Report on Compliance and Other Matters

As part of obtaining reasonable assurance about whether the University’s consolidated financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements, noncompliance with which could have a direct and material effect on the financial statements. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.



Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the University's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the University's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

PricewaterhouseCoopers LLP

New York, New York

October 17, 2023, except for footnotes 19 and 22 with respect to the consolidated financial statements and the opinion on the schedule of financial responsibility data, as to which the date is March 25, 2024.



Report of Independent Auditors on Compliance for Each Major Program and on Internal Control Over Compliance Required by Uniform Guidance

To The Trustees of Columbia University in the City of New York

Report on Compliance for Each Major Federal Program

Opinion on Each Major Federal Program

We have audited The Trustees of Columbia University in the City of New York and its subsidiaries' (the "University") compliance with the types of compliance requirements identified as subject to audit in the *OMB Compliance Supplement* that could have a direct and material effect on each of the University's major federal programs for the year ended June 30, 2023. The University's major federal programs are identified in the summary of auditor's results section of the accompanying schedule of findings and questioned costs.

In our opinion, the University complied, in all material respects, with the compliance requirements referred to above that could have a direct and material effect on each of its major federal programs for the year ended June 30, 2023.

Basis for Opinion on Each Major Federal Program

We conducted our audit of compliance in accordance with auditing standards generally accepted in the United States of America (US GAAS); the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States; and the audit requirements of Title 2 U.S. *Code of Federal Regulations* Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance). Our responsibilities under those standards and the Uniform Guidance are further described in the Auditors' Responsibilities for the Audit of Compliance section of our report.

We are required to be independent of the University and to meet our other ethical responsibilities, in accordance with relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion on compliance for each major federal program. Our audit does not provide a legal determination of the University's compliance with the compliance requirements referred to above.

Responsibilities of Management for Compliance

Management is responsible for compliance with the requirements referred to above and for the design, implementation, and maintenance of effective internal control over compliance with the requirements of laws, statutes, regulations, rules and provisions of contracts or grant agreements applicable to the University's federal programs.

Auditors' Responsibilities for the Audit of Compliance

Our objectives are to obtain reasonable assurance about whether material noncompliance with the compliance requirements referred to above occurred, whether due to fraud or error, and express an opinion on the University's compliance based on our audit. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with US GAAS, *Government Auditing Standards*, and the Uniform Guidance will always detect material noncompliance when it exists. The risk of not detecting material noncompliance resulting



from fraud is higher than for that resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Noncompliance with the compliance requirements referred to above is considered material, if there is a substantial likelihood that, individually or in the aggregate, it would influence the judgment made by a reasonable user of the report on compliance about the University's compliance with the requirements of each major federal program as a whole.

In performing an audit in accordance with US GAAS, *Government Auditing Standards*, and the Uniform Guidance, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material noncompliance, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the University's compliance with the compliance requirements referred to above and performing such other procedures as we considered necessary in the circumstances.
- Obtain an understanding of the University's internal control over compliance relevant to the audit in order to design audit procedures that are appropriate in the circumstances and to test and report on internal control over compliance in accordance with the Uniform Guidance, but not for the purpose of expressing an opinion on the effectiveness of the University's internal control over compliance. Accordingly, no such opinion is expressed.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and any significant deficiencies and material weaknesses in internal control over compliance that we identified during the audit.

Other Matters

The results of our auditing procedures disclosed an instance of noncompliance, which is required to be reported in accordance with the Uniform Guidance and which is described in the accompanying schedule of findings and questioned costs as item 2023-001. Our opinion on each major federal program is not modified with respect to this matter.

Government Auditing Standards requires the auditor to perform limited procedures on the University's response to the noncompliance finding identified in our audit described in the accompanying management's views and corrective action plan. The University's response was not subjected to the other auditing procedures applied in the audit of compliance and, accordingly, we express no opinion on the response.

Report on Internal Control Over Compliance

A deficiency in internal control over compliance exists when the design or operation of a control over compliance does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, noncompliance with a type of compliance requirement of a federal program on a timely basis. *A material weakness in internal control over compliance* is a deficiency, or combination of deficiencies, in internal control over compliance, such that there is a reasonable possibility that material noncompliance with a type of compliance requirement of a federal program will not be prevented, or detected and corrected, on a timely basis. *A significant deficiency in internal control over compliance* is a deficiency, or a combination of deficiencies, in internal control over compliance with a type of compliance requirement of a federal program that is less severe than a material weakness in internal control over compliance, yet important enough to merit attention by those charged with governance.

Our consideration of internal control over compliance was for the limited purpose described in the



Auditors' Responsibilities for the Audit of Compliance section above and was not designed to identify all deficiencies in internal control over compliance that might be material weaknesses or significant deficiencies in internal control over compliance. Given these limitations, during our audit we did not identify any deficiencies in internal control over compliance that we consider to be material weaknesses, as defined above. However, material weaknesses or significant deficiencies in internal control over compliance may exist that were not identified.

Our audit was not designed for the purpose of expressing an opinion on the effectiveness of internal control over compliance. Accordingly, no such opinion is expressed.

The purpose of this report on internal control over compliance is solely to describe the scope of our testing of internal control over compliance and the results of that testing based on the requirements of the Uniform Guidance. Accordingly, this report is not suitable for any other purpose.

PricewaterhouseCoopers LLP

New York, New York
March 25, 2024

The Trustees of Columbia University in the City of New York
Schedule of Findings and Questioned Costs
Year Ended June 30, 2023

Section I – Schedule of Findings and Questioned Costs

Financial Statements

Type of report of independent auditors issued: **Unmodified**

Internal control over financial reporting:
 Material weakness (es) identified? _____ Yes X No

Significant deficiencies(s) identified that are not considered to be material weaknesses? _____ Yes X None reported

Noncompliance material to financial statements noted? _____ Yes X No

Federal Awards

Internal Control over major programs:
 Material weakness (es) identified? _____ Yes X No

Significant deficiencies(s) identified that are not considered to be material weaknesses _____ Yes X None reported

Type of independent auditors' report issued on compliance for major programs: **Unmodified**

Any audit findings disclosed that are required to be reported in accordance with 2 CFR 200.516(a)? X Yes _____ No

Identification of major programs:

<u>Federal Assistance Listing Number(s)</u>	<u>Name of Federal Program or Cluster</u>
Various	Research & Development Cluster
93.498	COVID-19 - Provider Relief Fund and American Rescue Plan (ARP) Rural Distribution
93.067	Global AIDS
98.001	USAID Foreign Assistance for Programs Overseas
97.036	COVID-19 - Disaster Grants – Public Assistance (Presidentially Declared Disasters)
93.145	HIV-Related Training and Technical Assistance
97.005	State and Local Homeland Security National Training Program

Dollar threshold used to distinguish between Type A and Type B programs: \$4,772,873

Auditee qualified as low-risk auditee? X Yes _____ No

The Trustees of Columbia University in the City of New York

Schedule of Findings and Questioned Costs

Year Ended June 30, 2023

Section II—Financial Statement Findings

As a result of our audit, no instances of noncompliance related to the financial statements that are required to be reported in accordance with *Government Auditing Standards* were identified.

Section III—Federal Award Findings and Questioned Costs

2023-001 – Provider Relief Fund Reporting

Cluster: Not applicable

Award Name: Provider Relief Fund and American Rescue Plan (ARP) Rural Distribution

Assistance Listing #: 93.498

Assistance Listing Title: COVID-19 - Provider Relief Fund and American Rescue Plan (ARP) Rural Distribution – Period 4

Award Year: January 1, 2020 to December 31, 2022

Criteria

The Provider Relief Fund (“PRF”) payments may be used for eligible expenses or lost revenue attributable to COVID-19 that are not reimbursed from another source. Providers who received PRF must report on use of funds within the reporting portal, which requires recipients report eligible expenses and lost revenue assigned to the calendar quarter each was generated. The Department of Health and Human Services Terms and Conditions for the PRF award indicate that recipients certify “that all information it provides as part of its application for the Payment, as well as all information and reports relating to the Payment that it provides in the future at the request of the Secretary or Inspector General, are true, accurate and complete, to the best of its knowledge”.

Condition

The University utilized both COVID-19 related expenses and lost revenues to justify recognition of the Period 4 PRF. In order to reconcile the underlying expense detail to the Period 4 PRF Reporting portal submission, management identified adjustments were needed to the general and administrative category quarterly expense subtotals reported. The total cumulative expense amounts reported were unchanged.

Cause

When completing the portal submission, the reconciliation of expense detail reported to the general ledger had not been fully completed. Upon review, the University determined certain adjustments were necessary to the amounts of allowable costs reported for certain quarters in the Period 4 PRF portal submission. Total cumulative expenses allocated to the award remain as filed.

Effect

The effect was incorrect quarterly reporting of allowable costs in the reporting of the General and Administrative Expenses. Total cumulative expenses allocated to the award remain as filed.

The Trustees of Columbia University in the City of New York
Schedule of Findings and Questioned Costs
Year Ended June 30, 2023

Recommendation

We recommend management enhance the design and implementation of controls around review of any future required portal submissions to ensure they comply with the terms and conditions and guidance issued by Health Resources & Services Administrator (HRSA). Additionally, we recommend the University contact HRSA to determine any required corrective actions related to the incorrect reporting.

The Trustees of Columbia University in the City of New York
Summary Schedule of Prior Audit Findings
Year Ended June 30, 2023

There were no prior year audit findings that require an update in this report.

COLUMBIA UNIVERSITY

IN THE CITY OF NEW YORK

OFFICE OF THE VICE PRESIDENT FINANCE AND CONTROLLER

Management's Response and Corrective Action Plan Regarding OMB Uniform Guidance Audit Findings for the Year Ended June 30, 2023

2023-001 – Provider Relief Fund Reporting

Response

Management concurs that expenses reported in HRSA's portal in certain periodic reporting require adjustment. Total expenses reported in the final report remain unchanged. Management will write to HRSA to explain this reporting matter and to inquire if any further steps are necessary. Future HRSA PRF reporting will require an additional level of review after preparation by CUIMC, as recommended by PwC.

Responsible person contact name: Renotta Young, Deputy Controller (212) 854-4684.



Mark Hawkins,
Vice President for Finance and Controller
The Trustees of Columbia University in the City of New York