

# **University of Pennsylvania**

**Philadelphia, Pennsylvania**

**Reports on Federal Awards in**

**Accordance with OMB Uniform Guidance**

**June 30, 2017**

**Federal Entity Identification**

**Number 23-1352685**

**University of Pennsylvania  
Reports on Federal Awards in  
Accordance with OMB Uniform Guidance  
Index  
June 30, 2017**

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## **I. Financial**



## **Report of Independent Auditors**

To the Trustees of the University of Pennsylvania:

### **Report on the Consolidated Financial Statements**

We have audited the accompanying consolidated financial statements of the University of Pennsylvania (the "University"), which comprise the consolidated statements of financial position as of June 30, 2017 and 2016, and the related consolidated statements of activities and of cash flows for the years then ended and the related notes to the financial statements.

### ***Management's Responsibility 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; this includes 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.

### ***Auditors' Responsibility***

Our responsibility is to express an opinion on the consolidated financial statements based on our audits. We conducted our audits 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. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on our judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, we consider internal control relevant to the University's preparation and fair presentation of the consolidated financial statements 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, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

### ***Opinion***

In our opinion, based on our audits, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of the University of Pennsylvania as of June 30, 2017 and 2016, and the changes in their net assets and their cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.



## ***Other Matters***

### ***Other 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, 2017 is 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 is 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 is fairly stated, in all material respects, in relation to the consolidated financial statements as a whole.

### ***Other Reporting Required by Government Auditing Standards***

In accordance with *Government Auditing Standards*, we have also issued our report dated September 29, 2017 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, 2017. The purpose of that report is 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*

September 29, 2017  
Philadelphia, Pennsylvania

## Consolidated Statements of Financial Position

University of Pennsylvania  
(in thousands)

	June 30, 2017	June 30, 2016
<b>Assets</b>		
Cash and cash equivalents	\$ 972,818	\$ 1,127,602
Accounts receivable, net	388,212	323,787
Patient receivables, net	696,591	646,878
Contributions receivable, net	241,352	242,849
Loans receivable, net	91,037	97,663
Other assets	263,850	279,887
Investments, at fair value	13,976,628	12,261,643
Property, plant and equipment, net	6,452,306	6,202,907
Total assets	<u>\$ 23,082,794</u>	<u>\$ 21,183,216</u>
<b>Liabilities</b>		
Accounts payable	\$ 242,260	\$ 237,835
Accrued expenses and other liabilities	1,993,775	1,788,359
Deferred income	215,613	210,331
Deposits, advances and agency funds	150,336	162,719
Federal student loan advances	82,009	80,796
Accrued retirement benefits	1,448,418	1,630,133
Debt obligations	2,702,950	2,560,454
Total liabilities	<u>6,835,361</u>	<u>6,670,627</u>
<b>Net assets</b>		
Unrestricted	9,466,538	8,447,469
Temporarily restricted	3,108,053	2,629,729
Permanently restricted	3,672,842	3,435,391
	<u>16,247,433</u>	<u>14,512,589</u>
Total liabilities and net assets	<u>\$ 23,082,794</u>	<u>\$ 21,183,216</u>

The accompanying notes are an integral part of these consolidated financial statements.

# Consolidated Statements of Activities

University of Pennsylvania  
for the years ended June 30, 2017 and 2016  
(in thousands)

	2017	2016
<b><u>Unrestricted</u></b>		
Revenue and other support:		
Tuition and fees, net	\$ 937,868	\$ 903,076
Commonwealth appropriations	33,606	32,927
Sponsored programs	967,189	904,337
Contributions and donor support	194,539	201,488
Investment income	540,679	439,405
Net patient service revenue	5,702,819	5,319,743
Sales and services of auxiliary enterprises	120,265	118,629
Other income	619,183	577,691
Independent operations	78,040	79,024
	9,194,188	8,576,320
Expenses:		
Compensation and benefits	5,086,246	4,728,829
Depreciation and amortization	471,093	452,748
Interest on indebtedness	80,421	78,634
Other operating expenses	3,258,969	2,879,776
	8,896,729	8,139,987
Increase in net assets from operations	<b>297,459</b>	<b>436,333</b>
Nonoperating revenue, net gains, reclassifications and other:		
Return on investments, net of amounts classified as operating revenue	465,613	(229,472)
Pension, OPEB and other, net	221,164	(326,234)
Contributions and donor support for capital related activities	34,833	1,413,635
Total nonoperating revenue, net gains, reclassifications and other	721,610	857,929
Increase in unrestricted net assets	1,019,069	1,294,262
<b><u>Temporarily Restricted</u></b>		
Contributions	159,146	202,633
Return on investments, net	735,228	(82,844)
Net assets released from restrictions	(416,050)	(516,775)
Increase (decrease) in temporarily restricted net assets	478,324	(396,986)
<b><u>Permanently Restricted</u></b>		
Contributions	203,286	136,471
Return on investments, net	34,165	(12,178)
Increase in permanently restricted net assets	237,451	124,293
Increase in net assets from nonoperating and restricted revenue, net gains, reclassifications and other	<b>1,437,385</b>	<b>585,236</b>
Increase in total net assets	<b>1,734,844</b>	<b>1,021,569</b>
Net assets, beginning of year	14,512,589	13,491,020
Net assets, end of year	<b>\$ 16,247,433</b>	<b>\$ 14,512,589</b>

The accompanying notes are an integral part of these consolidated financial statements.

## Consolidated Statements of Cash Flows

University of Pennsylvania  
for the years ended June 30, 2017 and 2016  
(in thousands)

	2017	2016
Cash flows from operating activities:		
Increase in net assets	\$ 1,734,844	\$ 1,021,569
Adjustment to reconcile increase in net assets to net cash provided by operating activities:		
Depreciation and amortization	471,387	452,748
Provision for bad debts	201,231	222,591
(Gain) loss on investments, net	(1,358,190)	223,085
Loss on disposal of property, plant and equipment	87,153	4,562
Donated equipment	(937)	(341)
Proceeds from split-interest agreements designated for operations	22,515	22,508
Receipt of contributed securities	(113,317)	(49,593)
Proceeds from contributed securities	29,436	18,112
Receipt of contributions designated for the acquisition of long-lived assets and long-term investment	(177,858)	(1,507,309)
Pension, OPEB and other, net	(221,164)	321,672
Changes in operating assets and liabilities:		
Patient, accounts and loans receivable	(308,636)	(300,276)
Contributions receivable	914	29,298
Other assets	6,905	(16,797)
Accounts payable, accrued expenses and accrued retirement benefits	51,591	31,433
Deposits, advances and agency funds	(12,789)	46,737
Deferred income	5,282	40,232
Net cash provided by operating activities	418,367	560,231
Cash flows from investing activities:		
Purchase of investments	(7,879,448)	(8,217,553)
Proceeds from sale of investments	7,682,436	8,293,026
Purchase of property, plant and equipment	(781,421)	(767,373)
Cash acquired in Lancaster General Hospital (LGH) membership substitution	-	97,307
Net cash used by investing activities	(978,433)	(594,593)
Cash flows from financing activities:		
Proceeds from contributions received designated for the acquisition of long-lived assets and long-term investment	179,000	220,594
Proceeds from contributed securities received designated for the acquisition of long-lived assets and long-term investment	83,278	30,338
Federal student loan advances	1,213	447
Repayment of long-term debt	(58,509)	(103,366)
Proceeds from issuances of long-term debt	200,300	79,967
Net cash provided by financing activities	405,282	227,980
Net (decrease) increase in cash and cash equivalents	(154,784)	193,618
Cash and cash equivalents, beginning of year	1,127,602	933,984
Cash and cash equivalents, end of year	\$ 972,818	\$ 1,127,602
Supplemental disclosure of cash flow information:		
Cash paid for interest, net of amounts capitalized	\$ 79,944	\$ 81,108
Contributed securities received	113,317	49,593
Increase in accrued property, plant and equipment	32,301	18,572
Assets acquired in LGH membership substitution	-	1,984,574
Liabilities assumed in LGH membership substitution	-	696,689
Contribution received in LGH membership substitution	-	1,287,885

The accompanying notes are an integral part of these consolidated financial statements.



# Consolidated Notes to Financial Statements

## 1. Significant Accounting Policies

### Organization

The University of Pennsylvania (the University), located in Philadelphia, Pennsylvania, is an independent, nonsectarian, not-for-profit institution of higher learning founded in 1740. The University Academic Component (Academic Component) provides educational services, primarily for students at the undergraduate, graduate, professional and postdoctoral levels and performs research, training and other services under grants, contracts and similar agreements with sponsoring organizations, primarily departments and agencies of the United States Government. The University also operates an integrated health care delivery system, the University of Pennsylvania Health System (UPHS). The University is a tax-exempt organization under Section 501(c) (3) of the Internal Revenue Code.

### Basis of Presentation

The consolidated financial statements have been prepared on the accrual basis of accounting and include the accounts of the University and its subsidiaries, over which the University has a controlling financial interest or exercises control. All material transactions between the University and its subsidiaries are eliminated in consolidation. Investments in subsidiaries over which the University has the ability to exercise significant influence are reported using the equity method of accounting. Other investments in subsidiaries are reported using the cost method of accounting.

The net assets of the University are classified and reported as follows:

Unrestricted - Net assets that are not subject to donor-imposed restrictions.

Temporarily restricted - Net assets that are subject to legal or donor-imposed restrictions that will be met by actions of the University and/or the passage of time. These net assets include gifts donated for specific purposes and appreciation on permanent endowment, which is restricted by Pennsylvania law on the amounts that may be expended in a given year.

Permanently restricted - The original value of donor restricted net assets, the use of which is limited to investment and can only be appropriated for expenditure by the University in accordance with the Pennsylvania Uniform Principal and Income Act (Pennsylvania Act).

Expenses are reported as a decrease in unrestricted net assets. Gains and losses on investments are reported as increases or decreases in unrestricted net assets unless their use is restricted by explicit donor stipulation or by law. Donor-restricted resources intended for the acquisition or construction of long-lived assets are initially reported as temporarily restricted net assets and released from restrictions from temporarily restricted net assets to unrestricted net assets when the asset is placed in service or in accordance with donor-specified terms.

Expirations of temporary restrictions on contributions and investment income, reported as Net assets released from restrictions, and the corresponding amounts are included in the Consolidated Statements of Activities as follows (in thousands):

<b>Temporarily Restricted Net Assets</b>	<b>2017</b>	<b>2016</b>
Net assets released from restrictions	\$ (416,050)	\$ (516,775)
<b>Unrestricted Net Assets</b>	<b>2017</b>	<b>2016</b>
Contributions and donor support	\$ 118,077	\$ 125,241
Investment income	263,140	241,766
Contributions and donor support for capital related activities	34,833	149,768
Net assets released from restrictions	\$ 416,050	\$ 516,775

Gains or losses associated with investment activities are included in Return on investments, net. Gains or losses associated with property, plant and equipment disposals are included in Other operating expenses. Gains or losses associated with all other activities, such as debt retirements and pension and postretirement plan actuarial valuation adjustments are reported in Pension, Other post-retirement employee benefits (OPEB) and other, net.

Certain prior period amounts have been reclassified to conform to the current year's presentation due primarily to the adoption, as of June 30, 2017, of the standard on Clarifying When a Not-for-Profit Entity That Is a General Partner or a Limited Partner Should Consolidate a For-Profit Limited Partnership or Similar Entity, issued by the Financial Accounting Standards Board (FASB) in January 2017. The standard allows not-for-profit entities that have elected the fair value option to deconsolidate investments in limited partnerships and similar entities and report them at fair value. The standard was applied retrospectively.

## Fair Value

The University values certain financial and non-financial assets and liabilities by applying the FASB pronouncement on Fair Value Measurements. The pronouncement defines fair value and establishes a framework for measuring fair value that includes a hierarchy that categorizes and prioritizes the sources used to measure and disclose fair value. Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date (an exit price). The hierarchy is broken down into three levels based on inputs that market participants would use in valuing the asset or liability and are developed based on market data obtained from sources independent of the University as follows:

Level 1: Unadjusted quoted market prices in active markets for identical assets or liabilities.

Level 2: Unadjusted quoted prices in active markets for similar assets or liabilities, unadjusted quoted prices for identical or similar assets or liabilities in markets that are not active, or inputs other than quoted prices that are observable.

Level 3: Unobservable inputs for the asset or liability.

Inputs broadly refer to the assumptions that market participants use to make valuation decisions, including assumptions about risk. Inputs may include price information, volatility statistics, specific and broad credit data, liquidity statistics and other factors. The University is required by the pronouncement to maximize the use of observable inputs (Levels 1 and 2) and minimize the use of unobservable inputs (Level 3). The University considers observable data to be that market data which is readily available, regularly distributed or updated, reliable and verifiable, not proprietary and provided by independent sources that are actively involved in the relevant market. The categorization of a financial instrument within the hierarchy is based upon the pricing transparency of the instrument and does not necessarily correspond to the University's perceived risk of that instrument.

Assets and liabilities are disclosed in the Consolidated Notes to Financial Statements within the hierarchy based on the lowest (or least observable) input that is significant to the measurement. The University's assessment of the significance of an input requires judgment, which may affect the valuation and categorization within the fair value hierarchy. The fair value of assets and liabilities using Level 3 inputs are generally determined by using pricing models or discounted cash flow methods, which all require significant management judgment or estimation.

As a practical expedient, the University is permitted to estimate the fair value of an investment in an investment company at the measurement date using the reported net asset value (NAV). Adjustment is required if the University expects to sell the investment at a value other than NAV or if the NAV is not calculated in accordance with US generally accepted accounting principles (US GAAP). The University holds investments in its portfolio which are generally valued based on the most current NAV. This amount represents fair value of these investments at June 30, 2017 and 2016. Investments reported at NAV, as a practical expedient, are not included within levels 1, 2, or 3 in the fair value hierarchy.

# Consolidated Notes to Financial Statements

The University performs additional procedures including due diligence reviews on its investments in investment companies and other procedures with respect to the capital account or NAV provided to ensure conformity with US GAAP. The University has assessed factors including, but not limited to, managers' compliance with the *Fair Value Measurement* standard, price transparency and valuation procedures in place.

## Cash and Cash Equivalents

Cash equivalents include short-term, highly liquid investments and are carried at cost which approximates fair value. Unrestricted short-term investments available for current operations with maturities of three months or less when purchased are classified as cash equivalents.

## Investments, at Fair Value

The majority of the University's investments are held in the Associated Investments Fund (AIF). The AIF is invested in accordance with the investment policies set out by an Investment Board which has been appointed by the Trustees of the University of Pennsylvania (the Trustees). The Office of Investments is responsible for the day-to-day management of the AIF including identifying, selecting and monitoring a variety of external investment managers to implement the strategic asset allocation set forth by the Investment Board. The AIF may include marketable and not readily marketable securities that it intends to hold for an indefinite period of time. The University also holds other investments which are not invested in the AIF due to various restrictions. The majority of these investments are in highly liquid short-term and equity type investments. Changes in the fair value of investments are reported in Return on investments, net in the Consolidated Statements of Activities. The following is a summary of the investments held in the AIF by asset allocation as well as investment risk:

### Short-Term

Short-term investments include cash equivalents and fixed income investments with maturities of less than one year. Short-term investments are valued using observable market data and are categorized as Level 1 based on quoted market prices in active markets. The majority of these short-term investments are held in a US Treasury money market account.

### Equity

Equity investments consist of direct holdings of public securities in managed accounts as well as exchange traded funds, commingled funds and limited partnerships. The securities held in managed accounts, along with exchange traded funds are generally valued based on quoted market prices in active markets obtained from exchange or dealer markets for identical assets, and are accordingly categorized as Level 1. Commingled funds and limited partnerships are valued at NAV.

### Debt

Debt investments consist of direct holdings of securities in managed accounts and limited partnerships. Securities such as US Treasuries, held in managed accounts, are valued based on quoted market prices in active markets and are categorized as Level 1. Securities such as corporate bonds, high yield bonds and bank loans, also held in managed accounts, are valued based on quoted market prices or dealer or broker quotations and are categorized as Level 2 or in the cases where inputs are unobservable as Level 3. Limited partnership interests are valued at NAV.

### Absolute Return

Absolute return investments are made up of allocations to limited partnerships. The fund managers of limited partnerships invest in a variety of securities, based on the strategy of the fund, which may or may not be quoted in an active market. Illiquid investments, if any, are generally designated as a side pocket by hedge fund managers and may be valued based on an appraised value, discounted cash flow, industry comparables or some other method. Limited partnership interests are valued at NAV.

## *Real Estate*

Investments in real estate are primarily in the form of close-ended limited partnership interests. The fund managers of limited partnerships primarily invest in private investments for which there is no readily determinable market value. The fund manager may value the underlying private investments based on an appraised value, discounted cash flow, industry comparables or some other method. These limited partnership investments are valued at NAV. Real estate investments also include an open-ended real estate investment trust valued at NAV.

## *Private Equity*

Investments in private equity are in the form of close-ended limited partnership interests. The fund managers of limited partnerships primarily invest in private investments for which there is no readily determinable market value. The fund manager may value the underlying private investments based on an appraised value, discounted cash flow, industry comparables or some other method. These limited partnership investments are valued at NAV.

## *Natural Resources*

Investments in natural resources are made up of limited partnership interests and securities in managed accounts. The limited partnership fund managers primarily invest in private investments for which there is no readily determinable market value. The fund manager may value the underlying private investments based on an appraised value, discounted cash flow, industry comparables or some other method. These limited partnership investments are valued at NAV. The University directly holds the securities held in the managed accounts through a custodial relationship. The securities held in the managed accounts are generally valued based on quoted market prices in active markets obtained from exchange or dealer markets for identical assets, and are accordingly categorized as Level 1.

## *Derivatives*

The University, in the normal course of business, utilizes derivative financial instruments in connection with its investment activity. Derivatives utilized by the University include futures, options, swaps and forward currency contracts and are reflected at fair value following the definition of Level 1 and 2 assets and liabilities as previously described. Investments in derivative contracts are subject to foreign exchange and equity price risks that can result in a loss of all or part of an investment. In addition, the University is also subject to additional counterparty risk should its counterparties fail to meet the terms of their contracts.

## *Investment Risks*

The University's investing activities expose it to a variety of risks, including market, credit and liquidity risks and attempts to identify, measure and monitor risk through various mechanisms including risk management strategies and credit policies.

Market risk is the potential for changes in the fair value of the University's investment portfolio. Commonly used categories of market risk include currency risk (exposure to exchange rate differences between functional currency relative to other foreign currencies), interest rate risk (changes to prevailing interest rates or changes in expectations of futures rates) and price risk (changes in market value other than those related to currency or interest rate risk, including the use of NAV provided).

Credit risk is the risk that one party to a financial investment will cause a financial loss for the other party by failing to discharge an obligation (counterparty risk).

Liquidity risk is the risk that the University will not be able to meet its obligations associated with financial liabilities.

## Endowment

The University's endowment consists of 6,126 donor-restricted permanent or term endowment funds and 881 unrestricted endowment funds established by management for a variety of purposes. The University reports all endowment investments at fair value. The majority of the endowment funds of the University have been pooled in the University's AIF, which is invested in equities, bonds, hedge funds, natural resources, private equity and real estate limited partnerships. The endowment funds not pooled in the AIF are primarily invested in equities and bonds.

The Commonwealth of Pennsylvania has not adopted the Uniform Management of Institutional Funds Act (UMIFA) or the Uniform Prudent Management of Institutional Funds Act (UPMIFA). Rather, the Pennsylvania Act governs the investment, use and management of the University's endowment funds.

The Pennsylvania Act does not require the preservation of the fair value of a donor's original gift as of the gift date of a donor-restricted endowment fund, absent explicit donor stipulations to the contrary. However, based on its interpretation of the Pennsylvania Act and relevant accounting literature, the University classifies as permanently restricted net assets for reporting purposes: (i) the original value of gifts donated to the permanent endowment; (ii) the original value of subsequent gifts to the permanent endowment; and (iii) accumulations to the permanent endowment made in accordance with the direction of the applicable donor gift instrument at the time the accumulation is added to the fund. The remaining portion of the donor-restricted endowment fund that is not classified in permanently restricted net assets is classified as temporarily restricted net assets until those amounts are appropriated for expenditure by the University. The Pennsylvania Act allows a nonprofit to elect to appropriate for expenditure between 2% and 7% of the endowment fair value, determined at least annually and averaged over a period of three or more preceding years.

In accordance with the Pennsylvania Act, the University has elected to adopt and follow an investment policy seeking a total return for the investments held by the AIF, whether the return is derived from appreciation of capital or earnings and distributions with respect to capital or both. The endowment spending policy which the Board of Trustees has elected to govern the expenditure of funds invested in the AIF is designed to manage annual spending levels and is independent of the cash yield and appreciation of investments for the year. For Fiscal Year 2017, the spending rule target payout was based on the sum of: (i) 70% of the prior fiscal year distribution adjusted by an inflation factor; and (ii) 30% of the prior fiscal year-end fair value of the AIF, lagged one year, multiplied by 5.3% for financial aid funds and 5.0% for all other funds. The payout or allocation to operations exceeded actual income, net of expenses and net of income permanently reinvested, by \$485,860,000 in 2017 and by \$365,366,000 in 2016.

Effective for Fiscal Year 2018, the University revised its spending rule formula to align the target spending rate for both the financial aid and non-financial aid endowments at 5.0%.

## Property, Plant and Equipment

Property, plant and equipment ('PPE') is reported net of related depreciation. Donated PPE is reported based on estimated fair value at the date of acquisition. Capital leases are categorized as buildings or equipment and are reflected at the lower of the net present value of the minimum lease payments or the fair value of the leased asset at the inception of the lease. All other PPE is reported at cost. Depreciation is computed on the straight-line method over the estimated useful lives of the assets or the shorter of the lease term or estimated useful life of the asset for capital lease assets. Contributions of library materials as well as rare books and other collectibles, are not recorded for financial statement presentation, while purchases are recorded as Other operating expenses on the Consolidated Statement of Activities in the period acquired.

## Split-Interest Agreements

The University's split-interest agreements with donors consist of irrevocable charitable remainder trusts, charitable gift annuities, pooled income funds, perpetual trusts and charitable lead trusts. Assets are invested and payments are made to donors and/or other beneficiaries in accordance with the respective agreements.

# Consolidated Notes to Financial Statements

The University recognizes assets contributed to charitable remainder trusts, charitable gift annuities and pooled income funds, where it serves as trustee, at fair value, recognizes a liability to the beneficiaries based on the present value of the estimated future payments to beneficiaries to be made over the estimated remaining life of those beneficiaries using current market rates at the date of the contribution, and recognizes the difference as contribution revenue. Subsequently, the trust assets, invested in equity and debt securities, are measured at fair value at quoted market prices, and are categorized as Level 1, with the changes reported as an adjustment to Investments, at fair value on the Consolidated Statements of Financial Position and Return on investments, net on the Consolidated Statements of Activities. Liabilities to beneficiaries are revalued based on current market rates, and are categorized as Level 2, with the changes reported as an adjustment to Liabilities associated with investments on the Consolidated Statements of Financial Position and Return on investments, net on the Consolidated Statements of Activities.

Charitable remainder trust assets, where the University does not serve as trustee, are initially valued using the current fair value of the underlying assets, using observable market inputs based on its beneficial interest in the trust, discounted to a single present value using current market rates at the date of the contribution. The initially contributed assets are categorized as Level 3, and reported as Investments, at fair value on the Consolidated Statements of Financial Position and Contribution revenue on the Consolidated Statements of Activities. Subsequent valuation follows this same approach with changes in fair value reported as an adjustment to Investments, at fair value on the Consolidated Statements of Financial Position and Return on investments, net on the Consolidated Statements of Activities. The primary unobservable input used in the fair value measurement of the Charitable remainder trust assets is the discount rate. Significant fluctuation in the discount rates utilized in this calculation could result in a material change in fair value.

Perpetual trust assets are initially valued at the current fair value of the underlying assets using observable market inputs based on its beneficial interest in the trust. The initially contributed assets are categorized as Level 3 and are reported as Investments, at fair value on the Consolidated Statements of Financial Position and as Contribution revenue on the Consolidated Statements of Activities. Subsequent valuation follows this same approach with changes in fair value reported as an adjustment to Investments, at fair value on the Consolidated Statements of Financial Position and Return on investments, net on the Consolidated Statements of Activities. The primary unobservable inputs used in the fair value measurement of the perpetual trust assets are the underlying securities held by the trust. Significant fluctuation in the market value of these underlying securities could result in a material change in fair value.

The University reports charitable lead trust assets by discounting future cash flows using current market rates at the measurement date, matched to the payment period of the agreement. The initially contributed assets are categorized as Level 3, and reported as Investments, at fair value on the Consolidated Statements of Financial Position and as Contribution revenue on the Consolidated Statements of Activities. Subsequent valuation follows this same approach with changes in fair value reported as an adjustment to Investments, at fair value on the Consolidated Statements of Financial Position and Return on investments, net on the Consolidated Statements of Activities. The primary unobservable input used in the fair value measurement of the Charitable lead trust assets is the discount rate. Significant fluctuation in the discount rates utilized in this calculation could result in a material change in fair value.

## Income Taxes

The University is a tax exempt organization under Section 501 (c) (3) of the Internal Revenue Code. Most of its activities and income are related to its exempt purposes and are exempt from federal and state income taxes. None of its activities and income is subject to Pennsylvania income tax. Unrelated activities and income, including certain sales of healthcare related products and services and certain sales of computer hardware and software, are subject to federal “Unrelated Business Income Tax.”

The University regularly evaluates its tax position and does not believe it has any uncertain tax positions that require disclosure or adjustment to the consolidated financial statements.

# Consolidated Notes to Financial Statements

## Tuition and Fees

The University maintains a policy of offering qualified undergraduate applicants admission to the University without regard to financial circumstance. This policy provides financial aid to eligible students in the form of direct grants and employment during the academic year. The University maintains an aid program whereby any qualified undergraduate student with demonstrated financial need receives an aid package which predominantly includes grants and a work-study award. Students may still borrow at their discretion to supplement their aid packages. Tuition and fees have been reduced by certain grants and scholarships in the amount of \$333,582,000 in 2017 and \$322,367,000 in 2016.

## Sponsored Programs

The University receives grant and contract revenue from governmental and private sources. In 2017 and 2016, grant and contract revenue earned from governmental sources totaled \$713,113,000 and \$696,148,000, respectively. The University generally recognizes revenue associated with the direct and the applicable indirect costs of sponsored programs as the related costs are incurred. The University negotiates its federal indirect rate with its cognizant federal agency. Indirect costs recovered on federally-sponsored programs are generally based on predetermined reimbursement rates which are stated as a percentage and distributed based on the modified total direct costs incurred. Indirect costs recovered on all other grants and contracts are based on rates negotiated with the respective sponsors. Funds received for sponsored research activity are subject to audit. Based upon information currently available, management believes that any liability resulting from such audits will not materially affect the financial position or operations of the University.

## Contributions

Unrestricted Contributions and donor support includes net assets released as a result of corresponding expenditures which met donor imposed restrictions. Contributions, including unconditional promises to donate cash and other assets, are recognized as revenue in the period received and are reported as increases in the appropriate net asset category based on donor restrictions. Contributions designated for the acquisition of long-lived assets and long-term investment are reported in Nonoperating revenue, net gains, reclassifications and other.

The University reports unconditional pledges at fair value by discounting future cash flows using current market rates at the measurement date, ranging from 2.00% to 3.28%, matched to the payment period of the agreement, and accordingly categorizes these assets as Level 3. The primary unobservable input used in the fair value measurement of the University's Contributions receivable is the discount rate. Significant fluctuation in the discount rates utilized in this calculation could result in a material change.

## Net Patient Service Revenue

Net patient service revenue is derived from UPHS patient services and is accounted for at established rates on the accrual basis in the period the service is provided. Patient service revenue is net of charity care and community services. Certain revenue received from third-party payors is subject to audit and retroactive adjustment. Any changes in estimates under these contracts are recorded in operations currently.

## Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates.

## Recent Authoritative Pronouncements

In May 2014, the FASB issued a standard on Revenue from Contracts with Customers. This standard implements a single framework for recognition of all revenue earned from customers. This framework ensures that entities appropriately



reflect the consideration to which they expect to be entitled in exchange for goods and services by allocating transaction price to identified performance obligations and recognizing revenue as performance obligations are satisfied. Qualitative and quantitative disclosures are required to enable users of financial statements to understand the nature, amount, timing, and uncertainty of revenue and cash flows arising from contracts with customers. The standard is effective for fiscal years beginning after December 15, 2017. University management is evaluating the impact this will have on the consolidated financial statements beginning in Fiscal Year 2019.

In August 2016, the FASB issued a standard on the Presentation of Financial Statements of Not-for-Profit Entities. The new guidance requires improved presentation and disclosures to help not-for-profits provide more relevant information about their resources to donors, grantors, creditors and other users. The standard is effective for fiscal years beginning after December 15, 2017. University management is evaluating the impact this will have on the consolidated financial statements beginning in Fiscal Year 2019.

In February 2016, the FASB issued a standard on Leases. This standard requires lessees to recognize assets and liabilities for the rights and obligations created by leases with terms in excess of 12 months. The recognition, measurement, and presentation of expenses and cash flows arising from a lease will primarily depend on its classification as a finance or operating lease. The accounting by lessors remains largely unchanged. This standard is effective for fiscal years beginning after December 15, 2018. University management is evaluating the impact this will have on the consolidated financial statements beginning in Fiscal Year 2020.

In March 2017, the FASB issued a standard on Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost. Presently, net benefit cost is reported as an employee cost within Increase in net assets from operations (or capitalized into assets when appropriate.) This standard requires the bifurcation of net benefit cost, as follows: service cost will continue to be reported in Compensation and benefits, while the remaining components of net benefit cost will be reported in Pension, OPEB and other, net. This standard is effective for fiscal years beginning after December 15, 2019. However, University management plans to early adopt this standard for Fiscal Year 2018 and estimates that the retrospective impact will result in an increase to Net assets from operations of \$45,798,000 for the year ended June 30, 2017.

## 2. University of Pennsylvania Health System - Summarized Financial and Related Information

The Trustees formed Penn Medicine, the governance structure which oversees the activities of UPHS and the University of Pennsylvania Perelman School of Medicine (PSOM). The governing body operates, oversees and coordinates the academic, research and clinical missions of Penn Medicine.

UPHS is comprised of the following operating entities: Clinical Practices of the University of Pennsylvania; Clinical Care Associates; Hospital of the University of Pennsylvania; Penn Presbyterian Medical Center; Pennsylvania Hospital of the University of Pennsylvania Health System; Chester County Hospital and Health System; Wissahickon Hospice of the University of Pennsylvania Health System; Franklin Casualty Insurance Company, a wholly owned Risk Retention Group; and, Quaker Insurance Company Ltd., a wholly owned offshore captive insurance company, (collectively referred to as RRG/Captive). In August 2015, through a membership substitution, Lancaster General Health (LGH) became a part of UPHS.

Throughout the year, certain transactions (primarily billings for allocations of common costs, physicians' salaries and benefits, certain purchased services and support for PSOM) are conducted between UPHS and the University. Nonoperating, net, as shown below, includes transfers from UPHS to the University of \$180,632,000 and \$159,055,000 in 2017 and 2016, respectively, to further the research and educational activities of PSOM and \$0 and \$1,748,000 in 2017 and 2016, respectively, for other activities. In addition, UPHS recognized operating expenses of \$19,351,000 and \$20,648,000 in 2017 and 2016, respectively, to support academic operating activities in the clinical departments of PSOM.



# Consolidated Notes to Financial Statements

The effect of all these transactions is included in the following summarized financial information of UPHS as of and for the years ended June 30, 2017 and 2016 (in thousands):

	2017	2016
Net patient service revenue	\$ 5,903,582	\$ 5,545,187
Provision for bad debt	(193,651)	(218,621)
Net patient service revenue less bad debts	5,709,931	5,326,566
Other revenue	428,721	375,249
Total expenses	(5,783,002)	(5,282,693)
Excess of revenue over expenses from operations	355,650	419,122
Nonoperating, net	306,274	843,161
Increase in net assets	\$ 661,924	\$ 1,262,283
Total current assets	\$ 1,481,230	\$ 1,522,213
Assets whose use is limited:		
Held by trustees	116,085	66,596
RRG/ Captive	195,982	177,873
Donor restricted and other	581,629	538,122
Designated	2,303,595	2,009,628
Property and equipment, net	3,309,820	3,082,914
Investments and other assets	962,164	933,134
Total assets	\$ 8,950,505	\$ 8,330,480
Total current liabilities	\$ 876,636	\$ 808,518
Long-term debt, net of current portion	1,451,816	1,482,176
Other liabilities	1,938,223	2,017,880
Total liabilities	\$ 4,266,675	\$ 4,308,574
Net assets		
Unrestricted	\$ 4,093,287	\$ 3,479,899
Temporarily restricted	406,073	367,159
Permanently restricted	184,470	174,848
Total net assets	\$ 4,683,830	\$ 4,021,906
Total liabilities and net assets	\$ 8,950,505	\$ 8,330,480

## Net Patient Service Revenue

Net Patient Service Revenue ('NPSR'), net of contractual allowances and discounts, is as follows for the years ended June 30, 2017 and 2016 (in thousands):

	2017	2016
Third Party Payors	\$ 5,798,498	\$ 5,378,831
Self-Pay	105,084	166,356
Total All Payors	\$ 5,903,582	\$ 5,545,187

NPSR for the years ended June 30, 2017 and 2016 is derived from the following payors:

	2017	2016
Medicare (including Managed Medicare)	30%	30%
Medicaid (including Managed Medicaid)	12%	11%
Managed Care	32%	29%
Independence Blue Cross (IBC)	20%	23%
Commercial	4%	4%
Self Pay	2%	3%
	100%	100%

# Consolidated Notes to Financial Statements

UPHS has agreements with the following third-party payors that provide for payments at amounts that differ from its established rates:

Inpatient acute care services and outpatient services rendered to Medicare program beneficiaries are paid at prospectively determined rates. These rates vary according to a patient classification system that is based on clinical, diagnostic, and other factors. Inpatient psychiatric services and medical education costs related to Medicare beneficiaries are paid based on a cost reimbursement methodology. UPHS is reimbursed for cost reimbursable items at a tentative rate with final settlement determined after submission of annual cost reports by each hospital and audits thereof by the Medicare fiscal intermediary.

Inpatient and outpatient services rendered to Medicaid program beneficiaries are paid at prospectively determined rates. Additional amounts are allocated to each hospital for training residents and serving a disproportionate indigent population.

Laws and regulations governing the Medicare and Medicaid programs are extremely complex and subject to interpretation. As a result, there is at least a reasonable possibility that recorded estimates will change by a material amount in the near term.

During 2017, UPHS and IBC reached agreement on terms of a five-year agreement. Payments made for inpatient services provided to IBC traditional and managed care subscribers are effected on a per case rate basis for most services. Payment for outpatient services is principally based upon negotiated fee schedules. Hospital and physician rates also provide for annual inflationary increases. In addition, incentives are paid for high performance with regard to clinical outcomes and patient quality. The agreement continues unless terminated by the parties.

During 2015, UPHS and Aetna reached agreement on terms of a new five-year agreement. The terms of the agreement provide payments for inpatient hospital services on a per case rate basis. Payments for outpatient services continue to be predominantly based upon negotiated fee schedules.

UPHS also has reimbursement agreements with certain commercial insurance carriers, health maintenance organizations and preferred provider organizations. The basis for reimbursement under these agreements includes prospectively determined rates per discharge, discounts from established charges and prospectively determined per diem rates.

## *Charity Care*

UPHS provides services to patients, who meet certain criteria under its charity care policy, without charge or at amounts less than UPHS' established rates. Because UPHS does not pursue collections, such amounts have been excluded from NPSR. UPHS estimates the costs of providing charity care services based on data derived from a combination of UPHS' cost accounting system and the ratio of costs to charges. Of the Total expenses reported above by UPHS, an estimated \$16,134,000 and \$16,282,000 were incurred as a result of providing services to charity patients for the years ended June 30, 2017 and 2016, respectively.

## **Provision for Bad Debt**

The provision for bad debt is based on management's assessment of expected net collections considering economic conditions, historical experience, trends in health care coverage and other collection indicators. Included in this assessment are patients who do not have health insurance or do not meet the criteria to qualify for UPHS' charity care policy. UPHS pursues collection of these amounts, however certain amounts are deemed to be uncollectible. Periodically throughout the year, management assesses the adequacy of the allowances for uncollectible accounts based upon historical write-off experience by payor category, including not covered by insurance, and history of cash collections. The results of this review are then used to make any modifications to the provision for bad debt to establish an appropriate allowance for uncollectible accounts. No significant modifications were made for Fiscal Years 2017 or 2016. After satisfaction of

# Consolidated Notes to Financial Statements

amounts due from insurance and reasonable efforts to collect from patients have been exhausted, UPHS follows established guidelines for placing certain past-due patient balances with collection agencies, subject to terms of certain restrictions on collection efforts as determined by UPHS. Account receivables are written off after collection efforts have been followed in accordance with UPHS' policy. UPHS' allowances for uncollectible accounts totaled \$225,244,000 and \$220,700,000 at June 30, 2017 and 2016, respectively.

## LGH Membership Substitution

Effective August 1, 2015, UPHS and LGH entered into an affiliation agreement whereby UPHS became the sole corporate member of LGH. LGH operates three hospitals in South Central Pennsylvania, including Lancaster General Hospital, a 533-bed general acute care hospital, Women & Babies Hospital, a 98-bed facility specializing in women's health and maternity services, and Lancaster Rehabilitation Hospital, a 59-bed rehabilitation hospital, as well as 14 outpatient centers, 3 urgent care sites, and a physician practice network with nearly 200 primary care and specialty practices at 40 practice sites.

No consideration was exchanged for the net assets contributed and costs are expensed as incurred. UPHS recorded non-operating contribution income of \$1,287,885,000 in fiscal year 2016 reflecting the fair value of the contributed net assets of LGH on August 1, 2015, of which, \$11,289,000 and \$12,729,000 were recorded in temporarily restricted and permanently restricted net assets, respectively.

Total fair value of assets, liabilities and net assets contributed by LGH and its subsidiaries at August 1, 2015 were as follows (in thousands):

	<b>August 1, 2015</b>
Cash and cash equivalents	\$ 97,307
Patients accounts receivable, net	99,793
Prepaid expenses and other current assets	56,839
Assets limited as to use	160,855
Property, plant and equipment, net	702,845
Other assets	866,935
Total assets acquired	<u>\$ 1,984,574</u>
Accounts payable and accrued expense	\$ 28,668
Accrued compensation and related benefits	269,072
Estimated third-party settlements	12,484
Long-term debt	306,703
Other liabilities	79,762
Total liabilities assumed	<u>\$ 696,689</u>
Unrestricted	\$ 1,263,867
Temporarily restricted	11,289
Permanently restricted	12,729
Total net assets	<u>\$ 1,287,885</u>
Total liabilities and net assets	<u>\$ 1,984,574</u>

## Definitive Agreement with Princeton HealthCare System

On December 13, 2016, UPHS signed a definitive agreement whereby Princeton Healthcare System ('PHS') will become part of UPHS. PHS is a comprehensive healthcare provider located in central New Jersey that principally includes the University Medical Center of Princeton, a general acute care hospital facility in Plainsboro, New Jersey, with 231 inpatient beds (plus 14 newborn bassinets), and Princeton House Behavioral Health, which includes a 110 bed inpatient facility in Princeton, New Jersey, and four additional outpatient locations. PHS includes approximately 1,200 physicians on staff

# Consolidated Notes to Financial Statements

and employs approximately 3,200 people. In 2016, the PHS had approximately \$461 million in revenue. The agreement is contingent upon agreed upon closing conditions, including final approval by state and federal authorities.

No consideration will be exchanged for the net assets to be contributed. UPHS will record non-operating contribution income reflecting the fair value of the contributed net assets of PHS as of the date of the transaction. As of September 29, 2017, the fair value of the contributed net assets of PHS has not been finalized.

A summary of selected data from the audited financial statements of PHS for the years ended December 31, 2016 and 2015 is as follows (in thousands):

	2016	2015
Total operating revenue	\$ 460,973	\$ 437,331
Total operating expense	462,788	438,067
Operating loss	\$ (1,815)	\$ (736)
Nonoperating gain	10,992	7,734
Increase in unrestricted net assets	\$ 9,177	\$ 6,998

A summary of selected balance sheet data from the audited financial statements of PHS at book value is as follows (in thousands):

	December 31, 2016	December 31, 2015
Total assets	\$ 748,740	\$ 746,847
Total liabilities	429,407	435,533
Total net assets	319,333	311,314

The data presented above is based on historical information and does not reflect the impact, if any, of fair value adjustments, aligning accounting policies or other transaction related costs or impacts.

## 3. Accounts Receivable

The major components of receivables, net of allowances for doubtful accounts of \$17,980,000 and \$15,209,000 at June 30, 2017 and 2016, respectively, are as follows (in thousands):

	2017	2016
Sponsored research	\$ 137,675	\$ 123,735
Malpractice	100,167	91,350
Student	13,193	12,798
Trade	53,272	44,318
Investment income	4,032	3,843
Other	79,873	47,743
Total Accounts receivable	\$ 388,212	\$ 323,787

Accounts receivable are reported at their net realizable value.

# Consolidated Notes to Financial Statements

## 4. Loans Receivable

Loans receivable, and related allowances for doubtful accounts, consist of the following at June 30, 2017 and 2016 (in thousands):

2017				
	Receivable	Allowance	Net	
Student Loans:				
Federally-sponsored	\$ 67,221		\$	67,221
Other	15,847	\$ 2,936		12,911
Total Student loans	\$ 83,068	\$ 2,936	\$	80,132
Other	11,136	231		10,905
Total	\$ 94,204	\$ 3,167	\$	91,037

  

2016				
	Receivable	Allowance	Net	
Student Loans:				
Federally-sponsored	\$ 72,836		\$	72,836
Other	17,612	\$ 3,803		13,809
Total Student loans	\$ 90,448	\$ 3,803	\$	86,645
Other	11,247	229		11,018
Total	\$ 101,695	\$ 4,032	\$	97,663

Loans receivable primarily consists of student loans. Student loans include federally-sponsored student loans and donor-restricted student loans with mandated interest rates and repayment terms. The federally-sponsored student loans represent amounts due from current and former students under various Federal Government funded loan programs, including Perkins and other health professional programs offered to graduate and undergraduate students. Loans disbursed under these programs are able to be assigned to the Federal Government upon default by the borrower, and therefore, no related allowance is considered necessary. Funding received under these programs is ultimately refundable to the Federal Government in the event the University no longer participates and accordingly is reported as a liability in Federal student loan advances in the Consolidated Statements of Financial Position. Determination of the fair value of student loans receivable is not practicable.

Loans receivable are reported at their net realizable value. The University regularly assesses the adequacy of the allowances for credit losses of its loans by performing ongoing evaluations, including such factors as aging, differing economic risks associated with each loan category, financial condition of specific borrowers, economic environment in which the borrowers operate, level of delinquent loans, value of collateral and existence of guarantees or indemnifications.

## 5. Contributions Receivable

A summary of contributions receivable at June 30, 2017 and 2016, is as follows (in thousands):

	2017	2016
Unconditional promises expected to be collected in:		
Less than one year	\$ 108,885	\$ 118,920
One year to five years	144,626	134,532
Over five years	36,588	38,853
	290,099	292,305
Less: Discount	(17,187)	(16,107)
Less: Allowances for doubtful amounts	(31,560)	(33,349)
Total Contributions receivable, net	\$ 241,352	\$ 242,849

At June 30, 2017 and 2016, the University has outstanding unrecorded conditional promises to give, including non-legally binding bequests, of \$303,926,000 and \$300,919,000, respectively. When they become unconditional promises to give or are received in cash, they will be recorded and generally will be restricted for operations, endowment and capital projects as stipulated by the donors.

## 6. Investments, at Fair Value

A summary of investments, including the AIF, measured at fair value in accordance with the *Fair Value Measurements* standard, as of June 30, 2017 and June 30, 2016 is as follows (in thousands):

Assets	Level 1	Level 2	Level 3	Investments at NAV	2017
Short-term	\$ 983,371				\$ 983,371
Equity:					
US equities	772,121	\$ 31		\$ 952,865	1,725,017
International equities	462,289			1,052,689	1,514,978
Emerging market equities	128,217			971,792	1,100,009
Total Equity	1,362,627	31		2,977,346	4,340,004
Debt:					
US treasuries	1,292,532	44,756			1,337,288
Corporate bonds	1,615	159,760		105,049	266,424
High yield				142	142
Total Debt	1,294,147	204,516		105,191	1,603,854
Split-interest agreements	74,469		\$ 396,029		470,498
Absolute return				2,912,273	2,912,273
Real estate		60		696,563	696,623
Private equity			10,814	2,197,350	2,208,164
Natural resources	237,864	4,036		514,778	756,678
Derivative instruments	2,399	251			2,650
Other			2,513		2,513
Total assets	\$ 3,954,877	\$ 208,894	\$ 409,356	\$ 9,403,501	\$ 13,976,628

# Consolidated Notes to Financial Statements

Assets	Level 1	Level 2	Level 3	Investments at NAV	2016
Short-term	\$ 761,129				\$ 761,129
Equity:					
US equities	885,134			\$ 870,155	1,755,289
International equities	371,481			784,298	1,155,779
Emerging market equities	105,645			829,904	935,549
Total Equity	1,362,260			2,484,357	3,846,617
Debt:					
US treasuries	1,112,101	\$ 64,229			1,176,330
Corporate bonds	1,614	181,937		103,860	287,411
High yield				439	439
Total Debt	1,113,715	246,166		104,299	1,464,180
Split-interest agreements	71,722		\$ 400,045		471,767
Absolute return				2,834,622	2,834,622
Real estate		1,090		668,095	669,185
Private equity			8,697	1,570,942	1,579,639
Natural resources	297,708			331,702	629,410
Derivative instruments		2,555			2,555
Other			2,539		2,539
Total assets	\$ 3,606,534	\$ 249,811	\$ 411,281	\$ 7,994,017	\$ 12,261,643

Included in Short-term investments is \$19,440,000 and \$59,386,000 of amounts held by trustees under indenture and escrow agreements at June 30, 2017 and 2016, respectively.

At June 30, 2017 and 2016, Short-term investments include \$59,705,000 and \$39,905,000, respectively, of outstanding receivables from trading activities. At June 30, 2017 and 2016, Short-term investments include \$44,196,000 and \$145,893,000, respectively, of outstanding payables from trading activities.

As of June 30, 2017 and 2016 there were no transfers between Level 1 and 2.

Liabilities related to equity short positions of \$197,681,000 and \$94,462,000 at June 30, 2017 and 2016, respectively, are reported in Accrued expenses and other liabilities on the Consolidated Statements of Financial Position. These liabilities are valued using observable market data and are categorized as Level 1 based on quoted market prices in active markets.

The University has made investments in various long-lived partnerships and, in other cases, has entered into contractual agreements that may limit its ability to initiate redemptions due to notice periods, lock-ups and gates. The University has also made commitments to various limited partnerships. The University expects these funds to be called over the next 5 years. The total amount of unfunded commitments is \$2,868,015,000 which represents 26.2% of the AIF value as of June 30, 2017.

# Consolidated Notes to Financial Statements

Details on the fair value, remaining estimated life, outstanding commitments, current redemption terms and restrictions by strategy and type of investment are provided below (in thousands):

Strategy	Fair Value June 30, 2017	Fair Value June 30, 2016	Remaining Life	Outstanding Commitments	Redemption Terms	Redemption Restrictions
Short-term	\$ 983,371	\$ 761,129	N/A	\$ -	Daily	None
Equity						
Managed accounts	870,645	891,040	N/A	-	Daily, monthly and semi-annually with varying notice periods	None
Mutual funds	364,519	307,379	N/A	-	Daily	None
Exchange traded funds	-	48,462	N/A	-	Daily	None
Commingled funds	859,416	690,916	N/A	57,000	Weekly to annually with varying notice periods	Lock-up provisions ranging from 0 to 5 years
Partnerships	2,245,424	1,908,820	N/A	121,450	Monthly to annually with varying notice periods	Lock-up provisions ranging from 0 to 5 years. Excludes \$13 million of sidepocket investments.
Total Equity	4,340,004	3,846,617		178,450		
Debt						
Managed accounts	1,498,663	1,358,267	N/A	-	Daily	None
Partnership	105,191	105,913	N/A	-	Daily to annually with varying notice periods	\$142,000 of side pocket investments
Total Debt	1,603,854	1,464,180				
Absolute return	2,912,273	2,834,622	N/A	356,642	Monthly to annually with varying notice periods. Excludes 16 limited partnerships with no redemptions permitted. Distributions received as underlying investments are liquidated.	Lock-up provisions ranging from 0 to 5 years with some earlier redemptions permitted subject to redemption fee. Excludes \$300 million in 16 limited partnerships with no redemptions permitted and \$163 million of side pocket investments.
Real estate	696,623	669,185	1 to 14 years	673,191	Redemptions not permitted. Distributions received as underlying investments are liquidated. Excludes 1 fund with quarterly liquidity on 90 day notice period.	N/A
Private equity	2,208,164	1,579,639	1 to 15 years	1,495,187	Redemptions not permitted. Distributions received as underlying investments are liquidated.	N/A
Natural resources						
Managed account	202,763	260,352	N/A	-	Daily	None
Commingled fund	39,137	37,356	N/A	-	Daily	None
Partnerships	514,778	331,702	1 to 14 years	164,545	Redemptions not permitted. Distributions received as underlying investments are liquidated.	N/A
Total Natural resources	756,678	629,410		164,545		
Totals	\$ 13,500,967	\$ 11,784,782		\$ 2,868,015		



# Consolidated Notes to Financial Statements

Included in Level 1 Split-interest agreement investments above are readily marketable assets invested by the University separately from the AIF where the University serves as trustee with an aggregate fair value of \$74,469,000 and \$71,722,000 at June 30, 2017 and 2016, respectively. Level 3 Split-interest agreement investments are managed and invested outside of the University by external trustees.

Invested in the AIF with an aggregate fair value of \$155,291,000 and \$141,294,000 at June 30, 2017 and 2016, respectively, is a perpetual trust managed by an external trustee who has delegated investment decisions to the University. The University invests the assets of this trust in accordance with its Endowment Policy.

Included in Split-interest agreements are amounts held to meet legally mandated annuity reserves of \$28,532,000 and \$29,815,000 as of June 30, 2017 and 2016, respectively, as required by the laws of the following states where certain individual donors reside: California, New Jersey and New York.

A summary of Level 3 assets included in Split-interest agreements, where the University is not trustee, measured at fair value, as of June 30, 2017 and 2016 is as follows (in thousands):

	2017	2016
Charitable remainder trusts	\$ 15,991	\$ 11,113
Charitable lead trusts	92,590	113,449
Perpetual trusts	287,448	275,483
Total	\$ 396,029	\$ 400,045

Changes to the reported amounts of Split-interest agreements measured at fair value using unobservable (Level 3) inputs as of June 30, 2017 and 2016 are as follows (in thousands):

	Charitable Remainder Trusts	Charitable Lead Trusts	Perpetual Trusts	Total
June 30, 2016	\$ 11,113	\$ 113,449	\$ 275,483	\$ 400,045
Net realized gains			516	516
Net unrealized gains	252	338	16,191	16,781
Acquisitions	4,626	1,340	2,229	8,195
Liquidations		(22,537)	(6,971)	(29,508)
June 30, 2017	\$ 15,991	\$ 92,590	\$ 287,448	\$ 396,029

	Charitable Remainder Trusts	Charitable Lead Trusts	Perpetual Trusts	Total
June 30, 2015	\$ 10,966	\$ 129,445	\$ 275,971	\$ 416,382
Net realized gains			4,486	4,486
Net unrealized gains/ (losses)	289	6,534	(12,269)	(5,446)
Acquisitions			7,296	7,296
Liquidations	(142)	(22,530)	(1)	(22,673)
June 30, 2016	\$ 11,113	\$ 113,449	\$ 275,483	\$ 400,045

# Consolidated Notes to Financial Statements

The following tables set forth the fair value, related gains (losses) and notional amounts of the University's derivative instruments by contract type as of June 30, 2017 and 2016 (in thousands):

<b>2017</b>				
	<b>Notional Amount</b>	<b>Gross Derivative Assets</b>	<b>Gross Derivative Liabilities</b>	<b>Derivative Losses</b>
Foreign currency contracts	\$ 299,533	\$ 251	\$ 7,976	\$ (5,459)
Futures contracts	(348,650)	2,399		(62,062)
Swaps				
Total	\$ (49,117)	\$ 2,650	\$ 7,976	\$ (67,521)

<b>2016</b>				
	<b>Notional Amount</b>	<b>Gross Derivative Assets</b>	<b>Gross Derivative Liabilities</b>	<b>Derivative Gains</b>
Foreign currency contracts	\$ 63,747	\$ 2,555	\$ 637	\$ 2,245
Futures contracts	(142,605)		361	21,592
Swaps				2,558
Total	\$ (78,858)	\$ 2,555	\$ 998	\$ 26,395

The notional amount is representative of the volume and activity of the respective derivative type during the years ended June 30, 2017 and 2016.

Gross derivatives assets and liabilities are shown in Investments, at fair value and Accrued expenses and other liabilities on the Consolidated Statements of Financial Position, respectively. Derivative gains (losses) are shown in Return on investments, net on the Consolidated Statements of Activities, in the appropriate net asset classification.

A summary of the University's total investment return for the years ended June 30, 2017 and 2016 is presented below (in thousands):

	<b>2017</b>	<b>2016</b>
AIF investment income	\$ 80,745	\$ 52,748
AIF realized and unrealized gains (losses)	1,294,544	(171,975)
Return on AIF	1,375,289	(119,227)
Other investment gains (losses)	137,256	(7,628)
Total Return on investments	\$ 1,512,545	\$ (126,855)

## 7. Endowment

The composition and changes to the amount of the University's endowment at June 30, 2017 are as follows (in thousands):

	<b>Unrestricted</b>	<b>Temporarily Restricted</b>	<b>Permanently Restricted</b>	<b>Total</b>
Donor-restricted endowment funds		\$ 2,641,506	\$ 3,640,350	\$ 6,281,856
Quasi-endowment funds	\$ 5,931,351			5,931,351
June 30, 2017	\$ 5,931,351	\$ 2,641,506	\$ 3,640,350	\$ 12,213,207

# Consolidated Notes to Financial Statements

	<b>Quasi Unrestricted</b>	<b>Donor Restricted Temporarily</b>	<b>Permanently</b>	<b>Total</b>
Net assets, June 30, 2016	\$ 5,161,319	\$ 2,143,305	\$ 3,410,740	\$ 10,715,364
Investment return:				
Investment income, net of expenses	39,871	47,824	149	87,844
Gains, realized and unrealized	707,411	684,311	16,702	1,408,424
Total investment return	747,282	732,135	16,851	1,496,268
New gifts	11,623	29,980	201,970	243,573
Allocation of endowment assets for expenditure	(485,860)			(485,860)
Other investment allocation	(6,559)			(6,559)
Transfers to create board designated funds	245,471			245,471
Other transfers	(8,141)	2,302	10,789	4,950
Released from restriction	266,216	(266,216)		
Net assets, June 30, 2017	\$ 5,931,351	\$ 2,641,506	\$ 3,640,350	\$ 12,213,207

The composition and changes to the amount of the University's endowment as of June 30, 2016 are as follows (in thousands):

	<b>Unrestricted</b>	<b>Temporarily Restricted</b>	<b>Permanently Restricted</b>	<b>Total</b>
Donor-restricted endowment funds		\$ 2,143,305	\$ 3,410,740	\$ 5,554,045
Quasi-endowment funds	\$ 5,161,319			5,161,319
June 30, 2016	\$ 5,161,319	\$ 2,143,305	\$ 3,410,740	\$ 10,715,364

	<b>Quasi Unrestricted</b>	<b>Donor Restricted Temporarily</b>	<b>Permanently</b>	<b>Total</b>
Net assets, June 30, 2015	\$ 4,412,620	\$ 2,442,269	\$ 3,278,680	\$ 10,133,569
Investment return:				
Investment income, net of expenses	5,568	8,530	295	14,393
Other income				
Losses, realized and unrealized	(77,769)	(93,489)	(12,312)	(183,570)
Total investment return	(72,201)	(84,959)	(12,017)	(169,177)
New gifts	34,573	17,366	124,741	176,680
Allocation of endowment assets for expenditure	(365,366)			(365,366)
Other investment allocation	(5,956)			(5,956)
Transfers to create board designated funds	138,348			138,348
Other transfers	(32,509)	11,119	6,607	(14,783)
LGH membership substitution	806,451	2,869	12,729	822,049
Released from restriction	245,359	(245,359)		
Net assets, June 30, 2016	\$ 5,161,319	\$ 2,143,305	\$ 3,410,740	\$ 10,715,364

The fair value of certain permanently restricted endowment funds is less than the original donated value by \$81,000 and \$6,106,000 as of June 30, 2017 and 2016, respectively, and is reflected as a reduction of Temporarily restricted assets.

# Consolidated Notes to Financial Statements

## 8. Property, Plant and Equipment, net

The components of PPE at June 30, 2017 and 2016 are as follows (in thousands):

	Estimated Useful Life in years	2017	2016
Land and land improvements	N/A to 20	\$ 366,960	\$ 369,758
Buildings and fixed equipment	5 to 50	8,426,732	8,129,199
Moveable equipment and other	4 to 20	1,942,076	2,202,886
Construction-in-progress		590,926	653,532
		11,326,694	11,355,375
Less: Accumulated depreciation		(4,874,388)	(5,152,468)
Property, plant and equipment, net		\$ 6,452,306	\$ 6,202,907

The University recorded \$470,716,000 and \$451,227,000 of depreciation expense for the years ended June 30, 2017 and 2016, respectively.

Effective July 1, 2016, the University elected to revise its policy to expense library materials. Previously capitalized library materials were expensed. As a result, library materials amount to \$0 and \$86,260,000 at June 30, 2017 and 2016, respectively.

The University capitalized \$11,272,000 and \$12,008,000 of interest costs for the years ended June 30, 2017 and 2016, respectively.

The University has conditional asset retirement obligations of \$23,332,000 and \$21,646,000 as of June 30, 2017 and 2016, respectively, which primarily relate to asbestos contained in buildings and underground steam distribution piping and are included within Accrued expenses and other liabilities in the Consolidated Statements of Financial Position.

## 9. Split-Interest Agreements

Changes in the value of assets, liabilities and net assets pursuant to split-interest agreements as of June 30, 2017 and 2016 are as follows (in thousands):

2017	Assets	Liabilities	Net Assets
June 30, 2016	\$ 471,768	\$ (47,424)	\$ 424,344
New contributions	9,647	(2,403)	7,244
Investment income	1,556	(1,470)	86
Realized and unrealized gain, net	22,672		22,672
Payments and settlements	(35,145)	7,081	(28,064)
Actuarial adjustment		(3,295)	(3,295)
Net change	(1,270)	(87)	(1,357)
June 30, 2017	\$ 470,498	\$ (47,511)	\$ 422,987

# Consolidated Notes to Financial Statements

2016	Assets	Liabilities	Net Assets
June 30, 2015	\$ 491,021	\$ (44,799)	\$ 446,222
New contributions	9,761	(1,756)	8,005
Investment income	1,346	(1,147)	199
Realized and unrealized loss, net	(1,784)		(1,784)
Payments and settlements	(28,576)	7,399	(21,177)
Actuarial adjustment		(7,121)	(7,121)
Net change	(19,253)	(2,625)	(21,878)
June 30, 2016	\$ 471,768	\$ (47,424)	\$ 424,344

## 10. Medical Professional Liability Claims

The University is insured for medical professional liability claims through the combination of the Medical Care Availability and Reduction of Error Fund (Mcare, formerly, the Medical Professional Liability Catastrophe Loss Fund of the Commonwealth of Pennsylvania -- CAT Fund), various commercial insurance companies and risk retention programs.

Mcare levies health care provider surcharges, as a percentage of the Pennsylvania Joint Underwriters Association rates for basic coverage, to pay claims and pay administrative expenses of Mcare participants. These surcharges are recognized as expenses in the period incurred. Mcare operates on a pay-as-you-go basis and no provision has been made for any future Mcare assessments in the accompanying financial statements, as the University's portion of the unfunded Mcare liability cannot be estimated.

Anticipated insurance recoveries and estimated liabilities for medical malpractice claims or similar contingent liabilities are presented separately on the Consolidated Statement of Financial Position in Accounts receivable, net of allowances and Accrued expenses and other liabilities, respectively. The University accrues for estimated risks arising from both asserted and unasserted medical professional liability claims. The estimate of the gross liability and corresponding receivable for unasserted claims arising from unreported incidents is based on analysis of historical claims data by an independent actuary, which is recorded utilizing a 2.25% to 3.50% discount rate as of June 30, 2017 and 2016. The gross liability recorded under this program is \$714,363,000 and \$677,538,000 at June 30, 2017 and 2016, respectively, with a corresponding receivable of \$100,167,000 and \$91,350,000 at June 30, 2017 and 2016, respectively.

## 11. Contingencies, Guarantees and Commitments

The University offers various loan programs for students and families to pay tuition, fees and other costs. Certain loans issued by private lending institutions are guaranteed by the University totaling \$49,410,000 and \$64,992,000 at June 30, 2017 and 2016, respectively. Upon default by the borrower, the University is required to pay all or a portion of the outstanding loan balance. The University recognizes a liability for the greater of the fair value of the guarantee or defaults in the portfolio of guaranteed loans. The recognized liability is \$3,666,000 and \$6,193,000 at June 30, 2017 and 2016, respectively. These recognized liabilities reflect effective default reserve rates of 45.7% and 39.3% at June 30, 2017 and 2016, respectively.

Various lawsuits, claims and other contingent liabilities arise in the ordinary course of the University's education and health care activities. Based upon information currently available, management believes that any liability resulting therefrom will not materially affect the financial position or operations of the University.

The University is currently involved in various projects that have resulted in capital and property acquisition commitments from the University. As of June 30, 2017, approximately \$344,450,000 has been committed by the University.

## 12. Pension and Other Postretirement Benefit Costs

Retirement benefits are principally provided to employees through contributory defined contribution plans. The Academic Component's policy with respect to its contribution is to provide up to 9% of eligible employees' salaries, while the UPHS contribution can be up to 6.5%. The University's contributions to these plans amounted to \$176,023,000 and \$159,857,000 as of June 30, 2017 and 2016, respectively.

The University also has non-contributory defined benefit pension plans. Benefits under the plans generally are based on the employee's years of service and compensation during the years preceding retirement. Contributions to the plans are made in amounts necessary to at least satisfy the minimum required contributions as specified in the Internal Revenue Service Code and related regulations. The Academic Component's plan was frozen to new full-time entrants effective July 1, 2000. UPHS' non-LGH plan was frozen to new entrants effective July 1, 2010; the benefit accruals for all participants of the LGH plan were frozen effective June 30, 2013.

Additionally, the University provides certain healthcare and life insurance benefits (Other Postretirement Employee Benefits or OPEB) for retired employees. Only a limited number of employees may become eligible for such benefits if they reach retirement age while working for the University. These and similar benefits for active and certain retired employees are provided through insurance contracts.

The University uses a measurement date of June 30 for its defined benefit pension and OPEB plans.

### Change in Plan Assets/ Obligation and Funded Status

The funded status of the plans is measured as the difference between the plan assets at fair value and the projected benefit obligation (PBO) for Pension Benefits or accumulated postretirement benefit obligation (APBO) for Other Postretirement Benefits. The resulting net liability is recorded in Accrued retirement benefits on the Statements of Financial Position. The following shows changes in the benefit obligation, plan assets and funded status (in thousands):

2017	Pension Benefits	Other Postretirement Benefits	Total
<b>Change in Plan Assets</b>			
Fair value of plan assets, beginning of year	\$ 2,082,315	\$ 379,925	\$ 2,462,240
University contributions	128,454	25,800	154,254
Benefits paid by University		8,899	8,899
Plan participants' contributions	160	7,293	7,453
Benefits paid from fund	(79,043)	(19,918)	(98,961)
Benefits paid outside of fund		(9,609)	(9,609)
Retiree drug subsidy		179	179
Actual return on assets	239,431	52,154	291,585
Fair value of plan assets, end of year	\$ 2,371,317	\$ 444,723	\$ 2,816,040
<b>Change in Benefit Obligation</b>			
Benefit obligation, beginning of year (PBO/APBO)	\$ 3,165,114	\$ 920,401	\$ 4,085,515
Service cost	75,092	32,454	107,546
Interest cost	130,172	35,796	165,968
Plan participants' contributions	160	7,293	7,453
Plan amendments		(1,749)	(1,749)
Retiree drug subsidy		179	179
Net actuarial (gain)/loss	(28,827)	(47,877)	(76,704)
Transfers		(3,285)	(3,285)
Benefits paid from fund	(79,043)	(19,918)	(98,961)
Benefits paid outside of fund		(9,609)	(9,609)
Benefit obligation, end of year (PBO/APBO)	\$ 3,262,668	\$ 913,685	\$ 4,176,353
Funded status, liability at end of year	\$ 891,351	\$ 468,962	\$ 1,360,313
Other retirement programs			88,105
Accrued retirement benefits			\$ 1,448,418

# Consolidated Notes to Financial Statements

2016	Pension Benefits	Other Postretirement Benefits	Total
<b>Change in Plan Assets</b>			
Fair value of plan assets, beginning of year	\$ 1,496,199	\$ 369,951	\$ 1,866,150
University contributions	98,938	26,170	125,108
Benefits paid by University		7,408	7,408
Plan participants' contributions	157	6,348	6,505
Benefits paid from fund	(72,454)	(19,214)	(91,668)
Benefits paid outside of fund		(8,017)	(8,017)
Retiree drug subsidy		166	166
Acquisition	563,617		563,617
Actual return on assets	(4,142)	(2,887)	(7,029)
Fair value of plan assets, end of year	<u>\$ 2,082,315</u>	<u>\$ 379,925</u>	<u>\$ 2,462,240</u>
<b>Change in Benefit Obligation</b>			
Benefit obligation, beginning of year (PBO/APBO)	\$ 2,102,127	\$ 882,835	\$ 2,984,962
Service cost	71,063	30,444	101,507
Interest cost	125,566	38,913	164,479
Plan participants' contributions	157	6,348	6,505
Retiree drug subsidy		166	166
Net actuarial loss/(gain)	167,100	(15,584)	151,516
Net transfers In--Acquisition	771,555	4,510	776,065
Benefits paid from fund	(72,454)	(19,214)	(91,668)
Benefits paid outside of fund		(8,017)	(8,017)
Benefit obligation, end of year (PBO/APBO)	<u>\$ 3,165,114</u>	<u>\$ 920,401</u>	<u>\$ 4,085,515</u>
Funded status, liability at end of year	<b>\$ 1,082,799</b>	<b>\$ 540,476</b>	<b>\$ 1,623,275</b>
Other retirement programs			6,858
Accrued retirement benefits			<u>\$ 1,630,133</u>

The Accumulated Benefit Obligation for the Pension Benefits was \$2,925,489,000 and \$2,839,089,000 at June 30, 2017 and 2016, respectively.

## Net Periodic Benefit Cost

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

2017	Pension Benefits	Other Postretirement Benefits	Total
<b>Net Periodic Benefit Cost</b>			
Service cost	\$ 75,092	\$ 32,454	\$ 107,546
Interest cost	130,172	35,796	165,968
Expected return on plan assets	(156,124)	(28,674)	(184,798)
Amortization of:			
Net prior service cost		(121)	(121)
Net losses	53,220	11,529	64,749
Net periodic benefit cost	<u>\$ 102,360</u>	<u>\$ 50,984</u>	<u>\$ 153,344</u>

# Consolidated Notes to Financial Statements

**2016**

<b>Net Periodic Benefit Cost</b>			
Service cost	\$ 71,063	\$ 30,444	\$ 101,507
Interest cost	125,566	38,913	164,479
Expected return on plan assets	(151,147)	(28,190)	(179,337)
Amortization of:			
Net prior service cost		(108)	(108)
Net losses	36,436	11,720	48,156
Net periodic benefit cost	\$ 81,918	\$ 52,779	\$ 134,697

## Unrestricted Net Assets

The University recorded the following year-end valuation adjustments to its Pension and Other Postretirement Benefit Plans in Pension, OPEB and Other, net in the Consolidated Statements of Activities (in thousands):

	<b>Pension Benefits</b>	<b>Other Postretirement Benefits</b>	<b>Total</b>
<b>2017</b>			
<b>Unrestricted Net Assets</b>			
Net actuarial loss	\$ 738,829	\$ 177,325	\$ 916,154
Net prior service cost		(3,469)	(3,469)
Total	\$ 738,829	\$ 173,856	\$ 912,685
Adjustment to unrestricted net assets (gain)/loss	\$ (165,352)	\$ (84,517)	\$ (249,869)

**2016**

<b>Unrestricted Net Assets</b>			
Net actuarial loss	\$ 904,181	\$ 261,456	\$ 1,165,637
Net prior service cost		(1,702)	(1,702)
Total	\$ 904,181	\$ 259,754	\$ 1,163,935
Adjustment to unrestricted net assets (gain)/loss	\$ 285,950	\$ 3,882	\$ 289,832

The estimated amount that will be amortized from Unrestricted Net Assets into net periodic benefit cost in 2018 is as follows (in thousands):

	<b>Pension Benefits</b>	<b>Other Postretirement Benefits</b>
Amortization of prior service credit	\$ -	\$ (323)
Amortization of net losses	40,078	5,972

## Actuarial Assumptions

The expected long-term rate of return on plan assets is management's best estimate of the average investment return expected to be received on the assets invested in the plan over the benefit period. The expected long-term rate of return on plan assets has been established by considering historical and future expected returns of the asset classes invested in by the pension trust, and the allocation strategy currently in place among those classes.



# Consolidated Notes to Financial Statements

	Pension Benefits		Other Postretirement Benefits	
Weighted-Average Assumptions Used to Determine Benefit Obligations at Year End	2017	2016	2017	2016
Discount rate	4.19%	4.17%	4.00%	3.95%
Salary increase	2.91%	3.94%	N/A	N/A
Weighted-Average Assumptions Used to Determine Net Periodic Benefit Cost				
Discount rate	4.23%	4.53%	3.95%	4.45%
Expected long-term return on plan assets	7.52%	7.50%	7.50%	7.50%
Salary increase	3.82%	3.94%	N/A	N/A
Assumed Health Care Cost Trend Rates				
Initial trend rate	N/A	N/A	6.54%	5.51%
Ultimate trend rate	N/A	N/A	4.70%	4.70%
Fiscal year end that ultimate trend rate is reached	N/A	N/A	2037	2023

Assumed health care cost trend rates have a significant effect on the amounts reported for the Other postretirement benefits. A one-percentage-point change in assumed health care trend rates would have the following effects on Other postretirement benefits (in thousands):

	1-Percentage Point Increase	1-Percentage Point Decrease
<b>2017</b>		
Effect on total of service and interest cost	\$ 14,607	\$ (10,999)
Effect on APBO	170,709	(133,252)

## Plan Assets

The principal investment objectives for the pension and other postretirement benefits plans are to ensure the availability of funds to pay pension benefits as they become due under a broad range of future economic scenarios, to maximize long-term investment returns with an acceptable level of risk based on the pension obligations, and to invest the pension trust in a diversified manner.

The University's Office of Investments is responsible for the day-to-day management of the investments of the pension and other postretirement benefits. The investments are made in accordance with policies set out by the Investment Board which has been appointed by the Trustees. The pension and other postretirement benefit investments are similar in nature to those investments discussed in Notes 1 and 6 – Investments, at Fair Value. However, the actual allocations to specific investments within each asset class may vary due to certain restrictions imposed by investment managers and ERISA regulations.

# Consolidated Notes to Financial Statements

A summary of plan assets, measured at fair value, as of June 30, 2017 and 2016, is as follows (in thousands):

## Pension Benefits:

Assets	Level 1	Level 2	Level 3	Investments at NAV	2017
Short-term	\$ 121,646				\$ 121,646
Equity:					
US equities	284,518			\$ 178,754	463,272
International equities	125,750			239,604	365,354
Emerging market equities	45,327			132,157	177,484
Debt:					
US treasuries	241,530	\$ 8,577			250,107
Corporate bonds		67,783		154,745	222,528
Absolute return				457,776	457,776
Real estate				43,298	43,298
Private equity				97,601	97,601
Natural resources	92,926	1,353		77,935	172,214
Derivative instruments:					
Forward currency contracts		68			68
Total assets	\$ 911,697	\$ 77,781	\$ -	\$ 1,381,870	\$ 2,371,348

Liabilities	Level 1	Level 2	Level 3	Investments at NAV	2017
Derivative instruments		\$ 31			\$ 31
Total liabilities	\$ -	\$ 31	\$ -	\$ -	\$ 31

Assets	Level 1	Level 2	Level 3	Investments at NAV	2016
Short-term	\$ 124,576				\$ 124,576
Equity:					
US equities	262,763			\$ 133,428	396,191
International equities	101,543			214,627	316,170
Emerging market equities	38,354			108,440	146,794
Debt:					
US treasuries	170,169	\$ 15,495			185,664
Corporate bonds		76,153		155,004	231,157
Absolute return				432,563	432,563
Real estate				26,415	26,415
Private equity				57,854	57,854
Natural resources	106,154			59,000	165,154
Derivative instruments:					
Forward currency contracts		8			8
Total assets	\$ 803,559	\$ 91,656	\$ -	\$ 1,187,331	\$ 2,082,546

Liabilities	Level 1	Level 2	Level 3	Investments at NAV	2016
Derivative instruments		\$ 231			\$ 231
Total liabilities	\$ -	\$ 231	\$ -	\$ -	\$ 231

# Consolidated Notes to Financial Statements

## Other Postretirement Benefits:

Assets	Level 1	Level 2	Level 3	Investments at NAV	2017
Short-term	\$ 36,651				\$ 36,651
Equity:					
US equities	15,751			\$ 57,364	73,115
International equities	7,189			76,747	83,936
Emerging market equities	13,647			32,985	46,632
Debt:					
US treasuries	18,977				18,977
Corporate bonds		\$ 372		10,071	10,443
Absolute return				114,904	114,904
Real estate				8,732	8,732
Private equity				16,853	16,853
Natural resources	29,617	587		4,263	34,467
Derivative instruments:					
Forward currency contracts		24			24
Total	\$ 121,832	\$ 983	\$ -	\$ 321,919	\$ 444,734

Liabilities	Level 1	Level 2	Level 3	Investments at NAV	2017
Derivative instruments		\$ 11			\$ 11
Total	\$ -	\$ 11	\$ -	\$ -	\$ 11

Assets	Level 1	Level 2	Level 3	Investments at NAV	2016
Short-term	\$ 25,412				\$ 25,412
Equity:					
US equities	13,783			\$ 40,185	53,968
International equities	6,157			66,952	73,109
Emerging market equities	11,466			27,328	38,794
Debt:					
US treasuries	26,436				26,436
Corporate bonds		\$ 623		10,207	10,830
Absolute return				98,905	98,905
Real estate				3,653	3,653
Private equity				14,544	14,544
Natural resources	33,249			1,101	34,350
Derivative instruments:					
Forward currency contracts		3			3
Total	\$ 116,503	\$ 626	\$ -	\$ 262,875	\$ 380,004

Liabilities	Level 1	Level 2	Level 3	Investments at NAV	2016
Derivative instruments		\$ 79			\$ 79
Total	\$ -	\$ 79	\$ -	\$ -	\$ 79

# Consolidated Notes to Financial Statements

As of June 30, 2017, the University has unfunded commitments to limited partnerships totaling \$310,651,000, which are expected to be called over the next 5 years.

Transfers between leveled assets are based on the actual date of the event which caused the transfer. As of June 30, 2017 and 2016 there were no transfers between Level 1 and 2.

Allocation of Plan Assets	Pension Benefits			Other Postretirement Benefits		
	Target	2017	2016	Target	2017	2016
Short-term	0.0%	5.1%	6.0%	0.0%	8.2%	6.7%
Equity:						
US equities	15.9%	19.5%	19.0%	13.0%	16.4%	14.2%
International equities	16.7%	15.4%	15.2%	19.0%	18.9%	19.2%
Emerging markets equities	7.4%	7.5%	7.0%	10.0%	10.5%	10.2%
Debt:						
US treasuries	21.3%	10.6%	8.9%	10.0%	4.3%	7.0%
Corporate bonds	0.0%	9.4%	11.1%	0.0%	2.3%	2.9%
Absolute return	23.0%	19.3%	20.8%	29.0%	25.8%	26.0%
Real estate	2.1%	1.8%	1.3%	3.0%	2.0%	1.0%
Private equity	4.6%	4.1%	2.8%	5.0%	3.8%	3.8%
Natural resources	9.0%	7.3%	7.9%	11.0%	7.8%	9.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

## Cash Flows & Estimated Future Benefit Payments (in thousands):

University contributions for the year ending:	Pension Benefits		Other Postretirement Benefits	
June 30, 2016	\$	98,938	\$	26,170
June 30, 2017		128,454		25,800
June 30, 2018		105,060		22,866
<b>Benefits paid from outside of the fund for the year ending:</b>				
June 30, 2016		N/A	\$	8,017
June 30, 2017		N/A		9,609
June 30, 2018		N/A		9,083
<b>Plan participants' contributions for the year ending:</b>				
June 30, 2016	\$	157	\$	6,348
June 30, 2017		160		7,293
June 30, 2018		165		7,128

## Benefits Payments in Total (in thousands):

Actual benefit payments for the year ending:	Pension Benefits	Other Postretirement Benefits before Medicare Part D Subsidy		Medicare Part D Subsidy
June 30, 2016	\$	72,454	\$	27,231
June 30, 2017		79,043		29,527
<b>Expected benefit payments for the year ending (Unaudited):</b>				
June 30, 2018	\$	92,411	\$	25,423
June 30, 2019		99,773		27,378
June 30, 2020		108,161		29,505
June 30, 2021		117,411		31,751
June 30, 2022		126,852		33,801
June 30, 2023 to June 30, 2027		783,486		199,903

# Consolidated Notes to Financial Statements

## 13. Debt Obligations

Debt obligations at June 30, 2017 and 2016 are as follows (in thousands):

	Final Maturity	Effective Interest Rate at June 30, 2017	2017	2016
<b>Academic Component:</b>				
<u>Fixed rate debt obligations:</u>				
The Trustees of the University of Pennsylvania Series 2012 Taxable Bonds	09/2112	4.67%	\$ 300,000	\$ 300,000
Pennsylvania Higher Educational Facilities Authority (PHEFA)				
Series A of 2017 revenue bonds	08/2046	2.26% - 3.72%	178,395	
Series A of 2016 revenue bonds	08/2041	0.61% - 2.93%	169,635	169,635
Series A of 2015 revenue bonds	10/2045	0.64% - 2.99%	200,985	205,670
Series B of 2015 revenue bonds	10/2038	0.64% - 3.38%	163,795	165,150
Series C of 2015 revenue bonds	10/2035	3.68%	8,020	8,020
Series A of 2011 revenue bonds	09/2021	2.92% - 3.68%	11,125	14,495
Series of 2010 revenue bonds	09/2033	3.99% - 4.15%	16,935	16,935
Series B of 2009 revenue bonds	09/2020	3.30% - 3.99%	8,570	10,575
Series C of 2009 revenue bonds	09/2019	3.30% - 3.70%	11,635	15,105
Other loans	05/2031	1.00% - 3.00%	914	736
<u>Variable rate debt obligations:</u>				
PHEFA Series of 1990 revenue bonds	12/2020	1.10%	6,500	6,500
Washington County Authority Series of 2004	07/2034	0.85%	53,400	55,500
Total Academic Component outstanding bonds payable			1,129,909	968,321
Unamortized original issue premiums/discounts and cost of issuance, net			78,304	67,743
Total Academic Component debt obligations			\$ 1,208,213	\$ 1,036,064
<b>UPHS:</b>				
<u>Fixed rate debt obligations:</u>				
Lancaster County Hospital Authority (LCHA)				
Series A of 2016 revenue bonds	08/2042	0.66% - 3.25%	\$ 168,585	\$ 173,310
Series B of 2016 revenue bonds	08/2046	1.43% - 3.22%	128,050	128,050
PHEFA				
Series C of 2016 revenue bonds	08/2041	0.50% - 3.08%	129,290	
Series A of 2015 revenue bonds	08/2045	0.77% - 4.00%	324,855	357,565
Series A of 2012 revenue bonds	08/2042	1.66% - 4.08%	136,950	136,950
Series A of 2011 revenue bonds	08/2042	4.95% - 5.88%		123,400
Series A of 2009 revenue bonds	08/2021	4.00% - 4.91%	43,110	43,515
Series B of 2008 revenue bonds	08/2037	5.65% - 6.00%	52,000	52,000
Lancaster General Hospital 2015 Taxable Note	08/2022	2.66%	75,211	77,553
Build to suit lease, net of related interest	Various	N/A	123,013	123,070
Mortgages, notes and capital leases	Various	Various	23,443	25,021
<u>Variable rate debt obligations:</u>				
LCHA Series A of 2012 revenue bonds	08/2041	1.58%	23,375	23,925
PHEFA Series A of 2014 revenue bonds	08/2045	0.89%	100,000	100,000
PHEFA Series A of 2008 revenue bonds	08/2037	1.09%	69,995	69,995
Total UPHS outstanding bonds payable			1,397,877	1,434,354
Unamortized original issue premiums/discounts and cost of issuance, net			96,860	90,036
Total UPHS debt obligations			1,494,737	1,524,390
Total University debt obligations			\$ 2,702,950	\$ 2,560,454

# Consolidated Notes to Financial Statements

Contractual maturities of debt obligations and build-to-suit lease payments are as follows (in thousands):

	Academic Component		UPHS		University	
Fiscal Year	Bond and Other Loan Obligations	Bond and Other Loan Obligations	Build-to-Suit Lease Payments	Total	Total	Total
2018	\$ 13,176	\$ 42,349	\$ 10,496	\$ 52,845	\$ 66,021	
2019	19,458	91,548	10,742	102,290	121,748	
2020	16,540	41,261	10,992	52,253	68,793	
2021	27,490	43,218	11,249	54,467	81,957	
2022	18,356	50,656	11,512	62,168	80,524	
Thereafter	1,034,889	1,005,832	157,415	1,163,247	2,198,136	
Total Principal	1,129,909	1,274,864	212,406	1,487,270	2,617,179	
Unamortized net premium/discounts and cost of issuance, net	78,304	96,860		96,860	175,164	
Build-to-suit lease related interest			(89,393)	(89,393)	(89,393)	
Total debt obligation	\$ 1,208,213	\$ 1,371,724	\$ 123,013 (a)	\$ 1,494,737	\$ 2,702,950	

(a) Present value of future lease payments

The University has letters of credit with various financial institutions to secure certain self-insured liabilities in the amount of \$8,081,000 and \$21,925,000 at June 30, 2017 and 2016, respectively. These letters of credit have evergreen provisions for automatic renewal. There have been no draws under these letters of credit.

## Academic Component

On January 19, 2017, Pennsylvania Higher Educational Facilities Authority (PHEFA) issued Series A of 2017 revenue bonds (PHEFA 2017A bonds) with an aggregate principal amount of \$178,395,000. The proceeds were used to fund or reimburse the University for the cost of various capital projects. Interest on the PHEFA 2017A bonds is fixed with coupons ranging between 4.00% to 5.00%.

On April 28, 2016, PHEFA issued Series A of 2016 refunding revenue bonds (PHEFA 2016A bonds) with an aggregate principal amount of \$169,635,000. The proceeds were used to fund an escrow which will be used to refund \$7,600,000 from the PHEFA Series B of 2009 revenue bonds, \$33,110,000 from PHEFA Series of 2010 revenue bonds and \$117,310,000 from PHEFA Series A of 2011 revenue bonds. The refunded bonds were legally defeased, and as such, are no longer included among the University's reported liabilities. Interest on the PHEFA 2016A bonds is fixed with coupons ranging between 2.25% and 5.25%.

As a result of the legal defeasance of debt associated with the issuance of PHEFA 2016A bonds, the University reported a loss on early extinguishment of debt in Pension, OPEB and other, net on the Consolidated Statements of Activities in the amount of \$24,556,000 for the year ended June 30, 2016.

The University has variable rate debt in the amount of \$59,900,000 which is subject to optional tender by the holders upon seven days' notice. These bonds are reflected in the table above based on original scheduled maturities. In the event that the University receives notice of any optional tender on its variable rate demand bonds, the purchase price will be repaid from the remarketing of the bonds. However, in the event that the entire remarketing effort were to fail, the University would have the general obligation to purchase the bonds.

On June 14, 2016, the University entered into a five year agreement with a financial institution, whereby the institution has agreed to provide a line of credit in the amount of \$100,000,000 for general purposes of the University. The University pays a fee annually on the unused amount of the line of credit. As of June 30, 2017, there have been no draws under the agreement.

# Consolidated Notes to Financial Statements

## UPHS

The Lancaster County Hospital Authority (LCHA) Revenue Bonds and PHEFA Revenue Bonds are secured by master notes issued under the UPHS Master Trust Indenture (MTI). The MTI and related agreements contain certain restrictive covenants which limit the issuance of additional indebtedness, and among other things, require UPHS to meet an annual debt service coverage requirement of “income available for debt service” (excess of revenue over expenses plus depreciation, amortization, interest expense and extraordinary items) at an amount equal to 110% of the annual debt service requirements. If the coverage requirement for a particular year is not met, within six months of the close of that fiscal year, UPHS must retain the services of a consultant to make recommendations to improve the coverage requirement. UPHS must also implement the recommendations of the consultant to the extent that they can be feasibly implemented. UPHS will not be considered to be in default of the provisions of the MTI so long as UPHS has sufficient cash flow to pay total operating expenses and debt service for the fiscal year. In both 2017 and 2016, UPHS met its debt service coverage requirement under the MTI. Additionally, UPHS has pledged its gross revenues to secure its obligation under the MTI.

On August 25, 2016, PHEFA issued Series C of 2016 Health System refunding revenue bonds (PHEFA UPHS 2016C bonds) with an aggregate principal amount of \$129,290,000. The proceeds were used to fund an escrow which will be used to refund \$123,400,000 from PHEFA UPHS Series A of 2011 bonds. The refunded PHEFA UPHS Series A of 2011 bonds were legally defeased, and as such, are no longer included among UPHS’s reported liabilities. Interest on the PHEFA UPHS 2016C bonds is fixed with coupons ranging between 2.00% to 5.00%.

As a result of the legal defeasance of debt associated with the issuance of PHEFA UPHS 2016C bonds, UPHS reported a loss on early extinguishment of debt in Pension, OPEB and other, net on the Consolidated Statements of Activities in the amount of \$27,947,000 for the year ended June 30, 2017.

On April 7, 2016, LCHA issued Series A of 2016 Health System revenue bonds (LCHA UPHS 2016A bonds) with an aggregate principal amount of \$173,310,000. The proceeds were used to fund an escrow which will be used to refund \$33,450,000 from LCHA Lancaster General Hospital (LGH) Series A of 2007 bonds and \$82,510,000 from LCHA LGH Series B of 2012 bonds. In addition to the refunding, the bonds provided \$65,890,000 proceeds used to fund or reimburse UPHS for the cost of various capital projects. The refunded LCHA LGH Series A of 2007 and LCHA LGH Series B of 2012 bonds were legally defeased, and as such, are no longer included among UPHS’s reported liabilities. Interest on the LCHA UPHS 2016A bonds is fixed with coupons ranging between 3.00% to 5.00%.

On April 7, 2016, LCHA issued Series B of 2016 Health System revenue bonds (LCHA UPHS 2016B bonds) with an aggregate principal amount of \$128,050,000. The proceeds were used to fund an escrow which will be used to refund \$30,465,000 from PHEFA UPHS Series A of 2009 bonds and \$26,600,000 from PHEFA UPHS Series A of 2011 bonds. In addition to the refunding, the bonds provided \$81,110,000 proceeds used to fund or reimburse UPHS for the cost of various capital projects. The refunded PHEFA UPHS Series A of 2009 and PHEFA UPHS Series A of 2011 bonds were legally defeased, and as such, are no longer included among UPHS’s reported liabilities. Interest on the LCHA UPHS 2016B bonds is fixed with coupons ranging from 4.00% to 5.00%.

As a result of the legal defeasance of debt associated with the issuance of LCHA UPHS 2016A and 2016B bonds, UPHS reported a loss on early extinguishment of debt in Pension, OPEB and other, net on the Consolidated Statements of Activities in the amount of \$22,366,000 for the year ended June 30, 2016.

UPHS has variable rate debt in the amount of \$69,995,000 which is subject to optional tender by the holders upon seven days’ notice. These bonds are reflected in the debt obligations maturity table above based on original scheduled maturities. In the event that UPHS receives notice of any optional tender on its variable rate demand bonds, the purchase price will be repaid from the remarketing of the bonds. However, in the event that the entire remarketing effort were to fail, UPHS has in place a renewable direct pay letter of credit issued by Bank of America with an expiration date of April

# Consolidated Notes to Financial Statements

15, 2018. In the event that the letter of credit cannot be drawn upon, UPHS would have the general obligation to purchase the bonds.

On April 13, 2016, UPHS entered into a three year agreement with a financial institution, whereby the institution has agreed to provide a line of credit in the amount of \$100,000,000 for general purposes of UPHS. UPHS pays a fee annually on the unused amount of the line of credit. As of June 30, 2017, there have been no draws under the agreement.

## Interest Rate Swap Agreements

The University enters into interest rate swap agreements to synthetically modify the interest rate terms of its long term debt portfolio. These agreements are not entered into for trading or speculative purposes. Fair value of these agreements is determined by obtaining quotes from Goldman Sachs Mitsui Marine Derivative Products, L.P. (GSMMDP) and Merrill Lynch, respectively, which are based on the income approach, using observable market data to discount future net payment streams and accordingly considers this to be a Level 2 measurement. The quotes provided also represent the amount the University would accept or be required to pay to transfer the agreement to GSMMDP and Merrill Lynch, respectively, or exit price as defined by the Fair Value Measurements standard. The University also takes into account the risk of nonperformance.

The following table summarizes the terms of the University's interest rate swap agreements (in thousands):

	Academic Component	UPHS			
Notional Amounts	\$ 101,950	\$ 23,375	\$ 69,995	\$ 24,800	\$ 24,800
Trade Date	11/6/2007	6/28/2006	10/24/2007	7/15/2009	1/7/2010
Maturity Date	7/1/2034	7/1/2041	1/1/2038	8/15/2023	8/15/2023
Rates:					
Receive	67% of 1-Month LIBOR	70% of 1-month LIBOR	67% of 1-Month LIBOR	3.184%	2.902%
Pay	3.573%	3.980%	3.755%	SIFMA index	SIFMA index

The following tables summarize the fair value of the interest rate swap agreements, not designated as hedging instruments, as of June 30, 2017 and 2016, and the related gains and (losses) on the interest rate swap agreements, both realized and unrealized, for the years ended June 30, 2017 and 2016 (in thousands):

Consolidated Statements of Position	Line Item	2017	2016
<u>Asset interest rate swaps</u>			
UPHS	Other assets	\$ 2,635	\$ 4,844
Total Asset interest rate swaps		\$ 2,635	\$ 4,844
<u>Liability interest rate swaps</u>			
Academic Component	Accrued expenses and other liabilities	\$ 21,929	\$ 31,491
UPHS	Accrued expenses and other liabilities	7,524	12,694
Total Liability interest rate swaps		\$ 29,453	\$ 44,185
Consolidated Statements of Activities	Line Item	2017	2016
Academic Component	Return on investments, net	\$ 6,424	\$ (11,986)
UPHS	Return on investments, net	(767)	673
Total		\$ 5,657	\$ (11,313)



# Consolidated Notes to Financial Statements

## 14. Net Assets

The major components of net assets at June 30, 2017 and 2016 are as follows (in thousands):

<b>2017</b>	<b>Unrestricted</b>	<b>Temporarily restricted</b>	<b>Permanently restricted</b>	<b>Total</b>
General operating	\$ 3,482,264	\$ 267,246		\$ 3,749,510
Sponsored programs	42,749			42,749
Capital		84,411		84,411
Student loans	10,174	1,291	\$ 17,152	28,617
Planned giving agreements		113,599	15,340	128,939
Endowment	5,931,351	2,641,506	3,640,350	12,213,207
Total	\$ 9,466,538	\$ 3,108,053	\$ 3,672,842	\$ 16,247,433

<b>2016</b>	<b>Unrestricted</b>	<b>Temporarily restricted</b>	<b>Permanently restricted</b>	<b>Total</b>
General operating	\$ 3,226,035	\$ 264,047		\$ 3,490,082
Sponsored programs	49,838			49,838
Capital		86,959		86,959
Student loans	10,277		\$ 16,933	27,210
Planned giving agreements		135,418	7,718	143,136
Endowment	5,161,319	2,143,305	3,410,740	10,715,364
Total	\$ 8,447,469	\$ 2,629,729	\$ 3,435,391	\$ 14,512,589

## 15. Operating Leases

The University leases research labs, office space and equipment under operating leases expiring through December 2037. Rental expense for the years ended June 30, 2017 and 2016 totaling \$99,417,000 and \$93,903,000, respectively, is included in the accompanying Consolidated Statements of Activities.

At June 30, 2017, future minimum lease payments under existing operating leases were as follows (in thousands):

2018	\$ 87,429
2019	70,506
2020	63,157
2021	55,978
2022	49,070
Thereafter	341,301
Total Minimum lease payments	<u>\$ 667,441</u>

## 16. Functional Classification of Expenditures

Expenses for the years ended June 30, 2017 and 2016 are categorized on a functional basis as follows (in thousands):

	2017					2016	
	Compensation and benefits	Depreciation and amortization	Interest on indebtedness	Other operating expense	Total	Total	
Instruction	\$ 860,218	\$ 62,800	\$ 4,613	\$ 412,755	\$ 1,340,386	\$ 1,253,965	
Research	417,924	41,467	21,551	321,347	802,289	746,560	
Hospital and physician practices	3,303,965	277,961	48,337	2,137,650	5,767,913	5,269,391	
Auxiliary enterprises	35,550	32,265	4,120	88,930	160,865	141,315	
Other educational activities	132,497	14,511	750	37,046	184,804	196,844	
Student services	55,849	-	145	43,067	99,061	86,629	
Academic support	39,395	16,407	321	124,235	180,358	81,013	
Management and general	233,063	20,182	405	35,297	288,947	294,230	
Independent operations	7,785	5,500	179	58,642	72,106	70,040	
Total	\$ 5,086,246	\$ 471,093	\$ 80,421	\$ 3,258,969	\$ 8,896,729	\$ 8,139,987	

Operation and maintenance of PPE and depreciation are allocated to functional classifications based on square footage. Interest expense is allocated to the functional classifications of the activity that directly benefited from the proceeds of the debt.

## 17. Subsequent Events

The University has evaluated subsequent events for the period from June 30, 2017 through September 29, 2017, the date the consolidated financial statements were issued.

## **Schedule of Expenditures of Federal Awards**

Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub-Recipients	Direct	Pass-Through	Expenditure Total
<b>Research and Development Cluster</b>							
<b>DEPARTMENT OF AGRICULTURE</b>							
<i>DEPARTMENT OF AGRICULTURE</i>							
Maintenance of Membership Laboratory Requirements	10.001		AP17VSNVSL00C010		8,568		8,568
Microbial culture studies to develop a stable human microbiota community	10.001		58-8072-6-027		11,207		11,207
<b>SubTotal 10.001</b>					<b>19,775</b>		<b>19,775</b>
Maintenance of Membership Laboratory Requirements	10.025		16-9419-0163-CA		127,036		127,036
USDA Swine Enteric Coronavirus Disease Cooperative Agreement	10.025	COMMONWEALTH OF PENNSYLVANIA	PO 4300438005			6,067	6,067
<b>SubTotal 10.025</b>					<b>127,036</b>	<b>6,067</b>	<b>133,103</b>
PENV Formula CIP Grant FY 2015	10.207		2015-36100-05148		14,791		14,791
PENV FORMULA CIP GRANT FY16	10.207		2016-36100-05148		16,136		16,136
<b>SubTotal 10.207</b>					<b>30,927</b>		<b>30,927</b>
What drives disparities in food purchases? An examination of differentials in price sensitivity, nutritional preferences, and retail access across the socioeconomic spectrum	10.250		58-4000-2-0084		2,763		2,763
<b>SubTotal 10.250</b>					<b>2,763</b>		<b>2,763</b>
Advancing Measurement and Modeling of Healthy Food and Activity Landscapes	10.310		2010-85215-20659		-2,607		-2,607
Allelic variation of Salmonella colonization factors	10.310		2013-67015-21285		29,858		29,858
Improving honey bee queen quality using in vitro artificial selection and sociogenomics	10.310		2014-67013-21725	32,519	53,083		53,083
Robot Swarms and Human Scouts for Persistent Monitoring of Specialty Crops	10.310		2015-67021-23857	53,741	315,737		315,737
Role of fish immunoglobulin IgT in skin and gill mucosal immune and protective responses	10.310		2013-67015-21225		21,268		21,268
<b>SubTotal 10.310</b>				<b>86,260</b>	<b>417,339</b>		<b>417,339</b>
Effects of Environmental Changes and Land-use history on Carbon Stock and Vegetation Dynamics in the Delaware River Basin	10.679		14-JV-11242306-083		1,208		1,208
Evaluating Nutrient Cycling in the Urban Environment: A Collaborative Research Approach	10.679		14-JV-11242308-138		29,408		29,408
<b>SubTotal 10.679</b>					<b>30,616</b>		<b>30,616</b>
Food Retailers' Response to SNAP	10.RD		58-4000-5-0092		64,670		64,670
<b>SubTotal 10.RD</b>					<b>64,670</b>		<b>64,670</b>
DEPARTMENT OF AGRICULTURE Total				86,260	693,126	6,067	699,193
<b>DEPARTMENT OF AGRICULTURE Total</b>				<b>86,260</b>	<b>693,126</b>	<b>6,067</b>	<b>699,193</b>
<b>DEPARTMENT OF COMMERCE</b>							
<i>DEPARTMENT OF COMMERCE</i>							
Complex and Frustrated Magnetic Structures	11.609		70NANB13H152		10,809		10,809
<b>SubTotal 11.609</b>					<b>10,809</b>		<b>10,809</b>
DEPARTMENT OF COMMERCE Total					10,809		10,809
<i>NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY</i>							
2016 NIST-SURF Gaithersburg	11.620		70NANB16H062		5,000		5,000
Proposal for Codes and Standards Public Policy Case Studies	11.620		70NANB15H344		19,389		19,389
Proposal for Course Modules on Codes, Standards, and the Law	11.620		70NANB15H343		16,837		16,837
<b>SubTotal 11.620</b>					<b>41,226</b>		<b>41,226</b>
NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY Total					41,226		41,226
<i>NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION</i>							
Advanced Regional and Decadal Predictions of Coastal Inundation for the U.S. Atlantic and Gulf Coasts.	11.431		NA11OAR4310101		-19,653		-19,653
Investigating the Evolution of Ocean Ventilation and Its Impact on Natural and Anthropogenic Carbon Uptake in a Warming Ocean	11.431	PRINCETON UNIVERSITY	NA10OAR4310092			-22	-22
<b>SubTotal 11.431</b>					<b>-19,653</b>	<b>-22</b>	<b>-19,675</b>
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION Total					-19,653	-22	-19,675
<b>DEPARTMENT OF COMMERCE Total</b>					<b>32,382</b>	<b>-22</b>	<b>32,360</b>
<b>DEPARTMENT OF DEFENSE</b>							
<i>AIR FORCE OFFICE OF SCIENTIFIC RESEARCH</i>							
Deep Lifelong Reinforcement Learning for Resilient Control and Coordination	12.300		FA8750-16-1-0109		144,108		144,108
<b>SubTotal 12.300</b>					<b>144,108</b>		<b>144,108</b>
ACTIVE METASURFACES FOR ADVANCED WAVEFRONT ENGINEERING AND WAVEGUIDE	12.800	HARVARD UNIVERSITY	123885-5079398			222,008	222,008
Atomic Force Microscopy and Surface Spectroscopy Instrumentation to Enable Nanoscale Tribology and Materials Research	12.800		FA9550-16-1-0525		165,932		165,932
Fundamental Studies of Endothermic Reforming Reactions on Acid Catalysts	12.800		FA9550-14-1-0302		128,455		128,455
Neural Bases of Persuasion and Social Influence in the U.S. and the Middle East	12.800	UNIVERSITY OF CALIFORNIA, LOS ANGELES	0875 G SA495	5,106		103,366	103,366
Quantum Metaphotonics and Metamaterials: From Single Emmitters to Strongly Correlated Systems	12.800	BROWN UNIVERSITY	0000555/PO #P280816			188,396	188,396
THREE APPROACHES TO THE CONTROL OF INTELLIGENT SENSING	12.800	WRIGHT STATE UNIVERSITY	669737-1			412,827	412,827
Topological Privacy	12.800	CARNEGIE MELLON UNIVERSITY	1150127-320589			30,892	30,892
ULTRALOW POWER, ULTRAFAST, INTEGRATED NANO-OPTOELECTRONICS	12.800	UNIVERSITY OF TEXAS AT AUSTIN	UTA16-001254			146,198	146,198
Ultrastrong Carbon Thin Films from Diamond to Graphene under Extreme Conditions: Probing Atomic-Scale Interfacial Mechanisms to Achieve Ultralow Friction and Wear	12.800		FA2386-15-1-4109		119,581		119,581
UNDERSTANDING COGNITIVE DECISION MAKING VIA NEAREST NEIGHBOR ALGORITHMS IN MACHINE LEARNING	12.800		FA9550-15-1-0002	60,000	141,261		141,261
Variable Topology Truss for Robotic Humanitarian Missions	12.800		FA2386-17-1-4656		13,162		13,162
<b>SubTotal 12.800</b>				<b>65,106</b>	<b>568,391</b>	<b>1,103,687</b>	<b>1,672,078</b>
EMBEDEDDED COMPUTING SYSTEMS RUNTIME INTEGRITY PROTECTION	12.RD	GRAMMATECH	GT-S17-02			44,998	44,998
High Entropy Alloys	12.RD	UES, INC.	S-109-1N2-001		51,711		51,711
Scalable and Highly Sensitive Transistors Using 2-D Materials	12.RD	GRAPHENE FRONTIERS	S-875-191-005			255,355	255,355

University of Pennsylvania  
Schedule of Expenditures  
For the year ended June 30, 2017

Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub-Receiptients	Direct	Pass-Through	Expenditure Total
Specification and Correct-By-Construction Synthesis of ControlProtocols for Adaptable, Human-Embedded Autonomy	12.RD		FA8650-15-C-2546	115,631	124,890		124,890
<b>SubTotal 12.RD</b>				<b>115,631</b>	<b>124,890</b>	<b>352,064</b>	<b>476,954</b>
AIR FORCE OFFICE OF SCIENTIFIC RESEARCH Total				180,737	837,389	1,455,751	2,293,140
ARMY RESEARCH OFFICE							
4.1 Nano- and Bio-Electronics: Strain Engineered Topological Phases of 2D Materials and Their Heterostructures	12.431		W911NF-16-1-0447		99,941		99,941
ARO: 2D MATERIAL-BASED ELECTRO-OPTIC MODULATION ON A SILICON PLATFORM	12.431	GEORGE WASHINGTON UNIVERSITY	38850-1-CCNS21590F			67,034	67,034
Dynamic Network Neuroscience: Probing Adaptation of Large-Scale Neural Circuits	12.431		W911NF-14-1-0679		110,924		110,924
Integrating edX, GIFT, and CTAT	12.431	CARNEGIE MELLON UNIVERSITY	1130203-373301			24,532	24,532
Near and Far-Field Interfaces to DNA-Guided Nanostructures from RF to Lightwave: Exploiting the Spectrum	12.431	UNIVERSITY OF CALIFORNIA, IRVINE	2010-2511			114,660	114,660
QUANTUM CONTROL AND ENGINEERING OF DEFECTS IN BORON NITRIDE	12.431		W911NF-15-1-0589		91,362		91,362
W911NF-12-R-0012-03: A general theory of social structure integrating demography and decisions on social networks	12.431		W911NF-17-1-0017		10,041		10,041
W911NF-12-R-0012-04 ARO Mathematics Topic 3.3.1 (Fundamental Laws of Biology): Inferring the role of epistasis in molecular evolution	12.431		W911NF-17-1-0083		5,221		5,221
<b>SubTotal 12.431</b>					<b>317,489</b>	<b>206,226</b>	<b>523,715</b>
Semantics, Formal Reasoning, and Tool Support for Quantum Programming	12.800	TULANE UNIVERSITY	TUL-SCC-553957-15/16			127,592	127,592
<b>SubTotal 12.800</b>						<b>127,592</b>	<b>127,592</b>
Distinguishing Brain States and Resolving State Transitions	12.RD	DCS CORPORATION	APX02-0006 - TASK ORDER 001			727,476	727,476
Robotic Perception, Intelligence, and Dexterous Manipulation & Unique Mobility	12.RD	GENERAL DYNAMICS ROBOTIC SYSTEMS	PO #40228149			1,206,609	1,206,609
Robotic Perception, Intelligence, and Dexterous Manipulation & Unique Mobility	12.RD		PO #2013-01025			-948	-948
<b>SubTotal 12.RD</b>						<b>1,933,137</b>	<b>1,933,137</b>
ARMY RESEARCH OFFICE Total					317,489	2,266,955	2,584,444
DEFENSE ADVANCED RESEARCH PROJECTS AGENCY							
Large-scale Paraphrasing for Natural Language Understanding	12.300	JOHNS HOPKINS UNIVERSITY	2001801140 / FA8750-13-2-0017			82,910	82,910
SPARCS: Synthesis of Platform-Weve Attache-Resilient Control Systems	12.300		FA8750-12-2-0247	211,567	804,136		804,136
Synthesizing Data Wranglers	12.300	PRINCETON UNIVERSITY	SUB0000142			42,691	42,691
<b>SubTotal 12.300</b>				<b>211,567</b>	<b>804,136</b>	<b>125,601</b>	<b>929,737</b>
Identifying the Neural Substrates of Emotional Arousal: Towards a Path to Stress Resistance	12.431	CHILDREN'S HOSPITAL OF PHILADELPHIA	321104 / PO #961079RSUB			-266	-266
Identifying the Neural Substrates of Emotional Arousal: Towards a Path to Stress Resistance	12.431		321104-Y2-4/PO #960194RSUB			107,902	107,902
Identifying the Neural Substrates of Emotional Arousal: Towards a Path to Stress Resistance	12.431		321104-Y3-01/PO #960186RSUB			-546	-546
Identifying the Neural Substrates of Emotional Arousal: Towards a Path to Stress Resistance	12.431		321104-01-02 / 950826RSUB			-2	-2
Integrated Human Organ-on-Chip Microphysiological Systems	12.431	HARVARD UNIVERSITY	167831-5101656			84,284	84,284
<b>SubTotal 12.431</b>						<b>191,372</b>	<b>191,372</b>
Biochronicity: Time, Evolution, Networks and Function	12.910	DUKE UNIVERSITY	12-DARPA-1068	55,282		144,991	144,991
DeDOS: Declarative Dispersion-Oriented Software	12.910		HR0011-16-C-0056	322,284	789,273		789,273
Exploiting Quantitative Universals for Unsupervised Acquisition of Language Structure (EQUALS)	12.910		HR0011-15-2-0023		299,385		299,385
FALCON: Fast, Aggressive, Lightweight flight in CONSTrained environments	12.910		HR0011516626/HR0011516850	1,129,503	2,712,534		2,712,534
Immediate and Persistent E-DNA Protection Against Dengue	12.910		W31P4Q-13-1-0003	4,705,900	4,927,451		4,927,451
Learning Applications in Biological Dynamics	12.910		HR0011624364-00		40,592		40,592
Memory Enhancement with Modeling, Electrophysiology, and Stimulation (MEMES)	12.910		N66001-14-2-4032	1,952,795	5,203,205		5,203,205
Rapid Ab Isolation and Delivery by Recombinant AAV Technology (RAID-RAT)	12.910		W911NF-13-2-0036		1,968,464		1,968,464
ReORIENT: Resources for Operationally Relevant Information Extraction from Non-Explicit Text	12.910		FA8750-13-2-0045		1,717,937		1,717,937
The ProteOmic Smart-Patch: Transcutaneous Monitoring of Molecular Levels in Blood Using Flexible and Natural Substrates	12.910	RUTGERS UNIVERSITY	5911			75,896	75,896
The statistical mechanics of crowds - tools for predictive modeling in the social sciences	12.910		HR0011623730 & HR0011623730-1	103,292	458,103		458,103
Thunder: Tolerant Hosts Using Novel Drug-Enhanced Resilience	12.910	COLUMBIA UNIVERSITY	1(GG010681-01)			85,802	85,802
<b>SubTotal 12.910</b>				<b>8,550,124</b>	<b>18,116,944</b>	<b>306,689</b>	<b>18,423,633</b>
BRASS	12.RD	BAE SYSTEMS	921073			236,405	236,405
DCOMP	12.RD	APPLIED COMMUNICATION SCIENCE	PO-0011396			69,669	69,669
DISTRIBUTED ENCLAVE DEFENSE USING CONFIGURABLE EDGES (DEDUCE)	12.RD	APPLIED COMMUNICATION SCIENCE	PO-0004103			151,882	151,882
EXPLOITING LANGUAGE INFORMATION FOR SITUATIONAL AWARENESS (ELISA)	12.RD	UNIVERSITY OF SOUTHERN CALIFORNIA	67104157			160,295	160,295
HETEROGENEOUSLY INTEGRATED OPTICAL SYNTHESIZER (HIOS)	12.RD	UNIVERSITY OF CALIFORNIA, BERKELEY	00008779			267,414	267,414
Immediate and Persistent Protection against EBOLA	12.RD	INOVIO PHARMACEUTICALS, INC.	SUB TO W31P4Q-15-1-0003			-2,940	-2,940
Linguistic Resources for Multilingual, Genre-Independent Language Technologies (BOLT)	12.RD		HR0011-11-C-0145		1,632		1,632
LOW OVERHEAD OBSERVATIONS KEEPING OPERATIONAL UNDER THREATS (LOOKOUT)	12.RD	APPLIED COMMUNICATION SCIENCE	PO-0008421			78,740	78,740
Petalbox: Large-Scale Software Analysis and Analytics Using Datalog	12.RD	GEORGIA INSTITUTE OF TECHNOLOGY	RF228-G2			43,783	43,783
Phase I, Open-Label, Study to Evaluate the Safety, Tolerability , and Immunogenicity of INO-4212 and its Components, INO-4201 , Given with or without INO-9012 , Administered IM or ID	12.RD		EBOV-001			270,745	270,745
Followed by Electroporation in Healthy Volunteers	12.RD	INOVIO PHARMACEUTICALS, INC.					
SIREN-IL: Specialized Intra/Interlingual Resources for Emergent News - Incident Languages	12.RD		HR0011516904	394,861	3,763,705		3,763,705
SQUAD-X	12.RD	KITWARE, INC.	K001306-00-S03			150,963	150,963
TAMBA: TESTING AND MODELING OF BRANDEIS ARTIFACTS	12.RD	GALOIS, INC.	2015-016			168,737	168,737
TerraSwarm Research Center (TSRC)	12.RD	UNIVERSITY OF CALIFORNIA, BERKELEY	00008165/PO#BB00144165			529,381	529,381
<b>SubTotal 12.RD</b>				<b>394,861</b>	<b>3,765,337</b>	<b>2,125,074</b>	<b>5,890,411</b>
DEFENSE ADVANCED RESEARCH PROJECTS AGENCY Total				9,156,552	22,686,417	2,748,736	25,435,153
DEFENSE THREAT REDUCTION AGENCY							
Phase II: VECTOR - AAV Expressed Chemical Threat Protector	12.RD		HDTRA1-15-C-0023	397,728	1,534,651		1,534,651
<b>SubTotal 12.RD</b>				<b>397,728</b>	<b>1,534,651</b>		<b>1,534,651</b>
DEFENSE THREAT REDUCTION AGENCY Total				397,728	1,534,651		1,534,651
DEPARTMENT OF DEFENSE							
BC150998 - Correcting the Anti-HER-2 CD4 Th1 Response in Breast Cancer Therapy to Prevent Recurrence	12.420	MOFFITT CANCER CTR	12-18717-99-1-G2			19,994	19,994
Characterization of a novel recurrent noncoding genomic alteration in breast cancer	12.420		W81XWH-15-1-0041		-175,345		-175,345
Comparative Effectiveness of Acupuncture for Chronic Pain and Comorbid Conditions	12.420	SLOAN-KETTERING INSTITUTE FOR CANCER RESEARCH	BD521423			10,762	10,762
Detection of Early Lung Cancer Among Military Personnel (DECAMP)	12.420	BOSTON UNIVERSITY	9500300580			75,415	75,415
Developing gene silencing for the study and treatment of dystonia	12.420	CHILDREN'S HOSPITAL OF PHILADELPHIA	FP00018899_SUB01_02			59,614	59,614
Repair of Major Nerve Trauma Using Tissue-Engineered Nerve Grafts: IND-Enabling Nonclinical Efficacy Studies in Swine	12.420	RUTGERS UNIVERSITY	Sub # 5299 AFIRM			191,749	191,749
Supplemental Perioperative Oxygen to Reduce Surgical Site Infection After High Energy Fracture Surgery	12.420	JOHNS HOPKINS UNIVERSITY	8487			1,400	1,400

University of Pennsylvania  
Schedule of Expenditures  
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Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub-Receiptients	Direct	Pass-Through	Expenditure Total
The NCAA-DoD Grand Alliance: Concussion Assessment, Research and Education (CARE) Study	12.420	CHILDREN'S HOSPITAL OF PHILADELPHIA	8901940917			16,446	16,446
Tissue-Engineered Nerve Grafts for Repair of Currently Untreatable Peripheral Nerve Injury	12.420		W81XWH-15-1-0466		290,142		290,142
Understanding the immune-biology of checkpoint inhibitors to develop new strategies for therapy	12.420	WISTAR INSTITUTE	35521-02-314; Xu			6,727	6,727
SubTotal 12.420					114,797	382,107	496,904
Management of Suicidal-Related Events During Deployment	12.RD	RESEARCH FOUNDATION FOR MENTAL HYGIENE, INC.	PO #110520			107,117	107,117
The Natural History of the Progression of Atrophy Secondary to Stargardt Disease: A Prospective Longitudinal Observational Study (ProgSTAR)	12.RD	FOUNDATION FIGHTING BLINDNESS	NNSP-CL-0313-0069-UP3NN-N34			13,773	13,773
The Natural History of the Progression of Atrophy Secondary to Stargardt Disease: A Retrospective Longitudinal Observational Study	12.RD	FOUNDATION FIGHTING BLINDNESS	NNSP-CL-0413-0077-UPENN.NER			302	302
The Strong Star Consortium in Alleviate PTSD: CAP- Project Remission: Maximizing Outcomes with Intensive Outpatient Treatments for PTSD	12.RD	UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER AT SAN ANTONIO	CAP IOP-PE Project ADV ACCT			80,334	80,334
Transforming Research and Clinical Knowledge in TBI (TRACK-TBI) – High Definition Fiber Tracking Neuroimaging, Biospecimen and Data Informatics Repositories	12.RD	UNIVERSITY OF PITTSBURGH	0043845-11			1,990	1,990
SubTotal 12.RD						203,516	203,516
DEPARTMENT OF DEFENSE Total					114,797	585,623	700,420
DEPARTMENT OF THE AIR FORCE							
(MURI-10) Science of Cyber Security: Modeling, Composition and Measurement	12.800	STANFORD UNIVERSITY	29183000-51677-A			219,237	219,237
CHASE: Control of Heterogeneous Autonomous Sensors for Situational Awareness	12.800		FA9550-10-1-0567	89,962	89,962		89,962
Electron and Energy Transfer Dynamics in Homogeneous and Inhomogeneous Environments	12.800		FA9550-13-1-0157		178,971		178,971
Geometry and Topology of Complex Networks	12.800		FA9550-13-1-0097	299,866	449,786		449,786
INFORMATION DYNAMICS AS THE FOUNDATION FOR NETWORK MANAGEMENT	12.800	PRINCETON UNIVERSITY	MOD 3 UNDER SUBAWARD #00001714			47,760	47,760
SubTotal 12.800				389,828	718,719	266,997	985,716
DEPARTMENT OF THE AIR FORCE Total				389,828	718,719	266,997	985,716
DEPARTMENT OF THE ARMY							
A Cell-Based Approach to Early Pancreatic Cancer Detection	12.420		W81XWH-15-1-0457		337,225		337,225
AR110189: Examination of the mGluR-mTOR Pathway for the Identification of Potential Therapeutic Targets to Treat Fragile X	12.420		W81XWH-12-1-0596		-3,950		-3,950
B cell activation and tolerance mediated by B cell receptor, Toll like receptor, and survival signal cross talk in SLE pathogenesis	12.420		W81XWH-14-1-0305		332,368		332,368
BC111503P1 Regulation of Metastasis and DNA Damage Resistance Pathways by Transposable Elements	12.420		W81XWH-12-1-0181		134		134
BC123126: Identification of variants in breast cancer susceptibility genes and determination of functional and clinical significance of novel mutations	12.420		W81XWH-13-1-0338		74,685		74,685
BC123187: Organotropic Metastatic Secretomes and Exosomes in Breast Cancer	12.420		W81XWH-13-1-0426		215,060		215,060
CA110449: Listeria vaccines for pancreatic cancer	12.420		W81XWH-12-1-0411		-520		-520
Cooperativity between Oncogenic PKC epsilon and Pten Loss in Prostate Cancer Progression	12.420		W81XWH-14-1-053530		204,075		204,075
Critical Pathways in Residual Neoplastic Disease	12.420		W81-XWH-11-1-0683		-171		-171
Cyclin E1 as a Therapeutic Target in Women with High-Grade Serious Ovarian Cancer and Primary Treatment Failure	12.420	UNIVERSITY OF MELBOURNE	SUB TO W81XWH-15-1-0160			46,994	46,994
Defining the pathophysiological role of tau in experimental TBI	12.420		W81XWH-14-1-0275		222,440		222,440
Development and Translation of a Tissue-Engineered Disc in a Preclinical Rodent Model	12.420		W81XWH-10-1-0949		1,016		1,016
Development of a Novel Translational Model of Vibration Injury to the Spine to Study Acute Injury in Vivo	12.420		W81XWH-10-2-0140		186,225		186,225
Development of Orally Bioavailable Therapeutics by the Chloroplast Expression System Counter Muscle Degeneration, Weakness, and Fibrosis in DMD	12.420	UNIVERSITY OF FLORIDA	UFDSP00011237			54,041	54,041
Diffuse and Focal Brain Injury in a Large Animal Model of PTE: Mechanisms Underlying Epileptogenesis	12.420		W81XWH-16-1-0675		168,915		168,915
Discovery of host factors and pathways utilized in hantaviral infection	12.420		W81XWH-14-1-0204		251,885		251,885
DM120237-A Randomized, Controlled, Ascending Dose Clinical Trial of a Bismuth-Thiol (BT) Topical Anti-Infective Drug for Treatment of Post-Surgical Orthopedic Infections	12.420		W81XWH-12-2-0100	215,991	302,259		302,259
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)	12.420	NORTHERN CALIFORNIA INSTITUTE FOR RESEARCH AND EDUCATION	1686			18,552	18,552
Effects of traumatic brain injury and posttraumatic stress disorders on Alzheimer's disease AD in Veterans with mild cognitive impairment MCI using the Alzheimer's Disease Neuroimaing Initiative	12.420	NORTHERN CALIFORNIA INSTITUTE FOR RESEARCH AND EDUCATION	1820			31,687	31,687
FLT-PET/CT as a biomarker of therapeutic response in pemretrexed therapy for non-small cell lung cancer	12.420		W81XWH-14-1-0197		49,629		49,629
Implementation of Prolonged Exposure in the Army: Is Consultation Necessary for Effective Dissemination	12.420		W81XWH-12-2-0116	1,285,831	1,669,929		1,669,929
Improved Field Management and Safe Ground Transport of Patients with head and Spine Injuries	12.420	GENEVA FOUNDATION	S-1326-04			14,350	14,350
Improving Ischemia Reperfusion Injury in Vascularized Composite Tissue Allotransplantation Via Histone Deacetylase Modulation	12.420		W81XWH-16-1-0780		87,890		87,890
Interfamilial Violence Following Mental Illness in Returning Army Service Members	12.420	CHILDREN'S HOSPITAL OF PHILADELPHIA	27235-321090315/PO #960177RSUB			8,116	8,116
Investigation of a novel PARP inhibitor PET tracer in ovarian carcinoma	12.420		W81XWH-17-1-0092		6,069		6,069
Magnetic Resonance Characterization of Axonal Response to Spinal Cord Injury	12.420		W81XWH-10-1-0714		1		1
Mechanisms and Treatment of Oligometastases	12.420		W81XWH-09-1-0339		112,173		112,173
Melanopsin-Specific Contributions to Photophobia in Brain Trauma	12.420		W81XWH-15-1-0447		234,901		234,901
Military Suicide Research Consortium Dissemination and Implementation Core	12.420	UNIVERSITY OF WASHINGTON	UWSC9138			25,233	25,233
NADPH-generating enzymes as potential targets for prostate cancer therapy	12.420		W81XWH-15-1-0678		200,027		200,027
Neurobiological Predictors and Mechanisms in Exposure Therapy for PTSD	12.420	UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER AT SAN ANTONIO	159426/155536			10,698	10,698
NF110152: CHEMOSENSORY FUNCTION IN NEUROFIBROMATOSIS	12.420		1305199		880		880
NOVEL BIOCOMPATIBLE WOUND DRESSINGS FOR CHRONIC PAIN MANAGEMENT	12.420		W81XWH-15-2-0013		343,298		343,298
Overcoming PARP inhibitor resistance by targeting the ATR-CHK1 pathway in BRCA 1/2 deficient ovarian cancer	12.420		W81XWH-16-1-0399		95,678		95,678
PC120820: tRNA as a Novel Target for Prostate Cancer Therapy	12.420		W81XWH-13-1-0446		135,923		135,923
Positioning Vascularized Composite Allotransplantation in the Spectrum of Transplantation	12.420	CHILDREN'S HOSPITAL OF PHILADELPHIA	321113 / PO #960955RSUB			110,125	110,125
PR120935P1: Enhancing the Efficacy of Targeted Radiotherapy for Neuroblastoma	12.420		W81XWH-13-1-0406		79,412		79,412
Preventing risky drinking in veterans treated with prescription opioids	12.420		W81XWH-14-1-0060	12,048	601,588		601,588
Prostate Cancer Research Program, Synergistic Idea Development Award	12.420	THOMAS JEFFERSON UNIVERSITY	080-27000-X15001			46,516	46,516
PROTON THERAPY DOSE CHARACTERIZATION AND VERIFICATION	12.420		W81XWH-09-2-0174		171,872		171,872
PT110785: Tau Accumulation in TBI: Mechanisms and Treatment	12.420		W81XWH-13-1-0052	66,893	589,749		589,749
PT140178-The Efficacy of 90-minute vs 60-minute sessions of Prolonged Exposure for PTSD: A Randomized Control Trial in Active Duty Military Personnel	12.420		W81XWH-15-1-0555		113,181	345,234	345,234
Rapid in vivo validation of tumor suppressor gene function in prostate cancer progression	12.420		W81XWH-15-1-0085		-520		-520
Role of Autophagy in Dormant Tumor Cell Survival and Recurrence	12.420		W81XWH-14-1-0404		77,932		77,932
Role of HMGB1 in Transfusion-Mediated Lung Inflammation	12.420		W81XWH-15-1-0363		398,875		398,875
Role of urokinase-type plasminogen activator (uPA) in progression of TSC tumors	12.420		W81XWH-16-1-0187		99,641		99,641
Small-molecule enhancers of the human protein-disaggregase machinery for ALS	12.420		W81XWH-17-1-0237		12,170		12,170
Targeted Re-Polarization of Tumor-Associated Macrophages in Lung Cancer	12.420		W81XWH-15-1-0362		286,529		286,529
Targeting anti-viral and NOTCH3 pathways to inhibit stroma-mediated treatment resistance	12.420		W81XWH-14-1-0450	2,754	358,046		358,046
The Myc regulated long non-coding RNA DANCER in prostate cancer	12.420		W81XWH-15-1-0630		238,580		238,580
THE STRONG STAR MULTIDISCIPLINARY PTSD RESEARCH CONSORTIUM	12.420		W81XWH-08-2-0111	247,569	705,967		705,967
Tissue Engineering Strategies to Maintain Distal Target Efficacy and Promote Full Functional Recovery Following Major Peripheral Nerve Injury	12.420		W81XWH-16-1-0796		377,412		377,412

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Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub-Receiptients	Direct	Pass-Through	Expenditure Total
Tumor-Associated Neutrophils in Human Lung Cancer	12.420	NATIONAL TRAUMA INSTITUTE	W81XWH-15-1-0717		179,639		179,639
Vasopressin Supplementation During the Resuscitation of Hemorrhagic Shock	12.420		NTI-TRA-09-062			29,688	29,688
Web-PE: Internet-Delivered Prolonged Exposure Therapy for PTSD	12.420		W81XWH-14-1-0008	329,262	443,645		443,645
YY1 Control of AID-Dependent Lymphomagenesis	12.420		W81XWH-14-1-0171		6,262		6,262
SubTotal 12.420				2,273,529	10,200,077	396,000	10,596,077
Blast Induced Threshold for Neuronal Networks (BITNeT)	12.431	UNIVERSITY OF CALIFORNIA, SANTA BARBARA	W911NF-10-1-0526	124,578	229,922		229,922
Developing a Better Canine Warrior: Performance Assessment, Associated Phenotypes and Genome-wide Association Mapping for Superior Intelligence in Military Working Dogs (MWDIG)	12.431		W911NF-14-1-0574		22,110		22,110
Electrochemical Impedance Spectrometer with an Environmental Chamber for Rapid Screening of New Precise Copolymers	12.431		W911NF-14-1-0466		1,603		1,603
Evolution of Cultural Norms and Dynamics of Socio-Political Change	12.431		W911NF-12-1-0509	809,239	986,887		986,887
Granularity and Jamming: A new approach to understanding and predicting near-threshold sediment transport	12.431		W911NF-13-1-0458		56,598		56,598
II, A, 2, 9.1: Curvature Directed Assembly of Particles into Reconfigurable Structures at Fluid Interfaces	12.431		W911NF-16-1-0288		127,346		127,346
Neural foundations of expertise based on optimal decision-making, physical control and responses to stress	12.431		KK1711			56,110	56,110
Novel experiment to examine failure and flow of Earth materials	12.431		W911NF-16-1-0196		220,249		220,249
Rapid Screening of New Precise Copolymers: Morphology and Ionic Conductivity	12.431		W911NF-13-1-0363		43,664		43,664
The Physics of Mud	12.431		W911NF-16-1-0290		198,729		198,729
The spatiotemporal resolution of cognitive signals revealed through high-density uECoG mapping	12.431		W911NF-14-1-0173	44,223	108,296		108,296
SubTotal 12.431				978,040	1,995,404	56,110	2,051,514
AM3 Autonomous Multifunctional Mobile Microsystems	12.RD	BAE SYSTEMS	316106			1,803,770	1,803,770
NEUROBEHAVIORAL EFFECTS OF BATTLEMIND VS. MINDFULNESS BASED MILITARY TRAINING IN ARMY INFANTRY PLATOONS	12.RD		W81XWH-09-C-0071		-87,474		-87,474
SubTotal 12.RD				-71,103	-87,474	1,803,770	1,716,296
DEPARTMENT OF THE ARMY Total				3,180,466	12,108,007	2,255,880	14,363,887
DEPARTMENT OF THE INTERIOR							
Neural mechanisms of influence, deterrence and message propagation	12.910		D14AP00048		66,583		66,583
SubTotal 12.910					66,583		66,583
DEPARTMENT OF THE INTERIOR Total					66,583		66,583
DEPARTMENT OF THE NAVY							
Automation in Cryptology	12.300	STANFORD UNIVERSITY	60106443-107484-B			544	544
Beyond Labels: Generalized Supervision for Structured Learning	12.300		N00014-10-1-0746		-2,429		-2,429
Finite-Temperature Molecular Dynamics and First Principle Modeling of Oxide Solid Solutions	12.300		N00014-12-1-1033		23,807		23,807
IRONCLAD C/C++: Enforcing Memory Safety to Prevent Low-Level Security Vulnerabilities	12.300		N00014-11-1-0596		-837		-837
Large-Area, 3D Optical Metamaterials with Tunability and Low Loss	12.300		N00014-10-1-0942	-506	-506		-506
LOCAL-to-GLOBAL: Algebraic Topology for Data, Networks, and Systems	12.300		N00015-16-1-2010		531,497		531,497
New Paradigms for Scalable Online Decentralized Optimization	12.300		N00014-12-1-0997	75,000	179,383		179,383
NEXT GENERATION NETWORK SCIENCE	12.300		N00014-08-1-0747		-2,807		-2,807
Perception-Based, Reactive, Temporal-Logic Planning for Autonomous Deck Operations	12.300		N00014-13-1-0778		107,182		107,182
Phenotypic and Genotypic Markers of Performance Vulnerability to Sleep Loss	12.300		N00014-11-1-0361		-581		-581
SubTotal 12.300				74,494	834,709	544	835,253
Selectable Anonymity For Enabling SAFER Telecommunications (SAFEST)	12.RD		N66001-11-C-4020		1,654		1,654
SubTotal 12.RD					1,654		1,654
DEPARTMENT OF THE NAVY Total				74,494	836,363	544	836,907
INTELLIGENCE ADVANCED RESEARCH PROJECTS ACTIVITY							
Test and Evaluation for CREATE	12.431	GOOD JUDGMENT	N/A			1,278,992	1,278,992
SubTotal 12.431						1,278,992	1,278,992
INTELLIGENCE ADVANCED RESEARCH PROJECTS ACTIVITY Total						1,278,992	1,278,992
MARYLAND PROCUREMENT OFFICE							
SONICVIPER	12.RD		H98230-15-C-0825		284,655		284,655
VIPERTOXIN Language/Dialect Collection I	12.RD		H98230-10-D-0041		-3,211		-3,211
SubTotal 12.RD					281,444		281,444
MARYLAND PROCUREMENT OFFICE Total					281,444		281,444
OFFICE OF NAVAL RESEARCH							
A Multiscale Theoretical and Experimental Platform for Understanding Cavitation Deformation Dynamics	12.300	UNIVERSITY OF MASSACHUSETTS-AMHERST	17-009730 A 00			21,675	21,675
Active Semantic Distributed Perception	12.300		N00014-17-1-2093		79,276		79,276
ANTIDOTE: Adaptive Networks for Threat and Intrusion Detection or Termination	12.300	UNIVERSITY OF SOUTHERN CALIFORNIA	138804			4,288	4,288
Anytime Resource Optimization with Sliding Performance for Mission Planning and Sensor Management	12.300		1141265-356580			126,108	126,108
Cognitive Computations: A Network Perspective	12.300	CARNEGIE MELLON UNIVERSITY	N00014-15-1-2516		176,790		176,790
Coupling of Metabolic and Mechanical Function in Cell Physiology	12.300		N00014-14-1-0538		296,364		296,364
Cyber Protocols in the Physical Environment	12.300	CARNEGIE MELLON UNIVERSITY	N00014-15-1-2047		71,176		71,176
DEFECT ENGINEERING OF PHASE CHANGE MATERIALS FOR ULTRA-LOW POWER DEVICES	12.300		N00014-16-1-2350		124,243		124,243
Development of Control-Aware Cyber Techniques for Attack-Resilient Industrial Control & Combat Systems	12.300	CARNEGIE MELLON UNIVERSITY	N00014-17-1-2012	47,055	168,572		168,572
DYNAMIC, REAL-TIME VIRTUALIZATION AND CLOUD COMPUTING	12.300		N00014-16-1-2195		195,268		195,268
First-Principles and Multi-Scale Modeling of Dynamic Ionic and electronic Processes in Hybrid and Halide Perovskites	12.300	CARNEGIE MELLON UNIVERSITY	N00014-17-1-2574		8,050		8,050
Homogenization models for the rheology and microstructure evolution of sea ice	12.300		N00014-17-01-2076		7,476		7,476
Inference And Dynamics On Networks	12.300	CARNEGIE MELLON UNIVERSITY	N00014-14-1-0823		52,777		52,777
Materials for Extreme Manipulation of Light, Sound and Heat	12.300		N00014-15-1-2029		493,014		493,014
PROBLOGICAL HYBRID DEFENSE (PHD): A new approach to automated reasoning and its application to cyberdefense	12.300	CARNEGIE MELLON UNIVERSITY	N00014-15-1-2006		730,048		730,048
Rich Representations with Exposed Semantics for Deep Visual Reasoning  	12.300		1141221-258509			58,592	58,592
Robot Ecologies: Biologically Inspired Heterogeneous Teams	12.300	GEORGIA INSTITUTE OF TECHNOLOGY	RF683-G1			80,200	80,200
Robotics: Toward the New Science of Programmable Work	12.300		N00014-16-1-2817		351,065		351,065
Seahorse metabolic assessment of distressed cells	12.300	STANFORD UNIVERSITY	N00014-16-1-2742		166,463		166,463
Seed Project: Correct-by-Construction Autonomy Protocols for Open, Reconfigurable, Networked Naval Systems	12.300		N00014-15-1-2310		-2,551		-2,551
SynCrypt: Automated Synthesis of Cryptographic Constructions	12.300	STANFORD UNIVERSITY	61127466-107-484			144,089	144,089
Top-down and bottom-up processes in auditory preception	12.300		N00014-16-1-2539		219,369		219,369
Topological Representations and Algorithms for Robot Swarms	12.300		N00014-14-1-0510		156,308		156,308

Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub-Receiptients	Direct	Pass-Through	Expenditure Total
Understanding the Photovoltaic Efficiency of Organometallic Perovskites	12.300		N00014-14-1-0761	22,149	203,517		203,517
Utilizing Synthetic Biology to Create Programmable Micro-Bio-Robots	12.300	BOSTON UNIVERSITY	4500000554			157,297	157,297
SubTotal 12.300				69,204	3,497,225	592,249	4,089,474
Autonomous Unmanned Vehicles Applied Research program: UPENN Sub-proposal to Johns Hopkins Prime	12.RD	JOHNS HOPKINS UNIVERSITY	125027			67,937	67,937
COMPUTATIONAL METHODS FOR DYNAMIC SCENE RECONSTRUCTION	12.RD	ROBOTIC RESEARCH	SUB2016-UPENN-008-CODER			24,735	24,735
Progressive Model Generation for Adaptive Resilient System Software	12.RD	GRAMMATECH	GT S14-04			211,213	211,213
SubTotal 12.RD						303,885	303,885
OFFICE OF NAVAL RESEARCH Total				69,204	3,497,225	896,134	4,393,359
UNIFORMED SERVICES UNIVERSITY OF THE HEALTH SCIENCES							
Development of well-characterized minipig models of GI-ARS and H-ARS	12.750	HENRY M. JACKSON FOUNDATION	HT9404-13-1-0026			154,028	154,028
SubTotal 12.750						154,028	154,028
UNIFORMED SERVICES UNIVERSITY OF THE HEALTH SCIENCES Total						154,028	154,028
DEPARTMENT OF DEFENSE Total				13,449,009	42,999,084	11,909,640	54,908,724
DEPARTMENT OF INTERIOR							
NATIONAL PARK SERVICE							
Celebrating the NPS Centennial through the Investigation, Analysis, and Treatment of the Facade of Mission San Jose de Tumucacori, TUMA	15.945		P14AC00965		4,258		4,258
Conservation Assessment and Treatment Testing and Recommendations for Petrified Fossil Tree Stumps	15.945		P16AC01266		2,216		2,216
Conservation of Interior Surface Finishes in Mission San Jose de Tuma II	15.945		P16AC00931		90,455		90,455
Cultural Landscapes Inventory – Washington DC Historic Golf Courses- NCRO	15.945		P16AC01138		133,516		133,516
Development of a Historic Preservation Training Curriculum and Fundamentals Course for the Vanishing Treasures Program	15.945		P15AC01523		112,436		112,436
Documentation & Risk Analysis of Conditions & Treatment at Fort Union National Monument	15.945		P15AC01619		-8,557		-8,557
Documentation and Risk Analysis of Conditions and Treatments at Fort Union National Monument; Phase II	15.945		P14AC00921		58,661		58,661
Historic Preservation Graduate Internship, Independence National Historical Park, NPS	15.945		P13AC00095		-1,175		-1,175
Jackson Lake Lodge Historic Structures Report, Part 3	15.945		P16AC01176/UPE-29		80,466		80,466
Phase II Condition Survey & Assessment - Lodge, Cabins, Misc Structures	15.945		P15AC00913		3,062		3,062
Provide Interns with Experiential Learning Opportunities in Historic Preservation	15.945		P14AC00921		39		39
Washington, DC Public Reservations Cultural Landscapes Inventory	15.945		P15AC01326		-7,254		-7,254
SubTotal 15.945					468,123		468,123
NATIONAL PARK SERVICE Total					468,123		468,123
U.S. GEOLOGICAL SURVEY							
Development of a Comprehensive Hazard to Loss Modeling Framework for the Residential Damage Associated with Inland Flooding from North Atlantic Tropical Cyclones	15.805	UNIVERSITY OF IOWA	W000645062			31,325	31,325
SubTotal 15.805						31,325	31,325
Immune Reagent Network for Aquacultured species	15.808		G16AC00332		145,227		145,227
SILUS Spatial Integration Laboratory for Urban Systems, 2011-2016	15.808		G11AC20285		4,540		4,540
SubTotal 15.808					149,767		149,767
U.S. GEOLOGICAL SURVEY Total					149,767	31,325	181,092
DEPARTMENT OF INTERIOR Total					617,890	31,325	649,215
DEPARTMENT OF JUSTICE							
DEPARTMENT OF JUSTICE							
Highly Parallel Analysis of Complex Genetic Mixtures	16.560	STANFORD UNIVERSITY	60501677-111213			39,694	39,694
SubTotal 16.560						39,694	39,694
DEPARTMENT OF JUSTICE Total						39,694	39,694
NATIONAL INSTITUTE OF JUSTICE/DEPARTMENT OF JUSTICE							
Applying Promising Evidence to New Settings: An Experimental Evaluation of Summer Jobs in Philadelphia	16.560		2016-R2-CX-0049		34,797		34,797
Disrupting Illegal Gun Transfers	16.560	RAND CORPORATION	9920160105			42,118	42,118
Instilling a Culture of Continuous Learning From Criminal Justice System Errors: A Multi-Stakeholder Sentinel Event Review of Process in Philadelphia	16.560		2015-R2-CX-K040		187,789		187,789
Space-time study of youth and school violence	16.560		2014-CK-BX-0008		650,381		650,381
Suspension practices in the context of PBIS: Implications for K-8 students in the School District of Philadelphia	16.560		2015-CK-BX-0013	44,557	466,663		466,663
SubTotal 16.560				44,557	1,339,630	42,118	1,381,748
NATIONAL INSTITUTE OF JUSTICE/DEPARTMENT OF JUSTICE Total				44,557	1,339,630	42,118	1,381,748
DEPARTMENT OF JUSTICE Total				44,557	1,339,630	81,812	1,421,442
U.S. DEPARTMENT OF STATE							
U.S. DEPARTMENT OF STATE							
The Internet Policy Observatory: A Monitoring and Civil Society Capacity-Building Project	19.345		S-LMAQM-13-GR-1052	80,000	195,507		195,507
SubTotal 19.345				80,000	195,507		195,507
Shahrvand Abad: Enabling Online Civic Participation	19.RD	ASL19	ASL 19 INC			86,677	86,677
SubTotal 19.RD						86,677	86,677
U.S. DEPARTMENT OF STATE Total				80,000	195,507	86,677	282,184
U.S. DEPARTMENT OF STATE Total				80,000	195,507	86,677	282,184
DEPARTMENT OF TRANSPORTATION							
DEPARTMENT OF TRANSPORTATION							
The Dwight David Eisenhower Transportation Fellowship Program 2013 Eisenhower Graduate Fellowship	20.215		N/A		-8		-8
SubTotal 20.215					-8		-8
T-SET: Technologies for Safe and Efficient Transportation	20.701	CARNEGIE MELLON UNIVERSITY	1080311-341328			696,059	696,059



University of Pennsylvania  
Schedule of Expenditures  
For the year ended June 30, 2017

Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub- Recipients	Direct	Pass-Through	Expenditure Total
	SubTotal 20.701					696,059	696,059
MOBILITY 21: A NATIONAL UNIVERSITY TRANSPORTATION CENTER FOR IMPROVING MOBILITY	20.RD	CARNEGIE MELLON UNIVERSITY	SUB TO 69A3551747111			51,442	51,442
DEPARTMENT OF TRANSPORTATION Total FEDERAL AVIATION ADMINISTRATION	SubTotal 20.RD				-8	747,501	747,493
Adaptive Airport Planning Frameworks and Techniques for a New Era of Planning	20.106		N/A		-2,000		-2,000
	SubTotal 20.106				-2,000		-2,000
Pilot study on aircraft noise and sleep disturbance	20.109		13-C-AJFE-UPENN		269,518		269,518
FEDERAL AVIATION ADMINISTRATION Total DEPARTMENT OF TRANSPORTATION Total	SubTotal 20.109				269,518		269,518
					267,518		267,518
					267,510	747,501	1,015,011
DEPARTMENT OF TREASURY FEDERAL RESERVE SYS							
Federal Reserve Financial Literacy Project (FLP- Year 3)	21.RD		FEDERAL RESERVE SYS		109,484		109,484
FEDERAL RESERVE SYS Total DEPARTMENT OF TREASURY Total	SubTotal 21.RD				109,484		109,484
					109,484		109,484
					109,484		109,484
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION JET PROPULSION LABORATORY							
Constraining Dark Energy and Modified Gravity with Euclid	43.RD		1515793		99,751		99,751
JET PROPULSION LABORATORY Total NASA PENNSYLVANIA SPACE GRANT CONSORTIUM	SubTotal 43.RD				99,751		99,751
					99,751		99,751
The Pennsylvania Space Grant Consortium	43.008	PENNSYLVANIA STATE UNIVERSITY	5562-UP-NASA-K06H			4,000	4,000
NASA PENNSYLVANIA SPACE GRANT CONSORTIUM Total NATIONAL AERONAUTICS AND SPACE ADMINISTRATION	SubTotal 43.008					4,000	4,000
						4,000	4,000
A Balloon-borne Doppler Spectrometer For Discovering Earth-like Planets Orbiting Low-Mass Stars	43.001		NNX13AI79G		176,470		176,470
Balloon-borne Large Aperture Submillimeter Telescope - BLAST	43.001		NNX13AE50G	632,281	1,275,959		1,275,959
Cognition on HI-SEAS	43.001	UNIVERSITY OF HAWAII	MA150006			6,695	6,695
Discerning the details of the cosmic dark sector	43.001	CORNELL UNIVERSITY	71105-10295			196,804	196,804
Flood Regimes and Carbon Cycling in Anthropogenic Landscapes of the Bolivian Amazon	43.001		NNX13AQ07G	13,232	14,967		14,967
Individualized Real-Time Neurocognitive Assessment Toolkit for Space Flight Fatigue	43.001	NATIONAL SPACE BIOMEDICAL RESEARCH INSTITUTE	NBPF02501			79,308	79,308
Laboratory Investigations of the Effects of Particulates on the Flow of Ice	43.001		NNX15AM69G		151,082		151,082
Metamaterials for Advanced Visible and Ultraviolet Optical Components	43.001		1561199		7,410		7,410
PVT SELFTEST ON ISS	43.001		NNX08AY09G	28,150	194,440		194,440
Reliving the Past: Experimental Evolution of Major Transitions in the History of Life	43.001	UNIVERSITY OF MONTANA	PG15-26850-04			76,975	76,975
Seasonal, interannual and interdecadal variability in global phytoplankton community size structure derived from ocean color remote sensing and IPCC-class ecosystem models	43.001		NNX13AC92G	13,563	13,563		13,563
The Spectroscopic Terahertz Airborne Receiver for Far-InfraRed Exploration (STARFIRE): a Next-Generation Experiment for Galaxy Evolution Studies	43.001		NNX17AH24G		4,101		4,101
	SubTotal 43.001			687,226	1,837,992	359,782	2,197,774
Cognitive performance and crew cohesion during confinement in NASA's Human Research Program Human Exploration Research Analog (HERA)	43.003		NNX14AH98G		81,294		81,294
HERO Twin Astronaut Study Consortium (TASC) Project: Cognition on monozygotic twin on Earth	43.003		NNX14AH27G	3,000	43,807		43,807
Hybrid training - A sensory stimulation countermeasure for long duration space exploration missions	43.003		NNX16AI53G		205,347		205,347
Inflight pharmacokinetic and pharmacodynamic responses to medications commonly used in spaceflight	43.003	BAYLOR COLLEGE OF MEDICINE	7000000150			18,512	18,512
Neurostructural, cognitive, and physiologic changes during a 1-year Antarctic winter-over mission	43.003		NNX14AM81G	59,042	435,864		435,864
Standardized behavioral measures for detecting behavioral health risks during exploration missions	43.003		NNX15AK76G	358,257	669,182		669,182
	SubTotal 43.003			420,299	1,435,494	18,512	1,454,006
Biomarkers as predictors of resiliency and susceptibility to stress in space flight	43.007		NNX14AN49G	47,912	280,204		280,204
FOAM: Foam Optics and Mechanics (The Melting of Optic Foams)	43.007		NNX14AM99G		117,884		117,884
Low Volume Fraction Entropically Driven Colloidal Assembly (Phase 2)	43.007		NNX13AL27G		93,097		93,097
	SubTotal 43.007			47,912	491,185		491,185
Developing Kinetic Inductance Detectors for the Balloon-borne Large Aperture SubmillimeterTelescope –BLAST	43.009		NNX14AN63H		80,677		80,677
Kinetic Inductance Detectors for Far-Infrared Spectroscopy	43.009		NNX13AL68H		55,071		55,071
Monocular SLAM for Smart SPHERES	43.009		NNX14AM10H		71,428		71,428
	SubTotal 43.009				207,176		207,176
Development of Inflation Probe Technologies for the Advanced ACT Experiment	43.012		NNX15AQ74H		69,890		69,890
	SubTotal 43.012				69,890		69,890
An Extreme Precision Doppler Spectrometer for the US OIR System	43.RD	PENNSYLVANIA STATE UNIVERSITY	5405-UP-JPL-7612			212,675	212,675
DES16C2m: Is the Highest-Redshift Supernova to Date also the Most Luminous?	43.RD	SPACE TELESCOPE SCIENCE INSTITUTE	HST-GO-14899.001-A			16,734	16,734
Free-Form Models for the Six Hubble Frontier Fields Clusters	43.RD	SPACE TELESCOPE SCIENCE INSTITUTE	STScI-49726			83,548	83,548
Reliving the Past: Experimental Evolution of Major Transitions in the History of Life	43.RD	GEORGIA INSTITUTE OF TECHNOLOGY	RH809-G1			30,835	30,835
	SubTotal 43.RD					343,792	343,792
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION Total NATIONAL AERONAUTICS AND SPACE ADMINISTRATION Total				1,155,437	4,041,737	722,086	4,763,823
				1,155,437	4,141,488	726,086	4,867,574
NATIONAL ENDOWMENT							

Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub-Receiptients	Direct	Pass-Through	Expenditure Total
NATIONAL ENDOWMENT FOR THE ARTS							
Proactive Practice	45.024		15-4200-7053		-1,471		-1,471
SubTotal 45.024					-1,471		-1,471
NATIONAL ENDOWMENT FOR THE ARTS Total					-1,471		-1,471
NATIONAL ENDOWMENT FOR THE HUMANITIES							
Completing the Royal Inscriptions of the Neo-Assyrian Period (RINAP): Assyrian Imperial Sources from Apex to Annihilation (668-609 BCE)	45.149		PW-228092-15		110,686		110,686
SubTotal 45.149					110,686		110,686
Children, Drug Therapy, and Pharmaceuticals in the United States, 1906-1979	45.160		FA-231944-16		23,848		23,848
SubTotal 45.160					23,848		23,848
Bilinguals in Late Mesopotamian Scholarship	45.169		HG-50029-11		52		52
SubTotal 45.169					52		52
NATIONAL ENDOWMENT FOR THE HUMANITIES Total					134,586		134,586
NATIONAL ENDOWMENT Total					133,115		133,115
NATIONAL SCIENCE FOUNDATION							
DIRECTORATE FOR BIOLOGICAL SCIENCES/NSF							
Science and Technology Center for Mechano-Biology	47.041		CMMI-1548571	19,360	976,467		976,467
SubTotal 47.041				19,360	976,467		976,467
A Novel Anchoring Mechanism for Prokaryotic Surface Proteins	47.074		MCB-1413158		128,917		128,917
Cis and trans determinants of Polycomb recruitment in plants	47.074		MCB-1614355		138,792		138,792
Examining the role of the endomebrane in transcription factor movement	47.074		MCB-1243945		80,673		80,673
Global analysis of RNA-protein interactions in plants	47.074		MCB-1243947		18,174		18,174
Neural bases of song preference and reproductive behavior in a female songbird	47.074		1557499		237,477		237,477
New tools for genetic analysis in Arabidopsis thaliana	47.074		MCB-1243754		8,267		8,267
New tools for genetic analysis in Arabidopsis thaliana	47.074		MCB-1614191		97,884		97,884
Polycomb Response Elements (PREs) and Polycomb recruitment in plants	47.074		MCB1243757		93,839		93,839
Protein folding: mechanism and principles	47.074		MCB-1409137		166,545		166,545
Signaling mechanisms that regulate attractive axon guidance at the CNS midline	47.074		IOS-1355181		183,741		183,741
Structural, functional, and evolutionary analysis of long non-coding RNAs in control of stress response and the epigenome in diverse plant species	47.074		IOS-1444490	246,616	581,296		581,296
The role of the 'antiflorigen' TFL1 in Arabidopsis development	47.074		1557529	4,498	132,734		132,734
SubTotal 47.074				251,114	1,868,339		1,868,339
Subaward from University of Oregon - Supplemental application to NSF in support of NSF BCS-1358724	47.075	UNIVERSITY OF OREGON	2000U0A (NSF 1358724)			10,796	10,796
SubTotal 47.075						10,796	10,796
DIRECTORATE FOR BIOLOGICAL SCIENCES/NSF Total							
DIRECTORATE FOR COMPUTER AND INFORMATION SCIENCES AND ENGINEERING/NSF				270,474	2,844,806	10,796	2,855,602
BIGDATA: F. DKA: Spectral Analysis and Control of Evolving Large-Scale Networks	47.070		IIS-1447470		333,552		333,552
CAP: CSCI 2017 Making a Difference: Prioritizing Equity and Access in CSCI Doctoral Consortium and Early Career Workshops	47.070		IIS-1637021		1,507		1,507
CSR: Small: Resource Management for Real-Time Cloud Computing	47.070		CNS-1117185		-154		-154
SubTotal 47.070					334,905		334,905
DIRECTORATE FOR COMPUTER AND INFORMATION SCIENCES AND ENGINEERING/NSF Total					334,905		334,905
DIRECTORATE FOR EDUCATION AND HUMAN RESOURCES/NSF							
Collaborative Research: The Role of Instructor and Peer Feedback in Improving the Cognitive, Interpersonal, and Intrapersonal Competencies of Student Writers in STEM Courses	47.076		DGE-1544130		11,129		11,129
Developing Formative Assessment Tools and Routines for Additive Reasoning	47.076		DRL-1620888		132,799		132,799
Systemic Formative Assessment to Promote Mathematics Learning in Elementary Schools	47.076		DRL-1621333	54,946	552,712		552,712
The Effects of Education and Professional Development on Beginning STEM Teacher Persistence: a Longitudinal Study	47.076		DGE-1535175		118,436		118,436
Using Research-Based Formative Assessment to Improve Mathematics Teaching and Learning	47.076		DRL-1316527	56,890	394,747		394,747
SubTotal 47.076				111,836	1,209,823		1,209,823
DIRECTORATE FOR EDUCATION AND HUMAN RESOURCES/NSF Total				111,836	1,209,823		1,209,823
DIRECTORATE FOR ENGINEERING/NSF							
A wireless sensor-brain interface to restore finger sensation	47.041		CBET-1404041		193,174		193,174
CAREER: Functional adaptation of the maternal skeleton to reproduction and lactation	47.041		CMMI-1653216		984		984
EFRI 2-DARE: Functionalized Monolayer Heterostructures for Biosensors with Optical Readout	47.041		EFMA-1542879	103,995	560,918		560,918
Engineering Proteins for Reabsorption in the Renal Proximal Tubule	47.041		CBET-1264807		2,643		2,643
More efficient breast pumping through automated breast compression	47.041		IIP-1719290		19,000		19,000
Multiscale Modeling of Compositional Stresses in Nonstoichiometric Oxides	47.041		CMMI-1363203		213,265		213,265
Multiscale Modeling of the Nanocarrier-Cell Adhesion Interface in Targeted Drug Delivery	47.041		CBET-1236514		2,041		2,041
Nonlinear Homogenization of Porous Anisotropic Materials: Applications to Plastic and Magnetic Shape-Memory Alloys	47.041		CMMI-1332965		106,409		106,409
Optogenetic Tools for Minimally Invasive Therapies	47.041		CBET-1264975		25,231		25,231
Viscoelastic Fluids in Parallel Shear Flows at low Re: Instabilities, Bifurcations & Single Molecule Experiments	47.041		CBET-1336171		98,497		98,497
SubTotal 47.041				103,995	1,222,162		1,222,162
DIRECTORATE FOR ENGINEERING/NSF Total				103,995	1,222,162		1,222,162
DIRECTORATE FOR GEOSCIENCES/NSF							
CAREER: Retention and Mobility of Beryllium in Soils and Sedimentary Environments	47.050		1554134		2,203		2,203
SubTotal 47.050					2,203		2,203
DIRECTORATE FOR GEOSCIENCES/NSF Total					2,203		2,203
DIRECTORATE FOR MATHEMATICS AND PHYSICAL SCIENCES/NSF							
Advances on Bayesian Model Selection and Inference	47.049		DMS-1406563		106,826		106,826
Algebraic, combinatorial and analytic applications of symmetric functions	47.049		1500834		47,115		47,115

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Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub- Recipients	Direct	Pass-Through	Expenditure Total
CAREER: Action-Minimizing Paths in the Space of Probability Measures	47.049		DMS-1554130		26,045		26,045
CAREER: Flow, failure, fluctuations and the topology of vascular networks	47.049		PHY-1554887		57,392		57,392
CENTER OF EXCELLENCE FOR MATERIALS RESEARCH AND INNOVATION (CEMRI)	47.049		DMR-1120901	129,709	4,031,812		4,031,812
Characterizing the Physical Properties of High-redshift SN Ia Host Galaxies	47.049		1517742		229,994		229,994
Coalescing systems with random initial conditions	47.049		1612674		60,680		60,680
Collaborative Research: Experimental and Theoretical Studies of the Biomechanics of Fibrin Polymer	47.049		DMR-1505662		109,719		109,719
Computationally designed synergistic protein-nanoparticle assemblies	47.049		CHE-1508318		229,772		229,772
Curvature, group actions and geometric flows	47.049		DMS-1506148		126,895		126,895
Differential Geometry in the Large	47.049		DMS-1630033		15,931		15,931
EAGER: Elucidation of the Electronic Structure and Model Complexes of the Natural, Cerium-Dependent Xoxf-Methanol Dehydrogenase Enzyme: Launching the Bio-Inorganic Chemistry of the Rare Earth Metals	47.049		CHE-1449246		24,110		24,110
Engineering Stable Glass Films Using Molecular Design and Surface-Mediated Equilibration	47.049		1628407		233,143		233,143
Enhanced moduli, Hodge theory, and quantization	47.049		DMS-1302242		17,062		17,062
Expanding the Chemistry of Cerium and Uranium in their Highest Oxidation States: Electronic Structure, Redox and Organometallics	47.049		1362854		115,055		115,055
From Photon to Neuron: a textbook on Light, Imaging, and Vision	47.049		PHY-1601894		64,288		64,288
Liberating T-Cell Mediated Immunity to Pancreatic Cancer	47.049		1545935	195,880	291,443		291,443
Moduli Spaces and Arithmetic Geometry	47.049		DMS-1545586		1,081		1,081
Nonlinear PDE with gradient constraints: Regularity, Eigenvalue problems, and Infinity ground states	47.049		DMS-1301628		-367		-367
Novel coupling reactions	47.049		1464744		174,131		174,131
Novel Polyfluoroalkylated Building Blocks	47.049		CHE-1362841		292,721		292,721
Oxidative Methods for C-C, C-N, and C-O Bond Formation	47.049		CHE-1464778		124,228		124,228
Proof Theory: Finite Data from Infinite Mathematics	47.049		1600263		32,399		32,399
Radon transforms: geometric combinatorics, regularity, and applications	47.049		DMS-1361697		126,943		126,943
Reactive Metal-Ligand Multiple Bonds and Their Use in C-H Activation, Alkane Dehydrogenation and Coupling Processes	47.049		1464659		121,579		121,579
Research Experiences for Undergraduates (REU)-Site	47.049		DMR-1659512		30,822		30,822
String Math Conferences 2014	47.049		DMS-1401390		14,178		14,178
Synthesis, Characterization and Reactivity Studies of Cerium Metal-Ligand Multiple Bonds	47.049		CHE-1664928		37,227		37,227
Theoretical Studies of Mechanics in Active Matter	47.049		DMR-1506625		26,793		26,793
Theory and Methods for Estimation of Nonsmooth Functionals and Detection of Simultaneous Signals	47.049		DMS-1403708		119,157		119,157
Topics in Fluid dynamics with free boundaries, and Kinetic theory	47.049		DMS-1500916		89,026		89,026
Valid Inference when Analytical Models are Approximations	47.049		DMS-1512084		182,029		182,029
SubTotal 47.049				325,589	7,159,229		7,159,229
Field-theoretic simulations with excluded volume correlations	47.049		DMR-1410246		75,561		75,561
Sub-picosecond Stress-Induced Conductivity Transitions, Mechanical Transitions and Ferroelectric Transitions	47.049		DMR-1409114		30,361		30,361
SubTotal 47.049					105,922		105,922
DIRECTORATE FOR MATHEMATICS AND PHYSICAL SCIENCES/NSF Total				325,589	7,265,151		7,265,151
DIRECTORATE FOR SOCIAL, BEHAVIORAL AND ECONOMIC SCIENCES/NSF							
Affordable Care Act and the Labor Market	47.075		1459353		104,960		104,960
Cognitive characteristics of the leaders of language change	47.075		1627972		38,635		38,635
Collaborative Research: Good Booms, Bad Booms	47.075		1529586		52,072		52,072
Collobarative research: A Corpus of New York City English: Audio-aligned and parsed	47.075		1629348		25,987		25,987
Computational Techniques for Studying Everyday Multiattribute Choice	47.075		SES-1626825		36,309		36,309
Doctoral Dissertation Improvement Grant: Ceramic Entanglements at the Urtarian Periphery	47.075		BCS-1420111		531		531
Doctoral Dissertation Research in DRMS: Attitudes to Genetically Modified Foods	47.075		SES-1559371		11,621		11,621
Doctoral Dissertation Research in DRMS: Why We Help the Wronged?	47.075		SES-1559320		11,672		11,672
Doctoral Dissertation Research: Archaeological Examinations of Political Violence and Everyday Life during Yucatan's Caste War, 1847-1901	47.075		1640392		21,206		21,206
Doctoral Dissertation Research: Constitutions & the Political Economy of Health in the Global South	47.075		1534880		11,592		11,592
Doctoral Dissertation Research: Gender "done" and "undone"? How men and women experience unemployment differently and why this matters	47.075		1538951		-4,008		-4,008
Doctoral Dissertation Research: Investigating the mechanism of phonological change in progress: Allophonic restructuring of /ae/ in Philadelphia	47.075		1628408		7,749		7,749
Doctoral Dissertation Research: Leaving home: genetic, endocrine, and behavioral correlates of dispersal in monogamous owl monkeys (Aotus azarae) of Argentina	47.075		BCS-1540255		-715		-715
Doctoral Dissertation Research: The Socio- and Psycholinguistics of a Consonant Merger: Seseo in Seville, Spain	47.075		BCS-1627973		4,198		4,198
Doctoral Dissertation Research: Variation and Change in Past Tense Negation in AAVE	47.075		1658547		354		354
Empirical Studies of Business-to-Business Bargaining: Evidence from Hospital Input Markets	47.075		SES-1559485		91,217		91,217
Forecasting and Political Discourse	47.075		SES-1559370		117,805		117,805
Increasing Access to Federal Court Data Workshop--Fall 2015	47.075		SES-1551564		794		794
Integration Of Urban And Rural Population	47.075		BCS-1430404		-4,541		-4,541
Macroeconomics of Labor Market Sorting	47.075		SES-1357903		112,564		112,564
Observing the Invisible: A Collaborative Investigation between Astrophysicists and Philosophers	47.075		SES-1557138		136,996		136,996
Postdoctoral Fellowship: Neuro-visions of the Prejudiced Mind: Implications and Challenges for Neuroscience Research on Implicit Bias	47.075		SES-1632596		55,567		55,567
Presuppositions in Online Language Comprehension	47.075		BCS-1349009		144,857		144,857
Revisiting the Variable Deletion of Labiodental Glide (w) in Seoul Korean	47.075		1529051		136		136
Standard Research Grant: Probing Public Understanding and Acceptance of Evolution	47.075		SES-1455425		150,088		150,088
The Black Family Racial Socialization Project: A mixed methods, multimodal exploration of racial socialization processes in the 21st century	47.075		SMA-1606869		58,418		58,418
Uncertainty in Models of Authority and Models of Matching	47.075		1559369		120,158		120,158
SubTotal 47.075					1,306,222		1,306,222
DIRECTORATE FOR SOCIAL, BEHAVIORAL AND ECONOMIC SCIENCES/NSF Total					1,306,222		1,306,222
NATIONAL SCIENCE FOUNDATION							
Automated object contouring methods and software for head and neck radiotherapy planning	47.041	QUANTITATIVE RADIOLOGY SOLUTIONS, LLC	SUB TO 1549509			94,312	94,312
Bio-enabled Nanosensors with Fully Programmable Ligand Detection	47.041		IIP-1312202		-13,012		-13,012
CAREER: Coupling Spin, Light, and Charge for Quantum Information Processing and Storage in Diamond	47.041		ECCS-1553511		97,965		97,965
CAREER: Domain boundary phenomena and composition fluctuations in heterogeneous lipid membrane mixtures	47.041		CBET-1053857		2,779		2,779
CAREER: Entropic elasticity of fluctuating filaments and networks	47.041		CMMI-0953548		1,159		1,159
CAREER: LOCOMOTION OF SMALL ORGANISMS IN COMPLEX FLUIDS	47.041		CBET-0954084		400		400
CAREER: Molecular Imaging of Cancer Research and Education Program	47.041		CBET-0953583		-2,712		-2,712
CAREER: Time-domain encoding for highly parallel digital molecular sensing	47.041		CBET-1554200		100,130		100,130
CDI-TYPE II: Collaborative Research: Cyber-Amplified Bioinspiration in Robotics	47.041		ECCS-1028237		13,350		13,350
CDS&E: Collaborative Research: Data-Driven Predictive Modeling of Flows Containing Aggregating Particles	47.041		CBET-1404826		201,817		201,817
Collaborative Research: Efficient Rare Cell Capturing in Microfluidic Devices via Multiscale Surface Design	47.041		CBET-1263940		-3,031		-3,031

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Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub-Receiptients	Direct	Pass-Through	Expenditure Total
Collaborative Research: IUCRC for Robots and Sensors for the Human Well-being	47.041		IIP-1439681		25,311		25,311
Collaborative Research: Temperature-Dependence of Atomic-Scale Friction	47.041		CMMI-1401164		122,110		122,110
Collaborative Research: Ultrafast Carrier Dynamics in Semiconductor Nanocrystal Solar Cells	47.041		CBET-1335821		88,003		88,003
CPS: MEDIUM: Collaborative Research: Co-Design of Multimodal CPS Architectures and Adaptive Controllers	47.041		ECCS-1135630		-1,711		-1,711
DEVELOPING QUANTITATIVE MODELS OF SHP2-MEDIATED SIGNALING REGULATION IN GLIOMA FOR RATIONAL IDENTIFICATION OF IMPROVED THERAPEUTIC APPROACHES	47.041		CBET-1511853		2,625		2,625
DMREF: Collaborative Research: High-throughput discovery, development,and demonstration of material systems to enable low-power NEMS-basedcomputation	47.041		CMMI-1334241		24,654		24,654
EFRI 2-DARE: Two-dimensional nanopores with electro-optical control for next generation biotechnological applications	47.041		EFMA-1542707	431,721	662,091		662,091
EFRI-ODISSEI: Cutting and Pasting - Kirigami in Architecture, Technology, and Science	47.041		EFRI-1331583	194,356	485,563		485,563
ESE RESEARCH COMMUNITY PLANNING GRANT	47.041		ECCS-1654985		568		568
GOALI/Collaborative Research: Manufacturing of Carbon NanotubeContacts for High-Performance Microelectromechanical Switches	47.041		CMMI-1463344		50,553		50,553
GOALI: Single droplet level understanding of phase inversion emulsification to enable continuous processing	47.041		CBET-1604536		106,188		106,188
GOALI: Structure and Electronic Properties of Grain Boundaries in Earth Abundant CuZnSnSsSe4-x (CZTS) Thin Film Solar Cells	47.041		CBET-1235870		25,063		25,063
IUCRC: Collaborative Research: Autonomous Perception and Manipulation in Search and Rescue	47.041		IIP-1432960		1,000		1,000
Investigating the Unsteady Rheology and Evolving Microstructure of Suspensions of Swimming Microorganisms	47.041		CBET-1437482		43,113		43,113
LARGE-AREA, ALIGNMENT-FREE, 3D CHIRAL PLASMONIC NANOSTRUCTURES USING TEMPLATE-BASED FABRICATION TECHNOLOGY	47.041		1562884		118,786		118,786
Mechanistic Studies of Hydrodeoxygenation of Lignin-Derived Aromatic Oxygenates over Bimetallic Catalysts	47.041		CBET-1508048		90,441		90,441
Molecular modeling of failure in polymer nanocomposites	47.041		1536914		91,973		91,973
Molecular Modeling of Wetting and Dewetting Transitions on Nanotextured Surfaces	47.041		1511437		18,530		18,530
NetEgg: Toolkit for Programming Network Policies by Examples	47.041		1564730		23,365		23,365
NNCI: Establishment of a Nanotechnology User Node at the University of Pennsylvania	47.041		ECCS-1542153	9,646	1,022,449		1,022,449
Parental Driving Behaviors of Child Passengers ages 4 – 10 years	47.041	CHILDREN'S HOSPITAL OF PHILADELPHIA	27065-212780717-12			12,568	12,568
PFI-BIC Affordable and Mobile Assistive Robots for Elderly Care	47.041		IIP-1430216		197,994		197,994
Predicting the interfacial activity of complex grafted nanoparticles	47.041		CBET 1510635		118,308		118,308
Realizing non-close-packed colloidal crystals using directional-bonding superparticles	47.041		CBET-1403237		110,477		110,477
REU: SUNFEST: SUMMER UNDERGRADUATE RESEARCH IN SENSOR TECHNOLOGIES	47.041		EEC-1659190		109,794		109,794
SNM: Scalable Manufacturing of Nanostructured Membranes for Fracking Wastewater Treatment	47.041		CBET-1449337	79,060	226,231		226,231
Structured Composite Materials with Variable Adhesion Properties	47.041		CMMI-1435745		84,289		84,289
SUNFEST - Summer Undergraduate Research in Sensor Technologies	47.041		EEC-1359107		-104,330		-104,330
Urban Water Innovation Network (U-WIN):Transitioning Toward Sustainable Water Systems	47.041	COLORADO STATE UNIVERSITY	G-00973-12			59,838	59,838
SubTotal 47.041				714,783	4,142,283	166,718	4,309,001
Collaborative Research: Integration of Implantable MEMS Sensors and Computational Modeling to Assess Mechanical Regulation of Bone Regeneration	47.041		CMMI-1362652		47,251		47,251
Understanding Continuum Models of Elasto-Plastic Deformations via Multiscale Analyses	47.041		CMMI-1401537		109,206		109,206
SubTotal 47.041					156,457		156,457
A CONFERENCE IN COMBINATORICS AND GRAPH THEORY	47.049		DMS-9612387		-667		-667
Accurate Cosmological Measurements from the Dark Energy Survey	47.049		AST-1615555		4,428		4,428
ACTPol	47.049	PRINCETON UNIVERSITY	00001883			-198	-198
Advanced ACTPol	47.049	PRINCETON UNIVERSITY	SUB00000032			547,944	547,944
Advanced Techniques for Loading Metals into Liquid Scintillators	47.049	UNIVERSITY OF WASHINGTON	745930			-438	-438
Algebraic Geometry in String Theory	47.049		DMS-1304962		74,632		74,632
Analysis of non-linear partial differential equations in Kinetic theory and related fields	47.049		DMS-1200747		-2		-2
Bioinspired Synthesis of Complex Molecular Systems	47.049		DMR-1066116		171,753		171,753
CAREER: Linking Graph Topology of Learned Information to Behavioral Variability via Dynamics of Functional Brain Networks	47.049		PHY-1554488		60,108		60,108
CAREER: Mechanics of Ultra-Strength Nanomaterials: Revealing Deformation Mechanisms	47.049		DMR-1056293		1,196		1,196
CAREER: Nonparametric Eigenanalysis of High Dimensional Data	47.049		DMS-1352060		93,726		93,726
CAREER: Thiomides as Minimalist Chromophores to Monitor Protein Dynamics	47.049		CHE-1150351		169,390		169,390
CAREER: Understanding Electrostatic Interactions in Non-Polar Media for Generation of Nanostructured Thin Films	47.049		DMR-1055594		11,694		11,694
Collaborative Research: Novel Computational and Statistical Approaches to Prediction and Estimation	47.049		DMS 1521529		56,551		56,551
Collaborative Research: AGNES: Algebraic Geometry NorthEastern Series	47.049		DMS-1361706		267		267
Collaborative Research: Characterizing the Trans-Neptunian Solar System with the Dark Energy Survey	47.049		1515804		31,048		31,048
Collaborative Research: De novo Protein Constructs for Photosynthetic Energy Transduction	47.049		CHE-1412496		122,610		122,610
Collaborative Research: Directing Charge and Energy Flow in Discrete Nanocrystal-Dendrimer Hybrids and in Their Assemblies	47.049		1709827		4,909		4,909
Collaborative Research: Modeling and Simulation of Graphene Growth	47.049		DMS-1216801		36,060		36,060
Collaborative Research: Precision Array for Probing the Epoch of Reionization (PAPER)	47.049	UNIVERSITY OF VIRGINIA	GA10911-139068			16,778	16,778
Curvature gradient driven assembly of trapped and reconfigurable structures	47.049		DMR -1607878		125,636		125,636
Degenerate Diffusions on Manifolds with Corners	47.049		DMS-1507396		61,777		61,777
Designing the Electronic Properties of PbSe Nanowires for Optoelectronic Devices	47.049		DMR-1309053		118,860		118,860
EAGER Renewal: Bio-Inorganic Chemistry of the Rare Earth Metals: Chemistry Relevant to the Cerium-Dependent Methanol Dehydrogenase	47.049		1608925		66,136		66,136
Elasticity, Deformation, Rearrangement & Assembly in Complex Fluids	47.049		1607378		74,757		74,757
Energy Landscape Approaches to Understanding Soft Glassy Materials	47.049		1609525		12,477		12,477
FRG: Collaborative Research: Chem classes in Iwasawa Theory	47.049		DMS-1360767	1,839	120,889		120,889
FRG: Collaborative Research: Lifting problems and Galois theory	47.049		DMS-1265290		59,551		59,551
FRG: Collaborative Research: Obstructions to Local-Global Principles and Applications to Algebraic Structures	47.049		DMS-1463733		174,211		174,211
HERA: Illuminating our Early Universe	47.049	UNIVERSITY OF CALIFORNIA, BERKELEY	00008650			15,381	15,381
High Resolution Observations of the Sunyaev-Zel'dovich Effect in Galaxy Clusters	47.049		AST-1615604		51,866		51,866
High Resolution Observations of the Synyaev-Zel-dovich Effect in Clusters of Galaxies at 90 GHz Using the GBT	47.049		AST-1309032		98,096		98,096
Jamming transitions and kinetic phenomena	47.049		DMR-1305199		142,595		142,595
LSST - DM	47.049		N71984C-L			80,603	80,603
Magneto-Active Elastomers: Homogenization, Instabilities and Relaxation	47.049	ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY	1613926		75,014		75,014
Material World Network: Dynamics in Polymer Nanocomposites Containing Hard, Soft and Mobile Nanoparticles	47.049		DMR-1210379		52,665		52,665
Material World Network: Understanding and Exploiting Mixed-Mode Ultra-Fast Optical-Electrical Behavior in Nanoscale Phase Change Materials	47.049		DMR-1210503		12,047		12,047
Materials World Network: Mechanics and Durability of Diamond-Like Nanocomposites (MADDLiN): An International Collaboration to Understand Tribo-Mechanical Multiphysical Phenomena	47.049		DMR-1107642		71,320		71,320
Materials World Network: Tailoring Electrocatalytic Materials by Controlled Surface Exsolution	47.049		DMR-1210388		2,962		2,962
Measuring Weak Gravitational Lensing with the Dark Energy Survey	47.049		AST-1311924		74,573		74,573
Moduli of Abelian Varieties	47.049		DMS-1200271		45,411		45,411
Neural population coding in the brain	47.049		PHY-1058202		41,764		41,764
Novel Dynamics in Complex Fluids: From Phonons to the Drying Process	47.049		DMR-1205463		6,934		6,934

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NSF Funding Request: An International Conference in Harmonic Analysis at the ICMS	47.049		DMS-1700938		3,365		3,365
NSF GeomFest 2013	47.049		DMS-1337391		8,462		8,462
NSF/DMR-BSF: Diffusion along Metal-Ceramic Interfaces: a combined theoretical and experimental study	47.049		DMR-1609267		113,134		113,134
NSF/DMR-BSF: Ultra-Tough Double-Network Hydrogels for Cartilage Repair	47.049		DMR-1610525		12,679		12,679
Oxidative Methods for C-C, C-N, and C-O Bond Formation	47.049		CHE-1213230		5,668		5,668
Penn-UPRR Partnership for Research and Education in Materials	47.049	UNIVERSITY OF PUERTO RICO	DMR-1523463			57,569	57,569
Polarization Mediated Atomic Interactions: water and Pt on BaTiO3 (100)	47.049		DMR-1206563		-1,517		-1,517
Precise Copolymers and Ionomers: Conductivity in Layered and Percolated Morphologies and Mechanical Properties	47.049		1506726		102,431		102,431
Programmable pattern transformation of reconfigurable polymer membranes	47.049		DMR-1410253		140,050		140,050
Quantum Chemistry for Predicting and Quantifying Photoinduced Nonadiabatic Dynamics.	47.049		CHE-1150851		139,698		139,698
Quantum invariants, enhanced moduli, and integrable systems	47.049		1601438		35,595		35,595
Research Collaboration: Modeling and simulation of the growth of graphene multilayers and Heterostructures	47.049		1522603		6,204		6,204
RESEARCH EXPERIENCE FOR UNDERGRADUATES (REU) SITE	47.049		DMR-1359351		57,761		57,761
Research Proposal in Algebraic Geometry and String Theory	47.049		DMS -1603526		8,033		8,033
Responsive Hybrid Oleosin Nanomaterials	47.049		1609784		147,183		147,183
Responsive vesicles from recombinant oleosin	47.049		DMR-1309556		-3,965		-3,965
Self-assembly and motility far from equilibrium	47.049		DMR-1104637		1,247		1,247
Spectroscopy and Dynamics of Reaction Intermediates	47.049		CHE-1362835		148,812		148,812
Statistical Methods for High-resolution Multiscale analysis 3D DNA Interactions	47.049		1562665		67,833		67,833
Structural and Chemical Changes Due to Electrical Stress in Phase-Change Nanowires: An In Situ Electron Microscopy Study	47.049		DMR 1505127		76,288		76,288
Summer 2016 Quarknet at Penn	47.049	UNIVERSITY OF NOTRE DAME	SUB TO PHY-1219444			14,724	14,724
The Combinatorics of Macdonald Polynomials and Symmetric Function Operators	47.049		1600670		77,002		77,002
The Fundamental Physics of the Invisible and the Very Early Universe	47.049		PHY-1145525		41,357		41,357
Topological and Geometrical Problems in Soft Matter, Due 10/1/12	47.049		DMR-1262047		199,094		199,094
Topological Framework for Analysis and Visualization of Atomistic Materials Simulations	47.049		1507013		137,291		137,291
Transport & Dynamics of Swimming Microorganisms in Time-Dependent Flows	47.049		1709763		1,896		1,896
Variational and Parabolic Phenomena in Differential Geometry	47.049		DMS-1737006		30,682		30,682
Vertically Oriented Anisotropic Nanoparticles in Polymer Matrices	47.049		1507713		114,490		114,490
SubTotal 47.049				1,839	3,998,017	732,363	4,730,380
Acquisition of New Thermal Analysis Instrumentation for Increased Capacity of Characterization of Organic Matter in Soils and Sediments	47.050		EAR-1541588		89,568		89,568
Collaborative Research: Converging on a Physical Basis for Rate and State Friction through Nano-to-Macro-Scale Friction and Adhesion Experiments on Geological Materials	47.050		EAR-1464714		115,552		115,552
Collaborative Research: A Multidisciplinary Study to Determine the Fundamental Mechanisms of Rock Friction through Coordinated Experiments and Simulations	47.050		EAR 1550112		40,122		40,122
EaSM-3: Integration of Decision-Making with Predictive Capacity for Decadal Climate Impacts	47.050		AGS-1419504		12,372		12,372
Goldby NSF-ANS, Collaborative Proposal: Carbonation of Serpentinite in the San Andreas Fault: How Fluid-rock Interactions Impact Aseismic Creep	47.050		EAR-1502472		-2,894		-2,894
Hazards SEES: Risk Assessment and Risk Management: An Integrated Approach for Responding to Multiple Hazards from Tropical Cyclones in a Changing Climate	47.050	PRINCETON UNIVERSITY	SUB0000091			96,187	96,187
INSPIRE Track 1: Eartheasting Fluvial Systems: Physical, Ecological and Biogeochemical Dynamics	47.050	NORTHWESTERN UNIVERSITY	SP0024578-PROJ0006673			11,097	11,097
Luquillo CZO: The Role of Hot Spots and Hot Moments in Tropical Landscape Evolution and Functioning of the Critical Zone	47.050	UNIVERSITY OF NEW HAMPSHIRE	14-064			255,478	255,478
NCED - Minnesota	47.050	UNIVERSITY OF MINNESOTA	A003176704			50,000	50,000
Physical controls of spontaneous and triggered slow-slip and stick-slip events at the fault gouge scale	47.050	UNIVERSITY OF SOUTHERN CALIFORNIA	74787035			15,096	15,096
WSC-Category 2 Collaborative: Robust decision-making for South Florida water resources by ecosystem service valuation, hydro-economic optimization and conflict resolution modeling	47.050		EAR-1204780		6,596		6,596
SubTotal 47.050					261,316	427,858	689,174
AF: Small: An integrated approach to characterizing conformational changes of large proteins	47.070	RICE UNIVERSITY	R3E981			80,319	80,319
AF: SMALL: Cut, Flow, and Matching Problems in Graphs	47.070		CCF-1116961		15,124		15,124
AF: Small: Small Space Algorithms and Representations for Graph Optimization Problems	47.070		CCF1552909		53,016		53,016
AF: Small: Sublinear Algorithms for Graph Optimization Problems	47.070		CCF-1617851		211		211
BD Spokes: Spoke: NorthEast: Collaborative: Grand Challenges for Data-Driven Education	47.070		IIS-1661987		39,610		39,610
BIGDATA: F: Graph Sketching and Optimization Problems	47.070		1546151		129,138		129,138
CAREER: EVIDENCE IN FEDERATED DISTRIBUTED SYSTEMS	47.070		CNS-1054229		3,705		3,705
CAREER: Foundations for Modeling and Verification of Medical Cyber-Physical Systems	47.070		CNS-1253842		53,281		53,281
CAREER: THE ALGORITHMIC FOUNDATIONS OF DATA PRIVACY	47.070		CNS-1253345		26,185		26,185
Career: Adaptive Large-Scale Program Analysis	47.070		1743116		33,587		33,587
CAREER: Capturing Content and Linguistic Quality in Automatic Extractive and Abstractive Summarization	47.070		IIS-0953445		14,414		14,414
CCF: MEDIUM: Validating Program Transformations in a Mechanized LLVM	47.070		CCF-1065166		-952		-952
CCF-SHF: Beyond Algebraic Data Types: Combinatorial Species and Mathematically-structured Programming	47.070		CCF-1218002		103,175		103,175
CICI: Data Provenance: Provenance-Based Trust Management for Collaborative Citizen Science Data Curation	47.070		1547360		135,924		135,924
CIF: Small: Rich Type Inference for Functional Programming	47.070		CCF-1319880		183,791		183,791
CIF21 DIBBs: EI: mProv: Provenance-based Data Analytics Cyberinfrastructure for High-frequency Mobile Sensor Data	47.070	UNIVERSITY OF MEMPHIS	1640813			113,404	113,404
CIF-SMALL: Circles of Trust: An Axiomatic Construction of Clustering in Asymmetric Networks	47.070		CCRF-1217963		7,592		7,592
CI-NEW: Collaborative Research: A Modular Platform for Enabling Computing Research in Socially Intelligent Human-Robot Interaction	47.070		CNS 1513108		132,210		132,210
Collaborative Research: Expeditions in Computer Augmented Program Engineering (ExCAPE): Harnessing Synthesis for Software Design	47.070		CCF-1138996		216,408		216,408
Collaborative Research: EXPEDITIONS IN COMPUTING: THE SCIENCE OF DEEP SPECIFICATION	47.070		CCF-1521539		688,032		688,032
Collaborative Research: Learning about Infectious Disease through Online Participation in a Virtual Epidemic	47.070		IIS-1506724		48,363		48,363
Collaborative Research: Printable Robots: An Expedition in Computing for Compiling Functional Physical Machines	47.070		CCF-1138847		545,132		545,132
Course in No-Boundary Thinking in Bioinformatics	47.070	ARKANSAS STATE UNIVERSITY	SA15-704-15-4			1,780	1,780
CPS: Frontier: Collaborative Research: BioCPS for Engineering Living Cells	47.070		CNS-1446592	24,977	324,595		324,595
CPS: FRONTIER: Collaborative Research: Compositional, Approximate, and Quantitative Reasoning for Medical Cyber-Physical Systems	47.070		CNS-1446664		187,141		187,141
CPS: Synergy: Collaborative Research: High-level perception and control for autonomous reconfigurable modular robots	47.070		CNS-1329620		911		911
CPS: Synergy: Collaborative Research: Multiple-Level Predictive Control of Mobile Cyber Physical Systems with Correlated Context	47.070		CNS-1239152		53,291		53,291
CPS: Synergy: Collaborative Research: Safety-Feature Modeling and Adaptive Resource Management for Mixed-Critically Cyber-Physical Systems	47.070		CNS-1329984		198,181		198,181
CPS:Large: Assuring the Safety, Security and Reliability of Medical Device Cyber Physical Systems	47.070		CNS-1035715	50,373	423,885		423,885
CRU: CI-Planning: Scalable Language Resource Creation through Novel Incentives and X-sourcing	47.070		CNS-1629923		75,096		75,096
CSR:NeTS: Medium: Network Functions Virtualization with Timing Guarantees	47.070		1563873		1,978		1,978
Cyber-Physical Systems Virtual Organization: Active Resources	47.070	VANDERBILT UNIVERSITY	3834-019899			160,262	160,262
Doctoral Mentoring Consortium at the 25th International Joint Conference on Artificial Intelligence (IJCAI 2016)	47.070		IIS-1631562		12,837		12,837
EAGER: Simplification as Machine Translation	47.070		IIS-1430651		-379		-379
Economic Foundations of Digital Privacy	47.070		CCF-1101389		32,066		32,066

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Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub-Receiptients	Direct	Pass-Through	Expenditure Total
EXP: Linguistic Analysis and a Hybrid Human-Automatic Coach for Improving Math Identity	47.070		1623730		42,768		42,768
FROM STATISTICAL TO WORST-CASE LEARNING: A UNIFIED FRAMEWORK	47.070		CCF-1116928		1,417		1,417
III: Medium: Collaborative Research: Citing Structured and Evolving Data	47.070		IIS-1302212		271,703		271,703
INSPIRE: Legged Locomotion for Desert Research	47.070		IIS-1514882	221,187	450,913		450,913
MRI Development of an observatory for quantitative analysis of collective behavior in animals	47.070		1626008		38,994		38,994
MRI-Consortium Development: Heterogeneous, Autonomic Wireless Sensor/Actuator Networks for Scalable Cyber-Physical Systems	47.070	PURDUE UNIVERSITY	4101-64763			35,490	35,490
MUSTANG2 - A Next Generation 90 GHz Receiver for Studying Galaxy Clusters	47.070		AST-1509093	78,571	78,571		78,571
NeTs: Medium: Collaborative Research: DEFIND: Declarative Formal Interactive Network Design	47.070		1513679		21,120		21,120
NeTs: Small: Collaborative Research: Competition, Neutrality and Service Quality in Cellular Wireless Access	47.070		1525457		86,221		86,221
NeTs: Small: Routing Design and Analysis with Incomplete Information	47.070		CNS-1218066		128,519		128,519
NRI: Collaborative: "Shall I Touch This?": Navigating the Look and Feel of Complex Surfaces	47.070		IIS-1426787		162,594		162,594
NRI: Collaborative: Robotics 2.0 for Disaster Response and Relief Operations	47.070		IIS-1426840		248,441		248,441
NSF EAGER: CONSTRUCTION OF SOCIAL INTERACTIONS IN 3D SPACE FROM FIRST PERSON VIDEOS	47.070		IIS-1651389		29,632		29,632
NSF National Robotics Initiative (NRI) 2016 PI Meeting	47.070		1641276		121,165		121,165
Open Data Ecosystem for Neuroscience	47.070		IIS-1649074		52,967		52,967
RET SITE: GRASP - Teacher Partnership in Robotics Education	47.070		CNS-1542301		197,409		197,409
RI: Small: Collaborative Research: Research Leading to Comprehensive Guidelines for Annotating Discourse Relations	47.070		IIS-1422186		60,496		60,496
SaTC Medium: HARDWARE-ASSISTED LIGHTWEIGHT CAPABILITY OPTIMIZATION (HALCYON)	47.070		CNS-1513687		221,050		221,050
SHF: SMALL: Generic Programming With Dependent Types	47.070		CCF-1116620		2,193		2,193
SHF: Small: LUCID: Low-overhead, Unobtrusive Cache Contention Detection and Repair	47.070		CCF 1525296		34,096		34,096
SHF: Small: New Frontiers in Constraint-Based Program Analysis	47.070		1526270		786		786
SHF: Small: Nonstandard Computational Models of Linear Logic	47.070		CCF-1421193		14,835		14,835
Synergy: Collaborative Research: Security and Privacy-Aware Cyber-Physical Systems	47.070		1505799		249,226		249,226
TC: MEDIUM: Putting Differential Privacy To Work	47.070		CNS-1065060		14,241		14,241
TC: Small: Collaborative Research: Towards a Formal Framework for Analyzing and Implementing Secure Routing Protocols	47.070		CNS-1117052		7,605		7,605
TC: SMALL: WATCHDOG: Hardware-Assisted Prevention of All Use-After-Free Security Vulnerabilities	47.070		CNS-1116682	205,149	205,988		205,988
TC-Medium: Collaborative Research: Tracking Adversarial Behavior in Distributed Systems with Secure Networked Provenance	47.070		CNS-1065130		336,631		336,631
Towards a formal theory of wireless networking	47.070		CCF-0952867		-1,844		-1,844
TWC: Medium: Collaborative Resarch: Active Security	47.070		CNS-1406225		3,960		3,960
TWC: MEDIUM: COLLABORATIVE RESEARCH: BLACK-BOX EVALUATION OF CRYPTOGRAPHIC ENTROPY AT SCALE	47.070		CNS-1408734		178,300		178,300
TWC: MEDIUM: CRYPTOGRAPHIC APPLICATIONS OF CAPACITY THEORY	47.070		1513671		195,151		195,151
TWC: Medium: Distributed Differential Privacy	47.070		CNS-1513694		192,818		192,818
TWC: Medium: Micro-Policies: A Framework for Tag-based Security Monitors	47.070		CNS-1513854		281,132		281,132
XPS: CLCCA: Improving Parallel Program Reliability Through Novel Approaches to Precise Data Race Detection	47.070		CCF-1337174		140,489		140,489
SubTotal 47.070				580,257	7,807,135	391,255	8,198,390
NeTs: MEDIUM: COLLABORATIVE RESEARCH: OPTIMAL COMMUNICATION FOR FASTER SENSOR NETWORK COORDINATION	47.070		CNS-1302222		9,933		9,933
NRI-Large: Collaborative Research: Human-robot Coordinated Manipulation and Transportation of Large Objects	47.070		IIS-1328805		198,970		198,970
SHF: Small: Random Testing for Language Design	47.070		CCF-1421243		-42,107		-42,107
SubTotal 47.070					166,796		166,796
Bilateral BBSRC-NSF/BIO Collaborative Research: ABI Development: ACritical Assessment of Protein Function Annotation	47.074		DBI-1458390	103,518	131,281		131,281
C. elegans Lipocalin function in Growth Factor Signaling	47.074		IOS-1257879		55,147		55,147
CAREER: Developing novel social systems-level approaches with a new ant model to study the genetic, behavioral, and evolutionary basis of social traits	47.074		IOS-1452520		94,356		94,356
CAREER: Establishing novel signaling transmission modes of LOV photoreceptors	47.074		MCB-1652003		44,622		44,622
Collaborative research: Risk and reward of high mutation rate: why large populations favor mutators while small populations inhibit them	47.074		1556168		28,316		28,316
Digitization TCN: The Mid-Atlantic Megalopolis: Achieving a greater scientific understanding of our urban world	47.074		DBI-1601697	59,454	158,049		158,049
EAGER: Revealing the function of the epitranscriptome in plant pathogen defense	47.074		MCB-1623887		133,674		133,674
Establishment of an Epigenomics of Plants International Consortium (EPIC)	47.074		IOS-0925071		100,153		100,153
Evolution of mucosal B cell immunity: Novel roles of IgT+ B cells in the control of host-pathogen interactions	47.074		IOS-1457282	66,466	247,724		247,724
GEPR: A Systems Approach to the Development and Function of C4 Photosynthesis	47.074	YALE UNIVERSITY	C14D11974(D01827)			15,161	15,161
LTREB Renewal: Experimental tests of alternative states on rocky intertidal shores	47.074	UNIVERSITY CORPORATION, THE	A16-0018-S001			12,978	12,978
LTREB-Experimental tests of alternative states on rocky intertidal shores	47.074		DEB-1020480	25,728	41,650		41,650
MICROETCHING OF THE HUMAN BRAIN	47.074		IOS-1443767		43,327		43,327
Paying the piper: how two fish species adjust calcium cycling for different mating calls	47.074		IOS-1145981		36		36
Penn-ANSP National Living Laboratory Partnership	47.074	ACADEMY NATURAL SCIENCES	N/A			113	113
Regulation of Flower Initiation and Development	47.074		IOS-1257111		86,926		86,926
RESEARCH-PGR: Dissecting the genetic networks underlying Kranz anatomy in C4 grasses	47.074	DONALD DANFORTH PLANT SCIENCE CENTER	23020-P			104,528	104,528
US-France Research Proposal: Predicting odorant-dependent and independent olfactory neuron activation based on receptor dynamics	47.074		IOS-1515930		100,520		100,520
US-French Collaboration: Spatial and temporal aspects of molecular signaling in synaptic Plasticity	47.074		1515458		53,162		53,162
SubTotal 47.074				255,166	1,318,943	132,780	1,451,723
CAREER: Unraveling homeostatic mechanisms in gene expression regulation: Integrating research and scientific communication	47.074		MCB-1350601		111,174		111,174
Collaborative Research: Ecological consequences of the effects of a zoonotic pathogen on its reservoir host	47.074		DEB-1354184		101,164		101,164
SubTotal 47.074					212,338		212,338
Adaptation to diet in Africa and its impact on the gut microbiome and genomic variation	47.075		BCS-1317217		61,773		61,773
Andean EGLN1, A Target of Natural Selection for Hypoxic Adaptation	47.075	UNIVERSITY OF MICHIGAN	3004216837			16,728	16,728
CAREER: DECISION-INDUCED BIASES IN VISUAL PERCEPTS	47.075		BCS-1350786		98,628		98,628
Cartel Birth, Death, and Detection	47.075		SES-1148129		87,951		87,951
Collaborative Research: BCC: Developing a Research Community and Capacity for the Study of Cultural Heritage in Conflict	47.075		SMA-1439474		-1,741		-1,741
Collaborative Research: Dynamic Rational Inattention: Theory and Applications	47.075		1461469		49,037		49,037
Collaborative Research: Mapping and Control of Large-Scale Neural Dynamics	47.075		BCS-1430087		89,176		89,176
Collaborative Research: Monetary DSGE models at the Zero Lower Bound: Policy Analysis and Econometric.	47.075		SES-1424843		87,695		87,695
Collaborative Research: Public and Private Debt Crises: Theory and Policy Implications	47.075		SES-1325122		52,569		52,569
Collaborative Research: Understanding the Consumption Response to Fiscal Stimulus Payments: A Structural Analysis	47.075		SES-1126039		-1,003		-1,003
CONTINUITY AND CHANGE AT CERO LA CRUZ: A STUDY OF MIDDLE HORIZON ARCHITECTURE ON THE N. COAST OF PER	47.075		BCS01-08986		-6,000		-6,000
DMUU: Center on Climate Decision Making	47.075	CARNEGIE MELLON UNIVERSITY	112138-256805			40	40
Doctoral Dissertation Research: Gut Microbiomes of Cameroon Hunter-Gatherers: Roles of Diet and Helminths	47.075		BCS-1540432		6,863		6,863
EAGER - Complexity and Emergency Response in Abrupt Climate Change	47.075		BCS-1646822		20,302		20,302
Early Epipaleolithic in the Western Highlands of Jordan	47.075		BCS-0917660		2,677		2,677

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Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub- Recipients	Direct	Pass-Through	Expenditure Total
Estimating a Coordination Game in the Classroom: Evaluating the Role of Student and Teacher Performance Incentives	47.075	CARNEGIE MELLON UNIVERSITY	SES-1227364	4,956	59,501	51,837	59,501
Inhibition, Social Relationships, and Early Adulthood Outcomes in China and Canada	47.075		BCS-1225620		68,473		68,473
Modelling the US Market for Higher Education: Theory and Estimation	47.075		1122062-327557				51,837
NCS-FO: Collaborative Research: A mechanistic model of cognitive control	47.075		BCS-1631550		58,272		58,272
NCS-FO: The role of noise in mental exploration for learning	47.075	TEMPLE UNIVERSITY	1533623	47,125	404,636	387,544	404,636
Spatial Intelligence and Learning Center (SILC)	47.075		330161-18110-7341				387,544
The Effects of Raw Material Variability and Heat Treatment on Flake Production and Use: A Controlled Experiment	47.075		BCS-1153192		41,504		41,504
Topics in Matching	47.075		SES-1260753		42,321		42,321
SubTotal 47.075					1,222,634	456,149	1,678,783
AMP V	47.076	DREXEL UNIVERSITY	235920	4,956		-11,174	-11,174
CAP Towards Inclusive Design in K-12 Serious Gaming: Examining Intersections of Gender, Race and Culture in Digital Games for Learning	47.076		IIS-1450877		21,070		21,070
CAREER: Characterizing the First Billion Years of Galaxy Evolution with 21 cm Tomography	47.076		AST-1455151		96,553		96,553
Collaborative Research: Learning About New Demands in Schools: Considering Algebra Policy Environments [LANDSCAPE]	47.076		DRL-1108828		8,280		8,280
Collaborative Research: ET-ECS: Electronic Textiles for Exploring Computer Science with High School Students & Teachers to Promote Computational Thinking and Participation for All	47.076	ARIZONA STATE UNIVERSITY	DRL-1509245	47,125	234,156	9,611	234,156
Collaborative Research: Golfing in a Hurricane: Instability in Education Systems, Randomized Controlled Trials, and Children's Achievement	47.076		DRL-1337237		43,685		43,685
Collaborative Research: Using Data Mining and Observation to derive an enhanced theory of SRL in Science learning environments	47.076		DUE-1665216		56,540		56,540
EAGER: MAKER: bioMAKERlab: A Wetlab and Starter Activities for Promoting Synthetic Biology in High School Classes and Workshops	47.076		1623018		122,413		122,413
EAGER: MAKER: COLLABORATIVE RESEARCH: Culturally Responsive Making: Developing High-Low Tech Maker Activities in Local and Mobile Spaces for Supporting American Indian Youth	47.076		17-080				9,611
EXP: Collaborative Research: Designing the Impact Studio -- Dynamic Visualizations in the Write4Change Networked Community	47.076		1623258		42,054		42,054
Graduate Research Fellowship Program	47.076		DGE-1321851		3,173,993		3,173,993
IGERT: Complex Scene Perception	47.076		DGE-0966142		471,948		471,948
INSPIRE Track 2: Discovery and Development of Optimized Photonic Systems for High Volume, Low Surface Area Solar Energy Harvesting: Learning from Giant Clams	47.076	NATIONAL WRITING PROJECT TEACHERS COLLEGE - COLUMBIA UNIVERSITY	IOS-1343159		567,564	14,159	567,564
Intersections - Game On! Philadelphia	47.076		92-PA06-B-NSF2014				14,159
Making Math Tutors More Engaging and Effective through Interaction Design Patterns and Educational Data Mining	47.076		513135				48,575
NRT-IGE: Penn Pathfinders	47.076		1545212		134,511		134,511
The Penn I-Corps Site - Integrating Company Formation and Experiential Education	47.076		IIP-1450467		50,563		50,563
SubTotal 47.076				52,081	5,023,330	61,171	5,084,501
Collaborative Research: Activation of high-elevation alluvial fans in the Transantarctic Mountains - a proxy for Plio-Pleistocene warmth along East Antarctic ice margins	47.078		ANT-1043554		45,860		45,860
SubTotal 47.078					45,860		45,860
International: Student Exchange for Research on Nano/Biotechnology	47.079	CASE WESTERN RESERVE UNIVERSITY	OISE-1130994	7,749	18,220	2,100	18,220
PIRE: Materials for Renewable Energy Nature's Way	47.079		OISE-1243313 / RES507490				2,100
SubTotal 47.079					18,220	2,100	20,320
SI2-SSI: The Language Application Grid: A Framework for Repid Adaptation and Reuse	47.080	BRANDEIS UNIVERSITY	4-02069			30,757	30,757
SubTotal 47.080						30,757	30,757
CAREER: Free Surface Mobility and its Role in the Formation of Exceptionally Stable Glasses	47.081		DMR-1350044		166,238		166,238
CAREER: Hierarchical self-assembly of photonic devices from patchy colloids: deciphering the reflectin-photonic alphabet	47.081		DMR-1351935		123,797		123,797
SubTotal 47.081					290,035		290,035
ARRA - CAREER: A Fundamental Investigation of the Mechanics of Micro-Transfer Printing Processes for Manufacturing Multifunctional Microsystems	47.082	UNIVERSITY OF WISCONSIN - MADISON UNIVERSITY OF PUERTO RICO	357K641			-153	-153
ARRA - PENN-UPR Partnership for Research and Education in Materials	47.082		DMR-0934195			-6,950	-6,950
SubTotal 47.082						-7,103	-7,103
PIRE: Research and Education in Active Coatings Technologies (REACT) for the Human Habitat	47.083		OISE-1545884	7,749	513,333		513,333
Workshop on Assessing Performance and Developing an Accountability System for Broadening Participation	47.083		OIA-1639188		43,200		43,200
SubTotal 47.083				7,749	556,533		556,533
Development and Validation of the SafeClose™ Mesh Augmentation System for Hernia Prevention	47.RD	PARADIGM SURGICAL, LLC	SUB TO 1648854			14,761	14,761
HERA: Illuminating Our Early Universe	47.RD	UNIVERSITY OF CALIFORNIA, BERKELEY	00009389			117,441	117,441
QuarkNet	47.RD	UNIVERSITY OF NOTRE DAME	SUB TO PHY-1219444			55	55
TERC Postdoctoral Fellowship	47.RD	TERC	44174			4,338	4,338
SubTotal 47.RD						136,595	136,595
NATIONAL SCIENCE FOUNDATION Total					1,611,875	25,219,897	27,750,540
NATIONAL SCIENCE FOUNDATION Total					2,423,769	39,405,169	41,946,608
DEPARTMENT OF VETERAN AFFAIRS							
DEPARTMENT OF VETERANS AFFAIRS							
Adam Marc IPA	64.RD		IPA ADAM D MARC		17,220		17,220
Beers - VA Merit Award	64.RD		IPA SURAFEL MULUGETA		12,850		12,850
Bioactive Injectable Implants for Functional Intervertebral Disc Regeneration	64.RD		IPA AGREEMENT		131,142		131,142
Cartilage Repair with Stem-Cell Laden Hyaluronic Acid Hyrogels	64.RD		A7875-5		53,942		53,942
Cartilage Repair with Synovial Joint Precursors	64.RD		IPA - Henning		33,652		33,652
Cartilage response to compression injury: A platform for therapeutics discovery	64.RD		IPA AGREEMENT		50,776		50,776
Chart Review of the Insomnia Telehealth Program (IPA: James Findley)	64.RD		IPA JAMES FINDLEY		33,382		33,382
Chronic Neurodegenerative and Neurophysiological Sequela of Closed-Head TBI	64.RD		PO #642D36047		97,447		97,447
Cognitive Behavioral Therapy for Insomnia (IPA: James Findley)	64.RD		IPA AGREEMENT		11,127		11,127
Comparative Effectiveness Research in Veterans with PTSD (CERV-PTSD)	64.RD		VA268-15-C-0074		45,206		45,206
Complicated Family Reintegration in OEF/OIF Veterans	64.RD		IIR 08-308		-2		-2
Culhane VA IPA (10/01/15 - 09/30/16)	64.RD		IPA DENNIS P CULHANE		34,471		34,471
Culhane VA IPA (10/01/16 - 09/30/17)	64.RD		IPA AGREEMENT		104,328		104,328
Designing neuronal tissue constructs that mimic brain-specific architecture	64.RD		IPA JAMES LIM		40,879		40,879
Development of a Multidimensional Pain Measure for Persons with Dementia (PIM-D)	64.RD		IPA		8,043		8,043
DMU IPA - Ming Li	64.RD		IPA AGREEMENT		3,827		3,827

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Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub- Recipients	Direct	Pass-Through	Expenditure Total
Effect of Scaffold-delivery Growth Factors in Rotator Cuff Repair	64.RD		IPA AGREEMENT		61,493		61,493
Engineered Multi-Functional Nanofibrous Meniscus Implants	64.RD		IPA- Burdick/Schaer		109,149		109,149
FY17 VA IPA - Adam Mussell	64.RD		IPA ADAM MUSSELL		11,023		11,023
FY17 VA IPA - Jan Dinnella	64.RD		IPA JANET ELIZABETH DINNELLA		7,100		7,100
FY17 VA IPA-Daniel Del Alcazar	64.RD		IPA DANIEL DEL ALCAZAR		30,846		30,846
Genetic Response in the Adaptation Supraspinatus Tendon and Muscle to Load	64.RD		IPA JULIANNE H POTOCEK		12,838		12,838
Implementing Goals of Care Conversations with Veterans in VA LTC Settings, Philadelphia, PA	64.RD		IPA		100,393		100,393
Incorporating Veterans' Preferences into Lung Cancer Screening Decisions	64.RD		IPA AGREEMENT		9,166		9,166
Insomnia during Recovery: is CBT-I efficacious and is Insomnia a Modifiable Risk Factor for Relapse?	64.RD		IPA AGREEMENT		151		151
Integrated Cognitive Behavioral Therapy to Improve Outcomes in Schizophrenia	64.RD		IPA PAUL M. GRANT		19,357		19,357
Integrated Cognitive Behavioral Therapy to Improve Outcomes in Schizophrenia	64.RD		IPA SARA ZGORAC		59,550		59,550
Integrated Cognitive Behavioral Therapy to Improve Outcomes in Schizophrenia	64.RD		IPA CATHERINE CONROY		65,168		65,168
Intensive Training in Cognitive Behavioral Therapy for Veterans Experiencing Chronic Homelessness (CBT-H)	64.RD		IPA AGREEMENT		20,751		20,751
Intensive Training in Cognitive Behavioral Therapy for Veterans Experiencing Chronic Homelessness (CBT-H)	64.RD		IPA ASHLEY L BUSH		7,118		7,118
Intensive Training in Cognitive Behavioral Therapy for the Homeless Population	64.RD		IPA KELLY LYNN GREEN		6,785		6,785
Intraoperative Imaging of Pulmonary Adenocarcinoma	64.RD		IPA AGREEMENT		36,794		36,794
IPA - Barbara Cannon and Anna Kalota	64.RD		IPA - KALOTA/CANNON		34,246		34,246
IPA - Chris Petro DMU	64.RD		IPA AGREEMENT		14,648		14,648
IPA - CIN 14-251: Center of Innovation for Health Equity Research and Promotion	64.RD		IPA SCARLETT BELLAMY		8,358		8,358
IPA - Comparative Effectiveness of Delivery Methods for Caregiver Support Education	64.RD		IPA KNASHAWN MORALES		1,966		1,966
IPA - Intimate Partner Violence: Patient Characteristics, Service Use and Experiences	64.RD		IPA SCARLETT BELLAMY		4,179		4,179
IPA - JENNIFER GREENE	64.RD		IPA		7,993		7,993
IPA - Kassondra Bertulis	64.RD		IPA KASSONDRA BERTULIS		43,634		43,634
IPA - Lisa Dragani	64.RD		PO #642-C36282		29,704		29,704
IPA - Million Veteran Program (MVP)	64.RD		IPA DANISH SALEHEEN		23,419		23,419
IPA - Suzanne DiFillippo	64.RD		PO #642C16077		45,638		45,638
IPA - Yolanda Williams	64.RD		IPA YOLANDA WILLIAMS		30,962		30,962
IPA - Zuoohen Tian - Cell Therapy for the Degenerating Intervertebral Disc	64.RD		IPA TIAN ZUOZHEN		31,235		31,235
IPA - Zuoohen Tian - Inhibition of ADAM-8 to Reduce Intervertebral Degeneration	64.RD		IPA - Zuoohen Tian		22,876		22,876
IPA Agreement	64.RD		IPA - SHIRLEY LEONG		24,014		24,014
IPA Agreement	64.RD		IPA - RUSSO/MAGUIRE		-3		-3
IPA Agreement Elizabeth Harders	64.RD		IPA ELIZABETH HARDERS		874		874
IPA Agreement for Daniel Traum	64.RD		IPA DANIEL TRAUM		88,445		88,445
IPA agreement for Haideliza Soto-Calderon	64.RD		IPA HAIDELIZA SOTO-CALDERON		9,081		9,081
IPA agreement for Timothy Phan	64.RD		IPA TIMOTHY PHAN		8,091		8,091
IPA Agreement for Yun Li	64.RD		IPA YUN LI		5,844		5,844
IPA Aliya Collier	64.RD		IPA ALIYA COLLIER		15,135		15,135
IPA Aneeza Agha	64.RD		IPA ANEEZA AGHA		87,839		87,839
IPA Becky Shasha	64.RD		IPA BECKY SHASHA		9,712		9,712
IPA Desmond Oathes	64.RD		IPA DESMOND OATHES		24,268		24,268
IPA Erica Goldberg	64.RD		IPA ERICA GOLDBERG		5,018		5,018
IPA Greg Kurtzman	64.RD		IPA GREG KURTZMAN		19,036		19,036
IPA Judy Shea	64.RD		IPA AGREEMENT		42,091		42,091
IPA Judy Shea	64.RD		IPA JUDY SHEA		27,422		27,422
IPA -Marna Barrett	64.RD		IPA MARNA BARRETT		32,771		32,771
IPA Michael Kallan	64.RD		IPA AGREEMENT		38,363		38,363
IPA Qing Liu	64.RD		IPA QING LIU		28,667		28,667
IPA Richard Sorelle	64.RD		IPA RICHARD SORELLE		2,787		2,787
IPA Sakhena Hin	64.RD		IPA AGREEMENT-Sakhena Hin		45,783		45,783
IPA Shimrit Keddem	64.RD		IPA AGREEMENT		30,274		30,274
IPA Shimrit Keddem	64.RD		IPA SHIMRIT KEDDEM		70,639		70,639
IPA Sumedha Chhatre	64.RD		IPA AGREEMENT		7,769		7,769
IPA: Jack Xiwen Jiang	64.RD		IPA AGREEMENT		12,704		12,704
IPA: Kaushal Desai	64.RD		IPA KAUSHAL DESAI		45,405		45,405
IPA: Lakshmi Prayosha Villa	64.RD		IPA LAKSHMI P VILLA		9,621		9,621
Janet Dinnella VA IPA	64.RD		IPA JANET DINNELLA		54,079		54,079
Mechanisms of Cortico-Limbic Network Dysfunction Underlying PTSD after TBI	64.RD		IPA MICHAEL R GROVOLA		16,876		16,876
Mental Illness Research, Education and Clinical Center	64.RD		IPA AGREEMENT		12,405		12,405
Microbiome and innate immunity with percutaneous osseointegrated prostheses	64.RD		VA259-16-C-0224		73,355		73,355
MRI analysis of Coil Position to Improve rTMS treatment of Depression in Veterans	64.RD		VA261-15-P-3046		2,400		2,400
Perioperative Post-Prostatectomy Incontinence Home Telehealth Program	64.RD		IPA - THOMAS BAVARIA		51,233		51,233
The Effect of Exogenous Insulin Therapy on Colorectal Adenoma Risk Among Patients with Diabetes Mellitus (IPA-Bruno)	64.RD		IPA - Lorraine Bruno		23,347		23,347
The effect of single TBI on PTSD related circuitry, neurophysiology, and behavior	64.RD		IPA AGREEMENT		21,622		21,622
The Role of Local NSAID Administration and Inflammation on Tendon Healing	64.RD		00979-R		119,777		119,777
The Role of TNF-Alpha in Cutaneous Integrity	64.RD		IPA AGREEMENT - SHARMA		18,735		18,735
The Role of TNF-Alpha in Cutaneous Integrity	64.RD		IPA MEENA SHARMA		41,524		41,524
VA BLRD Merit Award with F. Spinalc USC	64.RD		IPA JASON A BURDICK		-2,338		-2,338
VA Comprehensive End-of-Life Care's PROMISE Center	64.RD		IPA		202,370		202,370
VA IPA - Prerna Sharma	64.RD		IPA PRERNA SHARMA		50,728		50,728
VA IPA Agreement for Adam Mussell	64.RD		IPA ADAM MUSSELL		-1,742		-1,742
VA IPA Agreement for Suzanne Ho	64.RD		IPA SUZANNE HO		9,420		9,420
VA Merit Award	64.RD		H LI/V ABRAHAM		48,013		48,013
Way to Cure: Developing Effective Strategies to Promote Adherence to Hepatitis C Therapy Among Veterans	64.RD		IPA DANIEL GRAY		-2,440		-2,440
IPA - ERICA GOLDBERG	64.RD		IPA		15,053		15,053
IPA - MARY VALIGA	64.RD		IPA		105,098		105,098
IPA - TAMARA BONEY	64.RD		IPA		31,878		31,878
IPA - EUGENIA MAMIKONYAN	64.RD		IPA		5,120		5,120
IPA - ELENE TURZO	64.RD		IPA		21,877		21,877
SubTotal 64.RD					3,144,870		3,144,870
DEPARTMENT OF VETERANS AFFAIRS Total					3,144,870		3,144,870
DEPARTMENT OF VETERAN AFFAIRS Total					3,144,870		3,144,870



Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub- Receiptients	Direct	Pass-Through	Expenditure Total
<b>ENVIROMENTAL PROTECTION AGENCY</b> <i>ENVIRONMENTAL PROTECTION AGENCY</i>							
ENABLING CITIZENS AND OWNERS TO INVEST IN GREEN INFRASTRUCTURE IN PHILADELPHIA	66.509		83555401	171,093	194,295		194,295
<b>SubTotal 66.509</b>				<b>171,093</b>	<b>194,295</b>		<b>194,295</b>
Environmental Remediation Fund	66.RD	PHILADELPHIA INDUSTRIAL DEVELOPMENT CORPORATION	2019			249	249
<b>SubTotal 66.RD</b>						<b>249</b>	<b>249</b>
Global Change from the Ground Up: Soil Microbial Diversity in a Climate and Land-use Change Experiment	66.514		FP-91762401-0		4,462		4,462
<b>SubTotal 66.514</b>					<b>4,462</b>		<b>4,462</b>
ENVIRONMENTAL PROTECTION AGENCY Total				171,093	198,757	249	199,006
<b>ENVIROMENTAL PROTECTION AGENCY Total</b>				<b>171,093</b>	<b>198,757</b>	<b>249</b>	<b>199,006</b>
<b>DEPARTMENT OF ENERGY</b> <i>BROOKHAVEN NATIONAL LABORATORY</i>							
Design and Fabrication of an Electronics for the 35 Tonne Prototype	81.RD		264851		113,265		113,265
PROPOSAL To Design, Build and Test REB4 Boards for LSST	81.RD		306000		55,684		55,684
RESEARCH FOR ATLAS EXPERIMENT	81.RD		80472		561,839		561,839
<b>SubTotal 81.RD</b>					<b>730,788</b>		<b>730,788</b>
BROOKHAVEN NATIONAL LABORATORY Total					730,788		730,788
<i>DEPARTMENT OF ENERGY</i>							
A Physicochemical Method for Separating Rare Earths: Addressing an Impending Shortfall	81.049		DE-SC0006518		18,395		18,395
Center for the Computational Design of Functional Layered Materials	81.049	TEMPLE UNIVERSITY	254998			224,757	224,757
Detectors with Fast Timing via Electron Multiplication in Silicon and Gases	81.049	PRINCETON UNIVERSITY	SUB0000126			6,830	6,830
ENERGY FRONTIER RESEARCH CENTER CENTER FOR INTERDISCIPLINARY ACTINIDE SCIENCE	81.049	FLORIDA STATE UNIVERSITY	R01865			144,230	144,230
Multi-Disciplinary Research and Training Program in Breast Cancer Molecular Imaging and Targeted Radiochemistry	81.049		DE-SC0012476		356,765		356,765
Photosynthetic Antenna Research Center (PARC)	81.049	WASHINGTON UNIVERSITY IN ST. LOUIS	WU-HT-10-10-MOD-6			195,136	195,136
Rational Design Of Innovative Catalytic Technologies For Biomass Derivative Utilization	81.049	UNIVERSITY OF DELAWARE	37849			287,952	287,952
SISGR: Bi-continuous Multi-component Nanocrystal Superlattices for Solar Energy Conversion	81.049		DE-SC0002158		147,527		147,527
<b>SubTotal 81.049</b>					<b>522,687</b>	<b>858,905</b>	<b>1,381,592</b>
Cost-effective Manufacturing and Morphological Stabilization of Nanostructured Cathodes for Commercial SOFCs	81.089		DE-FE0023317	266,061	385,129		385,129
<b>SubTotal 81.089</b>				<b>266,061</b>	<b>385,129</b>		<b>385,129</b>
Design of Social and Economic Incentives and Information Campaigns to Promote Solar Technology Diffusion Through Data-Driven Behavior Modeling	81.124	SANDIA NATIONAL LABORATORY	PO #1350502			35,040	35,040
<b>SubTotal 81.124</b>						<b>35,040</b>	<b>35,040</b>
High Efficiency Wafer-Scale Thermionic Energy Converters	81.135	STANFORD UNIVERSITY	61263892-120983			241,803	241,803
SynPLASTome 2.0: Synthetic Plastid Genome to Reprogram Chloroplast Function for the Production of Fuels and Chemicals	81.135	UNIVERSITY OF TENNESSEE	8500051700			277,827	277,827
<b>SubTotal 81.135</b>						<b>519,630</b>	<b>519,630</b>
DESC at University of Pennsylvania	81.RD	STANFORD LINEAR ACCELERATOR CENTER	116079		-2,452		-2,452
Nanocrystal Additives for Advanced Lubricants	81.RD	PIXELLIGENT TECHNOLOGIES	DE-SC0009222-UPENN		14,437		14,437
Research on the Front End Electronics and Electronics System Engineering for the Large Synoptic Survey Telescope (LSST) Camera Project	81.RD	STANFORD LINEAR ACCELERATOR CENTER	101288		2,044		2,044
Understanding Transport and Aging Mechanisms to Optimize Sandia's Ion-Conducting Polymer Electrolytes for Energy Applications	81.RD	SANDIA NATIONAL LABORATORY	1685286		55,152		55,152
WATCHMAN Project Analysis	81.RD	LAWRENCE LIVERMORE NATIONAL LABORATORY	B619530		27,538		27,538
<b>SubTotal 81.RD</b>					<b>96,719</b>		<b>96,719</b>
DEPARTMENT OF ENERGY Total				266,061	907,816	1,510,294	2,418,110
<i>FERMI NATIONAL ACCELERATOR LABORATORY</i>							
The Dark Energy Survey Operations	81.RD		PO #626413		108,087		108,087
<b>SubTotal 81.RD</b>					<b>108,087</b>		<b>108,087</b>
FERMI NATIONAL ACCELERATOR LABORATORY Total					108,087		108,087
<i>LOS ALAMOS NATIONAL LABORATORY</i>							
ADVANCED ELECTRO-CATALYSTS THROUGH CRYSTALLOGRAPHIC ENHANCEMENT	81.RD		420085		37,843		37,843
<b>SubTotal 81.RD</b>					<b>37,843</b>		<b>37,843</b>
LOS ALAMOS NATIONAL LABORATORY Total					37,843		37,843
<i>NATIONAL RENEWABLE ENERGY LABORATORY</i>							
ENERGY FRONTIER RESEARCH CENTERS	81.RD	NATIONAL RENEWABLE ENERGY LABORATORY	XEJ-5-42261-01			139,142	139,142
<b>SubTotal 81.RD</b>						<b>139,142</b>	<b>139,142</b>
NATIONAL RENEWABLE ENERGY LABORATORY Total						139,142	139,142
<i>OFFICE OF SCIENCE/DEPARTMENT OF ENERGY</i>							
Advancing Separations of Rare Earth Elements through Coordination and (Photo)Redox Chemistry	81.049		DE-SC0017259		7,143		7,143
Anharmonic and Thermal Effects Associated with Jammed Solids	81.049		DE-FG02-05ER46199		4,793		4,793
ATOMISTIC STUDY OF PLASTIC DEFORMATION OF TRANSITION METAL ALLOYS INCLUDING HIGH ENTROPY ALLOYS	81.049		DE-FG02-98ER45702		170,376		170,376
Design of functional materials based on new principles of disorder	81.049		DE-FG02-05ER46199		20,841		20,841
Development of Smart, Responsive Communicating and Motile Microcapsules	81.049		DE-SC0007063		221,395		221,395
Electric-Loading Enhanced Kinetics in Oxide Ceramics: Pore Migration, Sintering and Grain Growth	81.049		DE-SC0007064		204,699		204,699
Exploiting the flexibility and the polarization of ferroelectric perovskite surfaces to achieve efficient photochemistry and enantiospecificity	81.049		UNDER DE-FG02-07ER15920		2,678		2,678
First-principles investigations of fundamental physics and new materials for optoelectronic applications	81.049		DE-FG02-07ER46431		3,718		3,718
High Energy Physics Research at the University of Pennsylvania	81.049		DE-SC0007901		3,151,666		3,151,666
Membrane-attached Electron Carriers in Photosynthesis and Respiration	81.049		DE-FG02-91ER20052		143,862		143,862
Modulating Thermal Transport Phenomena in Nanostructures via Elastic Strain at Extreme Limits of Strength	81.049		DE-SC0008135		61,470		61,470

Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub- Recipients	Direct	Pass-Through	Expenditure Total
Nano-Structured Catalysts for Improved Oxide-Metal Interactions	81.049		DE-SC0009440		144,165		144,165
Oxide-Metal Interactions Studied on Core-Shell Catalysts	81.049		DE-SC0009440		23,109		23,109
Physical Analysis of the Bulk Photovoltaic Effect for Solar Harvesting Materials	81.049		DE-FG02-07ER46431		125,898		125,898
Polymer Conformations and Chain Dynamics under 1D and 2D Rigid Confinement	81.049		DE-SC0016421		145,546		145,546
SPECTROSCOPY AND DYNAMICS OF REACTION INTERMEDIATES IN COMBUSTION CHEMISTRY	81.049		DE-FG02-87ER13792		160,918		160,918
Structure and Electronic Properties of Dirac Materials	81.049		DE-FG02-84ER45118		202,775		202,775
Sudbury Neutrino Observatory	81.049		DE-FG02-88ER40479		477,963		477,963
Supernova Cosmology with the Dark Energy Survey	81.049		DE-SC0009890		69,215		69,215
Surface Science Studies of Nano-crystalline Metal Oxide and Metal-Metal Oxide Core-Shell Catalysts	81.049		DE-FG02-04ER15605		129,404		129,404
Synthesis and Exploratory Catalysis of 3D Metals: Group-Transfer Reactions, and the Activation and Functionalization of Small Molecules Including Greenhouse Gases	81.049		DE-SC0012486		42,798		42,798
Tracking Photochemical and Photophysical Processes for Solar Energy Conversion Via Multidimensional Electronic and Vibrational Spectroscopic Methods	81.049		DE-SC0016043		170,839		170,839
University of Pennsylvania Theoretical Program	81.049		DE-SC0013528		565,664		565,664
	SubTotal 81.049				6,250,935		6,250,935
OFFICE OF SCIENCE/DEPARTMENT OF ENERGY Total					6,250,935		6,250,935
DEPARTMENT OF ENERGY Total				266,061	8,035,469	1,649,436	9,684,905
DEPARTMENT OF EDUCATION							
DEPARTMENT OF EDUCATION							
Title VI FLAS Fellowship Funding 2014-2018	84.015		P015B140144		219,546		219,546
	SubTotal 84.015				219,546		219,546
Fulbright-Hays Doctoral Dissertation Research Abroad Fellowship Program	84.022		P022A160006		3,827		3,827
	SubTotal 84.022				3,827		3,827
Dynamic supported mobility training for infants and toddlers with cerebral palsy	84.116	CHILDREN'S HOSPITAL OF PHILADELPHIA	961438-RSUB			7,523	7,523
	SubTotal 84.116					7,523	7,523
Partner for Prevention (P4P): A whole School Approach to Peer Aggression and Bullying	84.305	CHILDREN'S HOSPITAL OF PHILADELPHIA	327251 / PO #960869RSUB			1,085	1,085
Perceptual Learning Technology in Mathematics Education: Efficacy and Replication	84.305	UNIVERSITY OF CALIFORNIA, LOS ANGELES	0875 G PE032/4-444040-PK-21313			84,638	84,638
	SubTotal 84.305					85,723	85,723
UNIVERSITY OF PENNSYLVANIA PRE-DOCTORAL TRAINING PROGRAM IN INTERDISCIPLINARY METHODS FOR FIELD-BASED RESEARCH IN EDUCATION	84.305B		R305B090015		3,265		3,265
	SubTotal 84.305B				3,265		3,265
Adapting an Evidence-based Practice for Children At-Risk for Autism for Diverse Early Intervention Service Systems	84.324	UNIVERSITY OF CALIFORNIA, DAVIS	SUB TO R324A150211			1,592	1,592
	SubTotal 84.324					1,592	1,592
Validating the SunBay Middle School Digital Mathematics Program	84.411	SRI INTERNATIONAL	141-000013			417,904	417,904
	SubTotal 84.411					417,904	417,904
Include Me to Achieve	84.412	ELWYN FOUNDATION	LOA #RTTT CIZ 40			31,147	31,147
	SubTotal 84.412					31,147	31,147
Regional Education Laboratories – Mid-Atlantic Region	84.RD	ICF INCORPORATED	11AS00024			22,155	22,155
	SubTotal 84.RD					22,155	22,155
DEPARTMENT OF EDUCATION Total					226,638	566,044	792,682
INSTITUTE OF EDUCATION SCIENCES							
Center on Standards, Alignment, Instruction, and Learning (C-SAIL)	84.305		R305C150007	1,061,845	1,608,613		1,608,613
Efficacy Evaluation of Zoology One: Kindergarten Research Labs	84.305		R305A160109	292,233	835,621		835,621
The School District of Philadelphia-Penn Graduate School of Education Researcher-Practitioner Partnership in Education Research	84.305		R305H140097	82,658	82,658		82,658
	SubTotal 84.305			1,436,736	2,526,892		2,526,892
The Center for Research Use in Education	84.305C	UNIVERSITY OF DELAWARE	40809			106,998	106,998
	SubTotal 84.305C					106,998	106,998
INSTITUTE OF EDUCATION SCIENCES Total				1,436,736	2,526,892	106,998	2,633,890
OFFICE OF POSTSECONDARY EDUCATION/DEPARTMENT OF EDUCATION							
From Apartheid to Reconciliation: Perspectives on the History and Cultural Diversity of South Africa	84.021		P021A140031		2,194		2,194
	SubTotal 84.021				2,194		2,194
OFFICE OF POSTSECONDARY EDUCATION/DEPARTMENT OF EDUCATION Total					2,194		2,194
DEPARTMENT OF EDUCATION Total				1,436,736	2,755,724	673,042	3,428,766
DEPARTMENT OF HEALTH AND HUMAN SERVICES							
AGENCY FOR HEALTHCARE RESEARCH AND QUALITY (AHRQ)							
A comparison of cognitive and dynamic therapy for MDD in community settings	93.226		1-R01-HS-018440-01		17,718		17,718
Clinical Prediction of Hepatotoxicity & Comparative Hepatic Safety of Medications	93.226		1-R01-HS-018372-01A1		10,094		10,094
Comparative and Cost Effectiveness of Strategies to Limit MRSA in Long Term Care	93.226		1-R01-HS-023794-01		422,654		422,654
Comparative effectiveness of home care environments for diverse elders' outcomes	93.226		1-K99-HS-022406-01		198		198
Comparative effectiveness of home care environments for diverse elders' outcomes	93.226	RUTGERS UNIVERSITY	5912			30,691	30,691
Comparative Effectiveness of Interventions for Depression in the Community	93.226		1-K02-HS-022124-01		148,284		148,284
Electronic Health Record Use, Work Environments & Patient Outcomes	93.226		1-R21-HS-023805-01A1		120,552		120,552
Hospital Response to Reimbursement Changes: Evidence from California Medicaid	93.226		1-R36-HS-024216-01		-3,428		-3,428
Impact of Pediatric Trauma Centers on Outcomes of Injured Children	93.226	CHILDREN'S HOSPITAL OF PHILADELPHIA	3200220120			93,522	93,522
Improving Consumer Response to Nursing Home Quality Information: An Evaluation of Composite Measures	93.226		1-R21-HS-021861-01	66,035			66,035
Improving the Framework for Healthcare Public Reporting	93.226	CHILDREN'S HOSPITAL OF PHILADELPHIA	320984 / PO #860573RSUB			52,642	52,642
Information Needs of Homecare Nurses During Admission and Care Planning	93.226	DREXEL UNIVERSITY	232683			17,809	17,809

Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub-Receiptients	Direct	Pass-Through	Expenditure Total
Market and Organization Impact on Medical Technology Diffusion: Outcomes and Value	93.226		1-R01-HS-023615-01	35,574	265,147		265,147
Medical Decision Making: Innovation in the Era of Health Care Reform	93.226		1-R13-HS-022517--01A1		30,752		30,752
Medical Failure-to-Rescue	93.226	CHILDREN'S HOSPITAL OF PHILADELPHIA	321060			29,930	29,930
Multivariate Meta-Analysis of Diagnostic Tests	93.226		7-R03-HS-022900-02		8,320		8,320
NICU Performance: Missed Nursing Care and Infant Outcomes	93.226		1-R01-HS-024918-01		82,991		82,991
Participatory design of patient-centered depression and diabetes care	93.226		1-K18-HS-023445-01		58,372		58,372
Patient Safety in Nursing Homes: A Closer Look at Improvement	93.226	UNIVERSITY OF CHICAGO	FP063214-A			10,307	10,307
Predicting and Preventing Pediatric Hospital Readmissions	93.226	CHILDREN'S HOSPITAL OF PHILADELPHIA	3210810519			28,749	28,749
Prospective Comparative Effectiveness Trial for Malignant Bowel Obstruction	93.226		7-R01-HS-021491-04	22,362	135,502		135,502
Provider Characteristics and Quality of Prostate Cancer Care	93.226		1-R01-HS-024106-01		223,350		223,350
The Effect of Tiered Provider Networks on Health Care Demand and Spending	93.226		1-R36-HS024164-01		-720		-720
The effectiveness of post-acute care	93.226		1-R01-HS-024266-01	82,592	206,150		206,150
The geography of acute care	93.226		1-R01-HS-023614-01	82,739	271,289		271,289
The Impact of ACOs on Disparities	93.226		1-R01-HS-025184-01		9,775		9,775
the SPIN Trial (stories to promote information through narrative): A RCT testing	93.226	AMERICAN COLLEGE OF EMERGENCY PHYSICIANS	SUB TO 1-R18-HS021956			-42	-42
	SubTotal 93.226			223,267	2,073,035	263,608	2,336,643
Development and Demonstrations of a Surgical Unit-Based Safety Program (SUSP) to Reduce Surgical Site Infections (SSI) and Other Surgical Complications	93.RD	JOHNS HOPKINS UNIVERSITY	PO #2001586468 STUDY 1			-3,688	-3,688
ECRI Institute - Penn Medicine AHRQ EPC Proposal	93.RD	ECRI	HHSA290201200111	16,500		178,136	178,136
Evidence-based Practice Centers V	93.RD	ECRI	SUB TO HHSA2902015000051			10,472	10,472
	SubTotal 93.RD			16,500		184,920	184,920
AGENCY FOR HEALTHCARE RESEARCH AND QUALITY (AHRQ) Total				239,767	2,073,035	448,528	2,521,563
BUREAU OF HEALTH PROFESSIONS/HRSA/DHHS							
Nurse Anesthetist Traineeship (NAT) Program	93.124		6 A22HP29897-01-01		23,981		23,981
	SubTotal 93.124				23,981		23,981
National Research Service Award	93.186		2-T32HP10026-18-00		-73,369		-73,369
	SubTotal 93.186				-73,369		-73,369
Academic-Practice Partnership for the Underserved in Philadelphia, PA (AP4UP)	93.247		1 D09HP28672-01-00		440,027		440,027
	SubTotal 93.247				440,027		440,027
Mental and Behavioral Health Training for Social Work (aka P.E.A.R.L.S.) Program in Mental Health Education Assessment, Recovery, and Leadership for Social Workers	93.732		1 M01HP25197-01-00		-6,036		-6,036
	SubTotal 93.732				-6,036		-6,036
Academic units for primary care training and enhancement	93.884		1 UH1HP29964-01-00		573,349		573,349
Population Health and Primary Care: Integrating Public Health into Medical Education	93.884		1 T85HP24468-01-00		323,604		323,604
	SubTotal 93.884				896,953		896,953
BUREAU OF HEALTH PROFESSIONS/HRSA/DHHS Total					1,281,556		1,281,556
CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC)							
Botswana-UPenn Partnership technical assistance plan for HIV complications, HIV-TB co-infection and cervical cancer screening	93.067		1-U2G-PS-001949-01	-114	327,728		327,728
Program Area B: TB/HIV	93.067		1-U2GGH-001498-01		798,141		798,141
	SubTotal 93.067			-114	1,125,869		1,125,869
Centers for Autism and Developmental Disabilities Research & Epidemiology (CADDRE): Study to Explore Early Development (SEED) Phase II	93.073		1-U01-DD-000752-01	11,970	176,929		176,929
	SubTotal 93.073			11,970	176,929		176,929
Community Counts: Public Health Surveillance for Bleeding Disorders (PO# 961933 - RSUB)	93.080	CHILDREN'S HOSPITAL OF PHILADELPHIA	8901210000			38,362	38,362
	SubTotal 93.080					38,362	38,362
Evaluation of MDRO Risk from Ertapenem Antimicrobial Prophylaxis	93.084	DUKE UNIVERSITY MEDICAL CENTER	2035588			36,650	36,650
Patterns of Utilization and Effect of Post-Operative Antibiotics in Common Surgeries	93.084	WASHINGTON UNIVERSITY IN ST. LOUIS	WU-17-160		3,633		3,633
Post-Sepsis Opt-Out Protocol to Improve Patient Outcomes	93.084	DUKE UNIVERSITY MEDICAL CENTER	2035586		36,650		36,650
Predictors of recurrent multidrug-resistant UTI and impact of FMT on recurrence	93.084	WASHINGTON UNIVERSITY IN ST. LOUIS	WU-17-159		75,371		75,371
Southeastern Pennsylvania Adult and Pediatric Prevention Epicenter Network	93.084		1-U54-CK-000485-01	443,143	1,227,855		1,227,855
	SubTotal 93.084			443,143	1,227,855	152,304	1,380,159
University of Pennsylvania Prevention Research Center	93.135		1-U48-DP-005053-01	324,423	2,282,571		2,282,571
	SubTotal 93.135			324,423	2,282,571		2,282,571
Michigan Youth Violence Prevention Center Community Engagement and Revitalization	93.136	UNIVERSITY OF MICHIGAN	3003727976			84,444	84,444
	SubTotal 93.136					84,444	84,444
Training in Occupational Medicine	93.262		2-T03-OH-008628-11		122,968		122,968
	SubTotal 93.262				122,968		122,968
MASTERS EDUCATION IN OCCUPATIONAL HEALTH NURSING	93.263		T01/CCT310445-01		-794		-794
	SubTotal 93.263				-794		-794
Southeastern Pennsylvania Adult and Pediatric Prevention Epicenter Network	93.283		1-U54-CK-000163-01	8,983	32,703		32,703
	SubTotal 93.283			8,983	32,703		32,703
HIV/STI prevention among Black adolescents with mental illnesses	93.941		1-U01-PS-003304-01		42,898		42,898
Mobile Messaging Intervention to Present New HIV Prevention Options for MSM	93.941	EMORY UNIVERSITY	T652427			24,949	24,949
	SubTotal 93.941				42,898	24,949	67,847
Gardening and Greening Evaluation	93.RD	CITY OF PHILADELPHIA	1620298			9,202	9,202
	SubTotal 93.RD					9,202	9,202

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Federal Grantor/Program or Cluster Title	CFDA Number		Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub-Receiptients	Direct	Pass-Through	Expenditure Total
CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC) Total CENTERS FOR MEDICARE AND MEDICAID SERVICES/DHHS					788,405	5,010,999	309,261	5,320,260
Medicaid Incentives for Prevention of Chronic Disease in New York State	93.536	NEW YORK STATE		C-027854			9,523	9,523
	SubTotal 93.536						9,523	9,523
Health Care Innovation Challenge	93.610			1-C1C-MS-331009-01-00		-87,712		-87,712
	SubTotal 93.610					-87,712		-87,712
CENTERS FOR MEDICARE AND MEDICAID SERVICES/DHHS Total DEPARTMENT OF HEALTH & HUMAN SERVICES						-87,712	9,523	-78,189
RTOR-RadNuc-1003: Establishment of a Minipig Model of Ionizing Radiation-induced Thrombocytopenia, Coagulopathies and Measures of Associated Vascular and Organ Injury	93.RD	SNBL USA, LTD		SUB TO HH501002015000061			8,790	8,790
	SubTotal 93.RD						8,790	8,790
DEPARTMENT OF HEALTH & HUMAN SERVICES Total FOGARTY INTERNATIONAL CENTER/NIH/DHHS							8,790	8,790
Building Local Capacities in Ethics Training and IRB Review in Guatemala	93.989			1-R25-TW-009738-01	32,037	200,418		200,418
Chronic Disease Clinical Epidemiology Training in Guatemala and Peru	93.989			1-D43-TW-008317-01A1		-360		-360
HIV Clinical Research Training for Botswana	93.989			1-D43-TW-009781-01		297,541		297,541
Injury and trauma research training for Guatemala	93.989			1-D43-TW-008972-01		144,992		144,992
Injury and Trauma Research Training Program For Botswana	93.989			1-D43-TW-010448-01		8,892		8,892
	SubTotal 93.989				32,037	651,483		651,483
FOGARTY INTERNATIONAL CENTER/NIH/DHHS Total FOOD AND DRUG ADMINISTRATION					32,037	651,483		651,483
Animal and Animal Food Diagnostic Sample Analysis in Support of FDA Vet-LRN Activities and Investigations	93.103			1-U18-FD-004625-01		22,352		22,352
Companion Animal and Animal Food Diagnostic Sample Analysis in Support of FDA Vet-LRN Activities and Investigations	93.103			1-U18-FD-005164-01		22,396		22,396
Iontophoretic delivery of dexamethasone for anterior scleritis, IND 107,846	93.103			1-R01-FD-003910-01	-50	-80		-80
Method validation and comparison for the detection of mycotoxins in novel animal feeds and tissues	93.103			1-U18-FD-005009-01		150,113		150,113
PHASE I/II RANDOMIZED TRIAL OF ADOPTIVE LYMPHOCYTE TRANSFER IN OVARIAN CANCER	93.103			1-R01-FD-003520-01		-4,681		-4,681
Plasma Exchange and Glucocorticoids for Treatment of ANCA-Associated Vasculitis	93.103			4-R01-FD-003516-05	156,524	262,090		262,090
Prospective Observational Study of the Risk Factors for Hospital-Acquired and Ventilator-Associated Bacterial Pneumonia (HABP/VABP)	93.103	DUKE UNIVERSITY		SUB TO R18FD005292			34,650	34,650
	SubTotal 93.103				156,474	452,190	34,650	486,840
Detection and Analysis of Adverse Events Related to regulated Products in Automated Healthcare Data. Efforts to Develop the Sentinel Initiative	93.RD	HARVARD PILGRIM HEALTH CARE		HH5F223201400301			25,068	25,068
Instructor Led Training on Pharmacoepidemiology	93.RD			HH5F223201650024A		116,908		116,908
Protocol-based assessment of thromboembolic events after immunoglobulin administration	93.RD	HARVARD PILGRIM HEALTH CARE		HH5F223200910006T-0003			-1,286	-1,286
	SubTotal 93.RD					116,908	23,782	140,690
FOOD AND DRUG ADMINISTRATION Total HEALTH RESOURCES & SERVICES ADMINISTRATION (HRSA)					156,474	569,098	58,432	627,530
Autism Intervention Research Network for Behavioral Health	93.110	UNIVERSITY OF CALIFORNIA, LOS ANGELES		2000 G TC248			396,295	396,295
Hemophilia Treatment Centers	93.110	CHILDREN'S HOSPITAL OF PHILADELPHIA		320961-06-01			59,365	59,365
Primary Care Drug Therapeutics CER in a Pediatric EHR Network	93.110	AMERICAN ACADEMY OF PEDIATRICS		731101Upenn			4,314	4,314
Standardized Comprehensive Medical Care for Thalassemia Patients: Mid-Atlantic Region	93.110	CHILDREN'S HOSPITAL OF PHILADELPHIA		Activity #3210800517/PO # 961718- R			4,899	4,899
	SubTotal 93.110						464,873	464,873
Occupational Medicine Residency at the University of Pennsylvania	93.117			1-D33-HP-25770-01-00		465,171		465,171
	SubTotal 93.117					465,171		465,171
GERIATRIC TRAINING PROGRAM FOR PHYSICIANS, DENTISTS, AND BEHAVIORAL AND MENTAL HEALTH PROFESSIONS	93.156			2-D01-HP-08798-04-00		192		192
	SubTotal 93.156					192		192
Center of Excellence for Diversity in Health Education and Research	93.157			1 D34HP24459-01-00	44,020	629,497		629,497
	SubTotal 93.157				44,020	629,497		629,497
National Research Service Award	93.186			6 T32HP10026-23-01		329,084		329,084
	SubTotal 93.186					329,084		329,084
State of PA / DHHS Agreement	93.226	CHILDREN'S HOSPITAL OF PHILADELPHIA		8233620000 / PO #960821RSUB			57,693	57,693
	SubTotal 93.226						57,693	57,693
Advanced Education Nursing Traineeship (AENT) Program	93.358			1 A10HP27179-01-00		-10,368		-10,368
Advanced Education Nursing Transcship (AENT) Program	93.358			1 A10HP30042-01-00		341,000		341,000
	SubTotal 93.358					330,632		330,632
Developing Geriatric Resource Nurse-Led Interprofessional Collaborative Practice	93.359			6-UD7H026041-01-03		185,430		185,430
	SubTotal 93.359					185,430		185,430
Expanding Public Health Experiential Learning in Pre-doctoral Dental Education	93.403			D85HP20034-01-00		-81,482		-81,482
	SubTotal 93.403					-81,482		-81,482
Affordable Care Act: Primary Care Residency Expansion	93.510			1-T89-HP-21071-01-00		400,404		400,404
	SubTotal 93.510					400,404		400,404
HEALTH RESOURCES & SERVICES ADMINISTRATION (HRSA) Total LOS ALAMOS NATIONAL LABORATORY					44,020	2,258,928	522,566	2,781,494
Multi-scale observation and modeling of IP3/Ca signaling	93.999			278443		165,600		165,600
	SubTotal 93.999					165,600		165,600
LOS ALAMOS NATIONAL LABORATORY Total NATIONAL CANCER INSTITUTE/NIH/DHHS						165,600		165,600

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OSU Center of Excellence in Regulatory Tobacco Science (OSU-CERTS)(Project 4)	93.077	OHIO STATE UNIVERSITY	60042253 / PO #RF01356877			31,679	31,679
UPENN TCORS: Tobacco Product Messaging in a Complex Communication Environment	93.077		1-P50-CA-179546-01	1,100,817	3,703,205		3,703,205
Using Eye Tracking to Understand and Improve Graphic Warning Label Effectiveness	93.077		1-R01-CA-180929-01		619,993		619,993
	SubTotal 93.077			1,100,817	4,323,198	31,679	4,354,877
INGOT: a family of statistical computing algorithms for hypothesis-driven imaging genomic and longitudinal neuroimaging analysis	93.113		1-K01-ES-026840-01		91,399		91,399
	SubTotal 93.113				91,399		91,399
Effect of Aspirin on Biomarkers of Barrett's Esophagus after Successful Eradication of Barrett's Esophagus with Radiofrequency Ablation	93.135	MD ANDERSON CANCER CENTER	00003356			22	22
	SubTotal 93.135					22	22
UPCC 03715: A Randomized Recruitment Intervention Trial BMT CTN 1505	93.307	UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER AT HOUSTON	0008663BN			1,300	1,300
	SubTotal 93.307					1,300	1,300
Comparative Efficacy, Acceptance and Effectiveness of Health Incentive Structures	93.310		1-R01-CA-159932-01		102,694		102,694
Contrast-Enhanced and Image-Guided Surgery of Lung Cancer	93.310	EMORY UNIVERSITY	S701566			58,308	58,308
Crowdsourcing Mark-up of the Medical Literature to Support Evidence-Based Medicine and Develop Automated Annotation Capabilities	93.310	NORTHEASTERN UNIV	500473-78050			97,310	97,310
EXPLORER: Changing the Molecular Imaging Paradigm with Total Body PET	93.310	UNIVERSITY OF CALIFORNIA, DAVIS	20150115-01			224,102	224,102
Gene-engineered adoptive T cell immunotherapy of BBM	93.310		7-DP2-CA-174502-02		490,612		490,612
Transformative personalized vascular disrupting cancer immunotherapy	93.310		1-R01-CA-156695-01		73,850		73,850
	SubTotal 93.310				667,156	379,720	1,046,876
Phase III Randomized Clinical Trial of Proton Therapy vs IMRT for Low or Low-Intermediate Risk Prostate Cancer	93.392	MASSACHUSETTS GENERAL HOSPITAL	220778			57,615	57,615
	SubTotal 93.392					57,615	57,615
Assembly compartment formation and nuclear alterations mediated by HCMV	93.393		1-R01-CA-157846-01A1		-958		-958
Assembly compartment formation and nuclear alterations mediated by HCMV	93.393		4-R01-CA-157846-05		81,852		81,852
Automated Density Measures for Estimating Breast Cancer Risk and Therapy Response	93.393	MAYO CLINIC ROCHESTER	THE-180687			53,803	53,803
Automated Object Contouring Methods and Software for Thoracic Radiotherapy Planning	93.393	QUANTITATIVE RADIOLOGY SOLUTIONS, LLC	SUB TO R41CA199735			48,669	48,669
Behavioral Activation and Varenicline for Smoking Cessation in Depressed Smokers	93.393	NORTHWESTERN UNIVERSITY	60038259 UP			312,568	312,568
Behavioral Activation for Smoking Cessation and the Prevention of Post-Cessation Weight Gain	93.393		1-R01-CA-206058-01	28,637	679,272		679,272
Breast Cancer Family Registry Cohort	93.393	FOX CHASE CANCER CENTER	FCCE22458-01 PO # SQ1331114			3,875	3,875
C MYC Targets in the Pathogenesis of Human Cancers	93.393		7-R01-CA-057341-21		27,822		27,822
Characterizing Molecular Subtypes of Ovarian Cancer in African-American Women	93.393	DARTMOUTH COLLEGE	Sub to NIH ADV ACCT			-4,178	-4,178
Chromatin structure maintenance and cancer	93.393		1-R01-CA-148768-01		78,978		78,978
COLLABORATIVE HUMAN TISSUE NETWORK EASTERN DIVISION	93.393		1-UM1-CA-183711-01	1,193,703			1,193,703
Commonly Used Medications and Risk of Colorectal Cancer Recurrence	93.393	GROUP HEALTH RESEARCH INSTITUTE	2015124711			23,873	23,873
Communicating genetic test results by telephone: A randomized trial	93.393		1-R01-CA-160847-01A1	101,281	288,932		288,932
Communicating Smoking Risks Through Graphic Warning Labels	93.393		1-R01-CA-157824-01A1		1,619		1,619
Comparative Effectiveness of Preoperative Breast MRI on Surgery and Outcomes	93.393	DARTMOUTH COLLEGE	R163			7,635	7,635
Constructing Recommender Systems for Effective Health Messages: Smoking Cessation	93.393		1-R01-CA-160226-01		9,314		9,314
Cytomegalovirus-mediated modification of host cell metabolism	93.393		1-R01-CA-157679-01		198,274		198,274
Development of novel GPU Monte Carlo and active photonics simulation software for predicting PDT efficacy	93.393	SIMPHOTEK, INC.	SUB TO 2R44CA183236-02A1			71,099	71,099
Early Events in KSHV Infection of Primary B-cells	93.393		1-P01-CA-174439-01A1		21		21
Early Events in KSHV Infection of Primary B-cells	93.393		4-P01-CA-174439-04	437,046	1,540,078		1,540,078
Effectiveness of Screening Colonoscopy in Reducing Deaths from Colorectal Cancer	93.393		7-U01-CA-151736-04	90,462	185,822		185,822
Effectiveness of screening for colorectal cancer in average risk adults: Colonoscopy vs. FIT	93.393		1-R01-CA-213645-01A1		18,013		18,013
Effects of ATR-CHK1 inhibition on genome stability and cancer progression	93.393		1-R01-CA-189743-01A1	77,934	379,438		379,438
Epigenetic regulation by tumor suppressor p53	93.393		2R01CA078831-16		330,748		330,748
Epigenetic Regulation of Human Telomeres	93.393	WISTAR INSTITUTE	24512-02-319			36,014	36,014
Estimating over diagnosis in cancer screening studies	93.393	HUTCHINSON (FRED) CANCER RESEARCH CENTER	0000869705			57,675	57,675
Extended Duration Varenicline for Smoking Among Cancer Patients: A Clinical Trial	93.393		1-R01-CA-165001-01A1	33,587	33,467		33,467
Extended Duration Varenicline for Smoking Among Cancer Patients: A Clinical Trial	93.393		4-R01-CA-165001-05	224,767	527,126		527,126
Genetic Epidemiology of Melanoma (GenoMel)	93.393	MOFFITT CANCER CTR	10-17751-99-01-G1			66,203	66,203
Genetic Susceptibility and Biomarkers of Platinum-related Toxicities	93.393	INDIANA UNIVERSITY	IN4687559UPENN			-1,119	-1,119
Identifying and validating novel susceptibility genes for breast cancer	93.393	MAYO CLINIC ROCHESTER	PO #63562056			118,003	118,003
Influencing cervical cancer prevention and detection online through social media	93.393	UNIVERSITY OF CALIFORNIA, SAN FRANCISCO	8361sc			77,531	77,531
Interaction of anti-angiogenic and cytotoxic therapies in colorectal cancer	93.393		1-R01-CA-139003-03		-20,302		-20,302
Investigating the association between the somatic and inherited genetics of pheochromocytoma/paraganglioma	93.393		1-R21-CA-185953-01		-1,716		-1,716
LEGACY: A Cohort of Youth in Families from the Breast Cancer Family Registry	93.393	FOX CHASE CANCER CENTER	FCCE 15054-02/PO #SQ1313322			9,145	9,145
Linking cancer cell metabolic reprogramming to the DNA repair mechanism	93.393		1-R21-CA-194973-01		216,135		216,135
Mechanisms for Development of HCC in HIV	93.393	YALE UNIVERSITY	M17A12539(A10702)			232,198	232,198
Menin-mediated epigenetic tumor suppression	93.393		1-R01-CA-178856-01A1		290,104		290,104
Merkel cell polyomavirus infection, DNA damage response and cancer	93.393		1-R01-CA-187718-01A1		326,824		326,824
MRI Background Parenchymal Enhancement as a Risk Factor for Breast Cancer	93.393	MEMORIAL SLOAN-KETTERING CANCER CENTER	BD517003			100,538	100,538
MRI Background Parenchymal Enhancement as a Risk Factor for Breast Cancer	93.393		BD517005			74,969	74,969
Multi-Modal Imaging of Psychostimulant Effects on Executive Function Post-RRSO	93.393		1R01CA215587-01		30,530		30,530
MYC--Transcription and Apoptosis	93.393		R01-CA-051497		718,282		718,282
Neuroscience-based Interventions for Cancer Risk Behavior Change	93.393		1-R35-CA-197461-01		958,433		958,433
NRG Oncology Center for Innovation in Radiation Oncology (CIRO)	93.393	RTOG FOUNDATION, INC.	0004-NRG-15			209,840	209,840
Oncohistones: Role of Histone H3 Mutations in the Oncogenesis of Pediatric Cancer	93.393	ROCKEFELLER UNIVERSITY	1-P01-CA-196539-01			382,331	382,331
Patient perspectives on the ethical implementation of oncology learning systems	93.393	UNIVERSITY OF MICHIGAN	3004298102			42,623	42,623
Placebo-controlled trial of bupropion for smoking cessation in pregnant women	93.393		1-R01-CA-184315-01	105,610	596,408		596,408
Post GWA Studies in Testicular Germ Cell Tumors	93.393		1-U01-CA-164947-01	169,694	689,012		689,012
PQ3-A: Neural Predictors of Receptivity to Health Communication and Behavior ch	93.393		1-R01-CA-180015-01	34,161	71,825		71,825
PQ3-A: Neural Predictors of Receptivity to Health Communication and Behavior ch	93.393		4-R01-CA-180015-04	67,944	378,591		378,591
RACIAL DIFFERENCES IN BRCA 1/2 TESTING: PATIENTS OR PROVIDERS?	93.393		1-R01-CA-133004-01A1	-217	-347		-347
Radiomic phenotypes of breast parenchyma and breast cancer risk and detection	93.393	MAYO CLINIC ROCHESTER	UOP-225625			9,056	9,056
Regulation of a DNA damage response network in glioblastoma	93.393		1-R01-CA-172651-01A1		-11,091		-11,091
Regulation of a DNA damage response network in glioblastoma	93.393		4-R01-CA-172651-04		330,617		330,617

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Retention in Cancer Clinical Trials: Modeling Patients' Risk Benefit Assessments	93.393		1-R01-CA-196131-01A1	92,057	435,934		435,934
Retraining Neurocognitive Mechanisms of Cancer Risk Behavior (PQ4)	93.393		1-R01-CA-170297-01		134,080		134,080
Returning genetic research panel results for breast cancer susceptibility	93.393		1-R01-CA-190871-01	475,321	824,153		824,153
Risk and penetrance of mutations from breast cancer testing panels	93.393	MAYO CLINIC ROCHESTER	63846738			253,496	253,496
Role of acetyl-CoA in linking cancer cell metabolism and epigenetics	93.393		1-R01-CA-174761-01A1		369,454		369,454
Role of HOS in Cell Transformation and Apoptosis	93.393		2-R01-CA-092900-15		80,087		80,087
Role of KHLH6 inactivation in mature B-cell malignancies	93.393		1-R01-CA-207513-01		340,626		340,626
Roles of Chromatin Modification in BRCA1 Dependent DNA Repair	93.393		4-R01-CA-174904-04		382,835		382,835
Statistical Methods for Cancer Absolute Risk Prediction	93.393		4-R01-CA-164305-04	72,288	361,248		361,248
Testing an Organizational Change Model to Address Smoking in Mental Healthcare	93.393		1-R01-CA-202699-01A1	202,753	732,134		732,134
The epigenetic mechanism of long non-coding RNA in cancer	93.393		1-R01-CA-190415-01		353,700		353,700
The Genetic Basis of Neuroblastoma Tumorigenesis (GWAS)	93.393	CHILDREN'S HOSPITAL OF PHILADELPHIA	FP1442 SUB02_01/PO #960672RSUB			25,651	25,651
The impact of e-cigarette use on adolescent uptake and persistence of conventional smoking: Who is most vulnerable?	93.393		1-R01-CA-202262-01A1	10,980	553,726		553,726
The mechanisms driving brain oncogenesis by FGFR-TACC gene fusions	93.393	COLUMBIA UNIVERSITY	2 (GG010414-01)			15,985	15,985
The RAP80-BRCC36 Deubiquitinating Complex in DNA Repair	93.393		2-R01-CA-138835-06A1	52,501	267,779		267,779
The role of Fyn and Srcasm in UVB-induced cutaneous neoplasia	93.393		4-R01-CA-165836-05		284,026		284,026
The role of microRNA, mir-30d, in the initiation and progression of cancer	93.393		1-R01-CA-142776-01A1		146,767		146,767
Tobacco Control in a Rapidly Changing Media Environment	93.393	UNIVERSITY OF ILLINOIS	SUB TO 1U01CA154254			8,482	8,482
Tumor antigen-specific T-cells and hepatocellular carcinoma	93.393		4-R01-CA-166111-04		312,063		312,063
Understanding Psychosocial and Immunologic Responses in Indolent Lymphoproliferative Disorders	93.393	FOX CHASE CANCER CENTER	FCCEC 15086-01			110,333	110,333
Use of Genetically Engineered T Cells Targeting Tumor Stroma to Treat Lung Cancer	93.393		1-R01-CA-172921-01A1	3	69,445		69,445
Use of Genetically Engineered T Cells Targeting Tumor Stroma to Treat Lung Cancer	93.393		4-R01-CA-172921-04		401,077		401,077
SubTotal 93.393				2,276,809	16,195,960	2,346,298	18,542,258
(PDQ5)Integrated Genetic and Epigenetic Prognostication for Acute Myeloid Leukemia	93.394		1-R21-CA-185365-01		164,379		164,379
A micro Hall chip for circulating microvesicle based cancer monitoring	93.394		1-R21-CA-182336-01A1		168,863		168,863
A new imaging approach to radiotherapy planning for lung cancer	93.394		1-R01-CA-193050-01		417,375		417,375
Advanced Development of TIES - Enhancing Access to Tissue for Cancer Research	93.394	UNIVERSITY OF PITTSBURGH	0035722 (123867-1)			60,026	60,026
Advanced MRI methods for detecting pseudo-progression of glioblastomas	93.394		1-R21-CA-170284-01A1		1,295		1,295
Advanced PET/CT Imaging for Improving Clinical Trials	93.394	UNIVERSITY OF WASHINGTON	UWSC9567			32,583	32,583
Antivascular ultrasound therapy of primary liver neoplasia	93.394		1-R01-CA-204446-01A1		109,973		109,973
Carbohydrate Antigenic Biomarkers for Epithelial Cancers	93.394		7-U01-CA-168925-03	156,439	475,479		475,479
Computerized histologic image predictor of cancer outcome	93.394	CASE WESTERN RESERVE UNIVERSITY	RES511172			30,888	30,888
Development of blood biomarkers for the early detection of non-small cell lung cancer	93.394	WISTAR INSTITUTE	25311-03-355			4,452	4,452
Digital breast tomosynthesis imaging biomarkers for breast cancer risk estimation	93.394		2-R01-CA-161749-05		55,319		55,319
Early Detection Research Network/Proteomic, Genetic and Longitudinal Pathways to Ovarian Cancer Biomarker Discovery	93.394	MASSACHUSETTS GENERAL HOSPITAL	217321			209,549	209,549
ECOG-ACRIN Biorepositories to Support NCTN	93.394	ECOG-ACRIN MEDICAL RESEARCH FOUNDATION, INC	U24CA196172-01-UPA1		9,679		9,679
ECOG-ACRIN Biorepositories to Support NCTN	93.394		U24CA196172-01-UPA2		7,917		7,917
ECOG-ACRIN-Based QIN Resource for Advancing Quantitative Cancer Imaging in Clinical Trials	93.394	AMERICAN COLLEGE OF RADIOLOGY	1672		57,845		57,845
Enabling Technologies for Ultra-High Sensitivity PET Scanners (PQ13)	93.394	UNIVERSITY OF CALIFORNIA, DAVIS	201121765-02			-21,439	-21,439
Harmonized PET Reconstructions for Cancer Clinical Trials	93.394	UNIVERSITY OF IOWA	W000420845/PO #1001078460			149,101	149,101
High Performance, Quantitative Breast PET Scanner Integrated with Tomosynthesis	93.394		1-R01-CA-196528-01A1	7,680	519,876		519,876
Highly Paramagnetic, Biodegradable Nanoclusters for Imaging Prostate Cancer	93.394		1-R01-CA-157766-01		-20,092		-20,092
High-throughput immunoglobulin gene sequencing as a peripheral blood minimal residual disease assay to predict post-transplant relapse risk in multiple myeloma	93.394		1-R21-CA-195221-01	19,983	123,262		123,262
HLTF gene silencing: a novel determinant of sensitivity to autophagy inhibition	93.394		1-R01-CA-169134-01A1		-46,159		-46,159
HLTF gene silencing: a novel determinant of sensitivity to autophagy inhibition	93.394		4-R01-CA-169134-04		323,563		323,563
Imaging Mitochondrial Redox States In Vivo by Hyperpolarized MR	93.394		1-R01-CA-155348-01		98,971		98,971
Integrated Discovery Pipeline for Tumor Neoantigens	93.394		1-R01-CA-204261-01A1		280,743		280,743
IWDM-2016: The 13th International Workshop on Breast Imaging	93.394		1-R13-CA-206361-01		6,000		6,000
Mayo Clinic Prospective Resource for Biomarker Validation and Early Detection of Pancreatic Cancer	93.394	MAYO CLINIC ROCHESTER	THE-216870			95,144	95,144
Metabolic Imaging Marker for Triple Negative Breast Cancer	93.394		1-R21-CA-198563-01		118,430		118,430
Modifying Young Adult Skin Cancer Risk and Protective Behaviors (UV4.me2): A Hybrid Type 2 Dissemination/Effectiveness Trial	93.394	FOX CHASE CANCER CENTER	FCCEC 15104-01			8,207	8,207
Molecular Imaging Markers for Glutaminolysis in Breast Cancer	93.394		1-R01-CA-211337-01		148,751		148,751
Mutation Profile as Translatable Prognostic Biomarker of Uveal Melanoma	93.394		1-R21-CA-181935-01A1		180,578		180,578
Near infrared intraoperative molecular imaging of lung adenocarcinoma	93.394		1-R01-CA-193556-01A1	55,787	825,489		825,489
Novel PET imaging agents for understanding glutamine addiction in cancer	93.394		1-R01-CA-164490-01		65,027		65,027
Pathology Image informatics platform for visualization, analysis and management	93.394	CASE WESTERN RESERVE UNIVERSITY	Sub to RES510429			15,417	15,417
Phospholipase-activated theranostics for PDT of breast cancer	93.394		1-R01-CA-201328-01A1		292,692		292,692
Real-time monitoring of circulating pancreatic tumor cells and clusters	93.394		1-R01-CA-207643-01		208,298		208,298
Redox imaging for breast cancer prognosis	93.394		1-R01-CA-191207-01A1	83,327	626,858		626,858
San Antonio Center for Biomarkers of Risk for Prostate Cancer	93.394	UNIVERSITY OF TEXAS	130202 / PO #RGC0000000376			58,974	58,974
Systemic Chemotherapy of Melanoma: NMR Studies of Lonidamine & N-Mustard Activity	93.394		4-R01-CA-129544-07		284,097		284,097
Time-of-Flight PET for Improved Whole-Body Imaging	93.394		2-R01-CA-113941-10		543,731		543,731
Transforming the diagnosis and care of patients with CTCL using TCR sequencing	93.394	BRIGHAM AND WOMEN'S HOSPITAL	114835			94,116	94,116
Tumor-targeted Polymerosomes to image and Treat Ovarian Cancer	93.394		1-R01-CA-175480-01A1	20,843	21,386		21,386
Tumor-targeted Polymerosomes to image and Treat Ovarian Cancer	93.394		4-R01-CA-175480-04	63,415	340,466		340,466
Using markers to improve pancreatic cancer screening and surveillance	93.394	JOHNS HOPKINS UNIVERSITY	SUB TO U01CA210170			31,713	31,713
SubTotal 93.394				407,474	6,334,650	844,172	7,178,822
(PQ42) Mammalian Regeneration, High Fat Diets, and Breast Cancer: A Common Link?	93.395	LANKENAU INSTITUTE FOR MEDICAL RESEARCH	06297-0791			111,792	111,792
A Facile Method for Producing Bispecific Antibodies from Full-Length IgG	93.395		1-R21-CA-187657-01		18,787		18,787
A Phase 2 Study of MK-3475 for the Treatment of Relapsed/Refractory Mycosis Fungoides/Sézary Syndrome (CTIN-10)	93.395	HUTCHINSON (FRED) CANCER RESEARCH CENTER	0000816686			-31,925	-31,925
A Randomized Trial of Incentives for Research Participation	93.395		1-R01-CA-197332-01		400,143		400,143
A Universal Approach to Personalized Adoptive T cell Therapy of Cancer	93.395		1-R01-CA-168900-01		318		318
A Universal Approach to Personalized Adoptive T cell Therapy of Cancer	93.395		4-R01-CA-168900-05		247,771		247,771
Aids Malignancy Clinical Trials Consortium Study (AMC)	93.395	UNIVERSITY OF CALIFORNIA, LOS ANGELES	1568 G TA812			30,019	30,019
Antitumor Agents: Structure and Synthesis	93.395		2-R01-CA-019033-37A1		576,444		576,444
Biological mechanisms Involved with PDT in the Treatment of MPM	93.395		2-P01-CA-087971-11A1	25,759	1,175,504		1,175,504
Cancer Treatment Research	93.395	ECONG-ACRIN Medical Resource Foundation	5U10CA180820-03			4,000	4,000
Cancer Treatment Research	93.395		5U10CA180820-04			3,000	3,000
CD19 Directed CAR Therapy	93.395		4-R01-CA-165206-05		106,154		106,154

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Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub-Receiptients	Direct	Pass-Through	Expenditure Total
Cellular and Molecular Studies of Bone Marrow Transplant	93.395	MOUNT SINAI MEDICAL CENTER	0254-3503-4605			6,501	6,501
Circulating Tumor Cells Analyses and Molecular Profiling for Patients Receiving Radiation Therapy	93.395		1-R01-CA-201071-01A1		312,246		312,246
COG NCTN Network Group Operations Center	93.395	CHILDREN'S HOSPITAL OF PHILADELPHIA	95000870216-XX			14,704	14,704
COG: NCTN Scientific Leadership Work Order (Joffe)	93.395	CHILDREN'S HOSPITAL OF PHILADELPHIA	961650-RSUB			29,408	29,408
Combined CD40 activation and CTLA4 blockade in melanoma	93.395		1-R01-CA-158186-01		-1,273		-1,273
Dendritic Cell-Mediated Oral Antigen Tolerance and the Lung	93.395		1-R21-AI-123771-01		184,565		184,565
Dose-distribution radiomics to predict morbidity risk in radiotherapy	93.395	RADIATION THERAPY ONCOLOGY GROUP	1818			53,617	53,617
ECOG-ACRIN NCORP Research Base - CCDR	93.395	ECOG-ACRIN MEDICAL RESEARCH FOUNDATION, INC	1UG1CA189828-01-UPA3			1,435	1,435
ECOG-ACRIN NCORP Research Base - CT	93.395	ECOG-ACRIN MEDICAL RESEARCH FOUNDATION, INC	1UG1CA189828-01-UPA1			77,432	77,432
ECOG-ACRIN Operations Center	93.395	ECOG-ACRIN MEDICAL RESEARCH FOUNDATION, INC	ECOG-ACRIN			28,675	28,675
ECOG-ACRIN Operations Center	93.395		SUB TO U10CA180820-01 UPA3			-7,134	-7,134
ECOG-ACRIN Operations Center	93.395		U10CA180820-01-UPA1			185,909	185,909
ECOG-ACRIN Operations Center	93.395		U10CA180820-01-UPA2			87,047	87,047
ECOG-ACRIN Operations Center	93.395		U10CA180820-01-UPA8			50,000	50,000
ECOG-ACRIN Operations Center	93.395		sub to U10CA180820-01-UPA7			5,431	5,431
ECOG-ACRIN Operations Center	93.395		U10CA180820-02-UPA10			186,499	186,499
ECOG-ACRIN Operations Center	93.395		U10CA180820-01-UPAS			27,970	27,970
ECON-ACRIN NICORP Research Base	93.395	ECOG-ACRIN MEDICAL RESEARCH FOUNDATION, INC	1-UG-1CA-189828-01-UPA2			23,592	23,592
Effects of Photodynamic Therapy on Tumor Oxygenation and Blood Flow	93.395		2-R01-CA-085831-11A1		358,362		358,362
ETCTN with Phase 2 Emphasis	93.395	UNIVERSITY OF PITTSBURGH	0049874(127367-1)			68,377	68,377
FRONTIER SCIENCE AND TECHNOLOGY/CGOP OUTREACH	93.395	FRONTIER SCIENCE & TECHNOLOGY RESEARCH FDN	ECOG PURCHASE SERVICE AGREEMENT			31,123	31,123
HIFs and VEGF in Sarcoma Progression, Metastasis, and Radiation Response	93.395		1-R01-CA-158301-01	208,614	215,280		215,280
Highly specific ATR inhibitors for the targeted treatment of a broad spectrum of cancers	93.395	ATRIN PHARMACEUTICALS	SUB TO 1R41CA203436			97,717	97,717
How Does FLT3 Mutation Regulate Myeloid Differentiation in Acute Myeloid Leukemia	93.395		1-R21-CA-198621-01	32,912	230,184		230,184
HSP70 and Melanoma	93.395	WISTAR INSTITUTE	24672-02-366			63,066	63,066
Image-guided treatment planning for pleural Photodynamic Therapy	93.395		4-R01-CA-154562-05		146,508		146,508
Imaging & Radiation Oncology Core - Philadelphia Imaging Core Lab Director	93.395	AMERICAN COLLEGE OF RADIOLOGY	1616			124,145	124,145
Immuno/immuno-Gene Therapies for Thoracic Malignancies	93.395		2-P01-CA-066726-15A1		-838		-838
Immuno/immuno-Gene Therapies for Thoracic Malignancies	93.395		4-P01-CA-066726-19		1,192,456		1,192,456
Immunobiology and Immunotherapy of Pancreatic Cancer	93.395		1-R01-CA-169123-01		-1,610		-1,610
Immunobiology and Immunotherapy of Pancreatic Cancer	93.395		4-R01-CA-169123-05		618,021		618,021
IMMUNOTHERAPY WITH CAR T CELLS	93.395		2-R01-CA-120409-06		-29,590		-29,590
IMMUNOTHERAPY WITH CAR T CELLS	93.395		4-R01-CA-120409-10		232,272		232,272
Improving radiation response by targeting O2 metabolism via the PI3K/mTOR pathway	93.395		1-R01-CA-182747-01A1		406,402		406,402
Inhibition of heteromeric erbB kinases	93.395		1-R01-CA-149425-01A1		1,949		1,949
Inhibition of Senescence to Increase Cancer Cell Death: A New Paradigm	93.395	ALBERT EINSTEIN COLLEGE OF MEDICINE, INC	310917			106,133	106,133
Intimacy-Enhancing Couples' Intervention for Localized Prostate Cancer	93.395	RUTGERS UNIVERSITY	8028			65,608	65,608
IROC - Imaging & Radiation Oncology Core - Core Lab Physicist	93.395	AMERICAN COLLEGE OF RADIOLOGY	sub to U24-CA-180803			468,241	468,241
Mechanism of Activity of Loni-damine	93.395		1-R01-CA-172820-01A1		-2,196		-2,196
Mechanism of Activity of Loni-damine	93.395		4-R01-CA-172820-04		587,176		587,176
Models to Predict Prognosis and Benefit from Adjuvant Therapy in Renal Cell Carcinoma	93.395	YALE UNIVERSITY	M12A11106 (A08276)			-48,930	-48,930
Molecular mechanisms of BRAF inhibitor induced UPR and autophagy	93.395		1-R01-CA-198015-01		442,172		442,172
Nanoscale Encapsulation for Fragment Based Drug Discovery	93.395		1-R21-CA-206958-01		196,156		196,156
NRG ONCOLOGY NETWORK GROUP OPERATIONS CENTER	93.395	NRG ONCOLOGY	UoIP-YR 1			7,000	7,000
PD-1 Blockade and Neantigen-Specific T Cell Immunity	93.395		7-R21-CA-205794-02		56,474		56,474
Pediatric Cancer Interdisciplinary Team Training for Regoaling CARE Discussions	93.395	CHILDREN'S HOSPITAL OF PHILADELPHIA	3210760617; PO No. 962326 - RSUB			25,756	25,756
Piperlongumine as a Novel Radiosensitizer for Lung Cancer	93.395	NORTH DAKOTA STATE UNIVERSITY	FAR0024666			44,074	44,074
Psychological Interventions for Gynecologic Cancer Patients	93.395	UNIVERSITY OF MEDICINE AND DENTISTRY OF NJ	1573-1 / PO #P0525144			-200	-200
Secondary Prevention through Surveillance and Intervention	93.395		1-R01-CA-208273-01A1		246,755		246,755
Targeted Therapies in Melanoma	93.395	WISTAR INSTITUTE	24921-06-314; GEORGE			196,353	196,353
Targeted Therapies in Melanoma	93.395		24921-07-314; MARMORSTEIN			284,811	284,811
Targeted Therapies in Melanoma	93.395		24921-13-314; NATHANSON			71,799	71,799
Targeted Therapies in Melanoma	93.395		2-P01-CA114046			714,686	714,686
Targeted Therapies in Melanoma	93.395	WISTAR INSTITUTE	24921-11-314; Xu			143,311	143,311
The COURAGE Trial: Colon Recurrence and Aerobic Exercise: A Feasibility Study	93.395		1-R21-CA-182767-01A1	1,593	10,769		10,769
UPCC# 20214; Phase I study of neo-adjuvant RO7009789 alone or neo-adjuvant RO7009789 plus nab-paclitaxel and gemcitabine for patients with newly diagnosed resectable pancreatic carcinoma	93.395	HUTCHINSON (FRED) CANCER RESEARCH CENTER	0000843306			10,779	10,779
Using 18F-EF5 PET to measure hypoxia modulation by Nelfinavir in larynx cancer	93.395		1-R01-CA-174976-01A1		385,412		385,412
<b>SubTotal 93.395</b>				<b>268,878</b>	<b>8,312,773</b>	<b>3,361,821</b>	<b>11,674,594</b>
(PQ5) Mitochondria are endocellular symbionts that serve as targets for immune recognition	93.396		1-R01-CA-206012-01		395,383		395,383
(PQ2) Localization as a determinant of cancer dormancy	93.396	MASSACHUSETTS GENERAL HOSPITAL	226262			61,013	61,013
Androgen Receptor Action in Castration Resistant Prostate Cancer-Core C	93.396	BETH ISRAEL MEDICAL CENTER	01026711			250,834	250,834
C MYC Targets in the Pathogenesis of Human Cancers	93.396		2-R01-CA-057341-24A1		207,878		207,878
Calcineurin-NFAT regulates endothelial activation in pre-metastatic sites	93.396		2-R01-CA-118374-07A1		382,891		382,891
Cancer Cell Adaptation to Metabolic Stress	93.396		2-P01-CA-104838-06		80		80
Cancer Cell Adaptation to Metabolic Stress	93.396		2-P01-CA-104838-11			1,112,019	1,112,019
Cancer imaging phenomics software suite: application to brain and breast cancer	93.396		1-U24-CA-189523-01A1		729,784		729,784
Cell type and molecular determinants of colorectal cancer initiation downstream of APC inactivation	93.396		2-R01-CA-168654-06		31,994		31,994
CXCL13: a mediator of prostate cancer progression	93.396		1-R01-CA-189765-01A1		346,139		346,139
Deregulation of MSI RNA-binding proteins promotes intestinal tumorigenesis	93.396		1-R01-CA-168654-01		-58,667		-58,667
Deregulation of MSI RNA-binding proteins promotes intestinal tumorigenesis	93.396		4-R01-CA-168654-05		257,114		257,114
Determining and enhancing metabolite fitness for metabolomics measurements	93.396		1-R21-CA-213234-01		49,330		49,330
Effectors of protein kinase C-mediated tumor progression	93.396		1-R01-CA-196232-01A1		354,018		354,018
Extracellular DNA in regulation of multiple myeloma	93.396	WISTAR INSTITUTE	25241-02-370			32,520	32,520
HIF-1alpha and FBP2 in sarcoma metabolism, progression, and metastasis	93.396		2-R01-CA-158301-06A1		108,210		108,210
Identifying Mechanisms of p53 and Rb Tumor Suppression In Small Cell Lung Cancer	93.396		1-R21-CA-205340-01		173,814		173,814
In Vivo Oncogene-induced Tumorigenesis and Escape	93.396		2-R01-CA-098371-06		-426		-426
In Vivo Oncogene-induced Tumorigenesis and Escape	93.396		2-R01-CA-098371-11		60,462		60,462
Inhibition of a TREG Deubiquitinase, USP7, Promotes Anti-Tumor Immunity	93.396	CHILDREN'S HOSPITAL OF PHILADELPHIA	ACTIVITY 321068(PO#961564RSUB			60,934	60,934
Mechanisms of Esophageal Carcinogenesis	93.396		2-P01-CA-098101-11	773,139	1,580,939		1,580,939
Methods for genomic data with graphical structures	93.396		2-R01-CA-127334-05	4,702	-32,994		-32,994

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Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub-Receiptients	Direct	Pass-Through	Expenditure Total
Methods for genomic data with graphical structures	93.396		4-R01-CA-127334-06		198,976		198,976
Minimal Residual Disease and Mechanisms of Breast Cancer Recurrence	93.396		1-R01-CA143296-01A1		-107		-107
Oncogenic Notch Signaling - Project 2	93.396	BRIGHAM AND WOMEN'S HOSPITAL	P01-CA-119070			288,571	288,571
p53 and tumor cell metabolism	93.396		1R01CA182675-01A1		419,057		419,057
p53-Mediated Tumor Immune Surveillance	93.396		1-R01-CA-193602-01A1		425,929		425,929
Physiological role of the TNKS-Pi31 dependent proteasome regulation	93.396		4-R00-CA-190658-03		149,925		149,925
Prolactin pathways and metastatic progression of ER-positive breast cancer	93.396	MEDICAL COLLEGE OF WISCONSIN	SUB TO 7R01CA188575			154,486	154,486
Prostate Carcinogenesis and PKC Signaling	93.396		2-R01-CA-089202-11	6,438	2,159		2,159
Quantitative analyses of tumor cell extravasation	93.396	MASSACHUSETTS INSTITUTE OF TECHNOLOGY	5710004020			127,505	127,505
Receptor mediated breast cancer therapy	93.396		2-R01-CA-089481-09A2		16,727		16,727
Regulation of hematopoietic stem cell and progenitor cell proliferation by Runx1	93.396		1-R01-CA-149976-01A1		10,336		10,336
Regulation of multiple myeloma by S100A9 protein	93.396	WISTAR INSTITUTE	25231-02-370			16,840	16,840
Role of eIF2a phosphorylation and ER stress in hypoxia tolerance and tumor growth	93.396		2-R01-CA-094214-10		-64,027		-64,027
Role of eIF2a phosphorylation and ER stress in hypoxia tolerance and tumor growth	93.396		4-R01-CA-094214-14		252,945		252,945
Role of HOS in Cell Transformation and Apoptosis	93.396		5-R01-CA-092900-14	45,954	123,355		123,355
Role of Malic Enzymes in Tumorigenesis	93.396		1-R21-CA-177048-01A1		11,961		11,961
Role of p53 family proteins in glucose metabolism	93.396		1-R01-CA-184867-01		474,094		474,094
Role of SNF1 Kinase HUNK in breast cancer progression	93.396		1-R01-CA-127917-01A1		21		21
Role of the pentose phosphate pathway in tumorigenesis	93.396		1-R21-CA-195360-01A1		107,937		107,937
RPTP Domains Regulating Homodimerization and EGFR Activity Via Heterodimerization	93.396	LEHIGH UNIVERSITY	543339-78001			12,496	12,496
Signaling Modulators in Epidermal Carcinogenesis	93.396		1-R01-CA-163566-01		37,394		37,394
Signaling Modulators in Epidermal Carcinogenesis	93.396		4-R01-CA-163566-05		318,192		318,192
Specificity of the Ubiquitin System in Lymphoid Malignancies	93.396		4-R00-CA-166181-02		117,442		117,442
Stem Cells, Differentiation and Therapeutic Resistance in AML	93.396		1-R01-CA-149566-01A1	33,673	57,725		57,725
Targeting macrophages for immunotherapy in pancreatic cancer	93.396		1-R01-CA-197916-01A1		338,434		338,434
The interaction between tRNA and cytochrome c in apoptosis of cancer cells	93.396		1-R21-CA-178581-01A1		106,897		106,897
The role of DCLK1 in the initiation of pancreatic ductal adenocarcinoma	93.396	UNIVERSITY OF OKLAHOMA	RS20150916-01			164,757	164,757
The Unfolded Protein Response in Cancer	93.396		1-P01-CA-165997-01A1	111,080	205,794		205,794
The Unfolded Protein Response in Cancer	93.396		4-P01-CA-165997-04	233,632	726,664		726,664
Tumor-Associated Neutrophils in Human Lung Cancer	93.396		1-R01-CA-187392-01A1		332,717		332,717
Understanding and Targeting Chemotherapy Resistance in Acute Myeloid Leukemia	93.396		1-R01-CA-198089-01	410,429	649,399		649,399
Understanding Wnt5a regulation of protein depalmitoylation during cell migration	93.396		1-R01-CA-181633-01A1		407,533		407,533
SubTotal 93.396				2,136,433	11,125,447	1,169,956	12,295,403
Abramson Cancer Center core support grant	93.397		2-P30-CA-016520-35		410		410
Abramson Cancer Center Support Grant	93.397		2-P30-CA-016520-40	95,435	7,613,083		7,613,083
Botswana-UPenn: Research Consortium of HPV-Related Cervical Cancer in HIV Patient	93.397		1-U54-CA-190158-01	180,338	512,409		512,409
Cancer Risks for Mutations In Breast Cancer Predisposition Genes	93.397	MAYO CLINIC ROCHESTER	UOP-182363			155,868	155,868
Combination Activated T-Cell and Vaccine Therapy in Myeloma	93.397	UNIVERSITY OF TEXAS	PO #35959-2000/29859/98018081			26,439	26,439
CSHL Cancer Center Support Grant	93.397	COLD SPRING HARBOR LABORATORY	25103074			36,880	36,880
Hypofractionated radiotherapy as a vaccine for patients with metastatic Melanoma	93.397	WISTAR INSTITUTE	24961-12-314; Maity			23,164	23,164
Liver Cancer: pre-Malignant Stiffening, Membrane Transduction, & Nuclear Rheology	93.397		1-U54-CA-193417-01	96,604	2,202,841		2,202,841
Optimizing Colonoscopy & Fecal Immunochemical Tests for Community-Based Screening	93.397	KAISER PERMANENTE	115-9064-05			4	4
Pacific Ovarian Cancer Research Consortium/ SPORE in Ovarian Cancer	93.397	HUTCHINSON (FRED) CANCER RESEARCH CENTER	Hutchinson(NIH)			41,944	41,944
Penn Center for Innovation in Personalized Breast Screening	93.397		1-U54-CA-163313-01		412,351		412,351
Penn TREC Survivor Center	93.397		1-U54-CA-155850-01		-9,334		-9,334
Sex Steroid Regulation of Melanoma Development and Sensitivity to Immunotherapy Specific Aims	93.397	WISTAR INSTITUTE	24963-11-314	39		19,236	19,236
SPORE in Skin Cancer	93.397	WISTAR INSTITUTE	24961-02-314			154,693	154,693
SPORE in Skin Cancer	93.397		24961-04-314			114,308	114,308
SPORE in Skin Cancer	93.397		24961-05-314			174,839	174,839
SPORE in Skin Cancer	93.397		24961-10-314			261,994	261,994
SPORE in Skin Cancer	93.397		24961-06-314			328,849	328,849
SPORE in Skin Cancer	93.397		Sub to 5-P50-CA174523			323,426	323,426
Stem Cells and the Origins of Barrett's Esophagus	93.397	COLUMBIA UNIVERSITY	1 (ACCT #5-30761)			108,253	108,253
The Johns Hopkins Physical Sciences-Oncology Center	93.397	JOHNS HOPKINS UNIVERSITY	2003261994			67,718	67,718
Weight loss-induced microbiome and adipokine changes in Barrett's Esophagus	93.397	COLUMBIA UNIVERSITY	4(GG0006360-15)			35,507	35,507
SubTotal 93.397				372,416	10,731,760	1,873,122	12,604,882
A cell-based liquid biopsy approach for early pancreatic cancer detection	93.398		1-F32-CA-196120-01		53,872		53,872
A novel hematopoietic stem cell population	93.398		4-F31-CA-180604-03		29,369		29,369
A role for macrophage phenotype in regulating metastasis in pancreatic carcinoma	93.398		1-F30-CA-196106-01		36,597		36,597
Augmenting Chimeric Antibody Receptor Directed T cell Therapy for Cancer	93.398		1-K08-CA-163941-01		15,278		15,278
Augmenting Chimeric Antibody Receptor Directed T cell Therapy for Cancer	93.398		4-K08-CA-163941-05		146,423		146,423
Biochemical regulation and genomic targeting of TET-catalyzed cytosine oxidation	93.398		1-F30-CA-196097-01		35,598		35,598
Cancer Center Research Training Program	93.398		2-T32-CA-009615-26		468,237		468,237
Cancer Clinical Epidemiology Training Grant	93.398		2-T32-CA-009679-21		372,493		372,493
CD40 Pathway in Pancreatic Adenocarcinoma	93.398		1-K08-CA-138907-01A2		9,612		9,612
Cellular molecular biologics in clinical cancer research	93.398		2-K12-CA-076931-16A1		389,182		389,182
Cerenkov imaging for in vivo pH determination of the tumor microenvironment	93.398		1-F31-CA-206453-01		43,166		43,166
Characterization of Epigenetic Targets in Prostate Cancer	93.398		4-R00-CA-187664-03		379,922		379,922
Chimeric Antigen Receptor T cell Therapy for Acute Myeloid Leukemia (AML)	93.398		1-K08-CA-194256-01		193,048		193,048
CN/FAT Signaling in Fibroblast Activation and Metastasis	93.398		1-F30-CA-196079-01A1		43,562		43,562
Copper reduction as a novel therapy in BRAF-mutant positive cancers	93.398		7-K01-CA-178145-03		10,488		10,488
Cyclin D3 and DNA double strand breaks: genome stability andlymphomagenesis	93.398		1-F31-CA-177092-01		-7,788		-7,788
Disruption of circadian rhythm in hypoxia	93.398		1-F30-CA-200347-01		28,625		28,625
Effectiveness of Radiotherapy for Prostate Cancer	93.398		1-K07-CA-163616-01A1		11,854		11,854
Effectiveness of Radiotherapy for Prostate Cancer	93.398		4-K07-CA-163616-05		132,889		132,889
Effects of Exercise on Visceral Adiposity & Hyperinsulinemia in Colon Cancer Survivor	93.398		1-F31-CA-192560-01		-2,922		-2,922
Elucidating the mechanism of anti-GSK3 adjuvant therapy for Myc-driven lymphomas	93.398		1-F31-CA-217004-01		16,517		16,517
Elucidating the role and regulation of epithelial plasticity in metastasis	93.398		1-F31-CA177163-01A1		14,446		14,446
Exploiting mTORC1-driven cancer cell vulnerabilities	93.398		1F32CA177108-01A1		-2,813		-2,813



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Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub-Receiptients	Direct	Pass-Through	Expenditure Total
IFNARI downregulation in melanoma cells and stromal cells promotes melanoma progression and pulmonary metastasis	93.398		1-F32-CA-206431-01		52,839		52,839
Immunobiology of normal and neoplastic lymphocytes	93.398		2-T32-CA-009140-36		2,643		2,643
Immunobiology of normal and neoplastic lymphocytes	93.398		2-T32-CA-009140-41A1		491,717		491,717
Insulin resistance in the development and progression of invasive bladder cancer	93.398		1-K23-CA-187185-01A1		159,678		159,678
Investigating non-coding mechanisms of functional dysregulation in neuroblastoma	93.398		1-F30-CA-192831-01A1		27,427		27,427
Investigating the role of PPAR gamma in clear cell renal cell carcinoma	93.398		1-F31-CA-206381-01		43,363		43,363
Mechanisms and Function of Suppressed RAG Expression by DNA Double Strand Breaks	93.398		1-F31-CA-183551-01A1		32,373		32,373
Metabolic alterations in soft tissue sarcoma initiation and progression	93.398		1-F32-CA-217185-01		8,846		8,846
Molecular Basis for Small Molecule STAT3 Inhibition	93.398		7-F32-CA-180298-02		23,587		23,587
Mutant p53 has gain-of-function mechanisms to mediate tumor invasion	93.398		4-F30-CA-174133-03		14,138		14,138
Mutant p53 has gain-of-function mechanisms to mediate tumor invasion	93.398		1-F30-CA-174133-01		-1,991		-1,991
Mutations in Runx1 and epigenetic modifiers cooperate in leukemogenesis	93.398		1-F30-CA-196123-01		36,063		36,063
Myc transcriptional regulation in T-ALL	93.398		1-F31-CA-206338-01		39,763		39,763
Oncogene-induced cytoplasmic and nuclear events leading to replication stress	93.398		1-F31-CA-186412-01		30,552		30,552
Oncogenic Disruption of Circadian Rhythm and Chronotherapy	93.398		1F32CA180370-01A1		-195		-195
Optimizing Immunotherapy Strategies to Eliminate Recurrences after Cancer Surgery	93.398		1-F32-CA-210409-01		51,805		51,805
Pro- and anti-phagocytic signals on pancreatic cancer regulate tumor macrophages	93.398		1-F30-CA-196124-01		34,095		34,095
Probing the role of tumor suppressive functions of E1f5 in breast cancer	93.398		1-K22-CA-193661-01A1		187,163		187,163
Recombination-based mechanisms for repair of damaged DNA replication templates	93.398		1-F31-CA189800-01		4,135		4,135
Role of Akt-regulated acetyl-CoA metabolism in altering the cancer cell epigenome	93.398		1-F31-CA-189744-01A1		28,211		28,211
Role of MLL1 and MLL1 leukemogenic fusions in maintaining transcriptional memory	93.398		1-F30-CA-189553-01		29,057		29,057
Sex Steroid Regulation of Melanocyte Homeostasis	93.398		1-F31-CA-206325-01		43,576		43,576
Stroma-mediated mechanisms of breast cancer treatment resistance	93.398		1-F31-CA-189707-01		28,280		28,280
Summer Undergraduate Program to Educate Radiation Scientists (SUPERS)	93.398		2-R25-CA-140116-06		234,005		234,005
Targeting SRC Signaling Pathways to Promote Cell Cycle Arrest in Ovarian Cancer	93.398		K08-CA-151892		122,264		122,264
The CENP-A Complex and Centromere Identity	93.398		1-F30-CA-186430-01		5,373		5,373
The molecular basis for how acetyl-coenzyme A links metabolism to gene expression	93.398		1-F31-CA-189559-01		25,742		25,742
The Role of ATF4 in Promoting c-Myc Induced Lymphomagenesis	93.398		4-F31-CA-183569-03		35,479		35,479
The role of mutant p53 and endocytic recycling in ESCC invasion and metastasis	93.398		1-F32-CA-206264-01		55,558		55,558
The Role of p120ctn in Pancreatic Ductal Morphogenesis and Adenocarcinoma	93.398		4-F30-CA-180601		16,561		16,561
The role of Prrx1 in acinar-ductal metaplasia during pancreatic tumorigenesis	93.398		1-F32-CA-210387-01		43,284		43,284
The role of the T cell repertoire in immune checkpoint blockade therapy	93.398		1-F31-CA-213915-01		20,633		20,633
TIP60-chromatin interactions at DNA double-strand breaks	93.398		1-F30-CA-196115-01		32,221		32,221
Training Community Nurses and Administrators to Implement Cancer Clinical Trials	93.398	MOUNT SINAI MEDICAL CENTER	0253-6571-4609			4,957	4,957
Training In Tumor Virology	93.398		2-T32-CA-115299-06		261,778		261,778
Trib1 in NF-kappaB Signaling: Insights into MALTI Regulation and Leukemia	93.398		1-F31-CA-189661-01		30,921		30,921
Tumor suppressive functions of the urea cycle in renal cell carcinoma	93.398		1F32CA192758-01		8,101		8,101
Understanding Glutaminase Alternative Splicing in Cancer Metabolism	93.398		1-F32-CA-174148-01A1		7,963		7,963
SubTotal 93.398					4,684,663	4,957	4,689,620
Alliance NCORP Research Base	93.399	DANA-FARBER CANCER INSTITUTE	4540802			42,167	42,167
Genetic Determinants of Barrett's Esophagus and Esophageal Adenocarcinoma	93.399	CASE WESTERN RESERVE UNIVERSITY	RES506508			3,585	3,585
NRG Oncology Capitation Fund	93.399	NRG ONCOLOGY	NRG Oncology Foundation			108,777	108,777
NRG ONCOLOGY NETWORK GROUP OPERATIONS CENTER	93.399	NRG ONCOLOGY	XIAO-YR. 3			7,000	7,000
Randomized Phase II/III Trial of Prophylactic Cranial Irradiation with or without Hippocampal Avoidance (HA) for Small Cell Lung Cancer	93.399	NRG ONCOLOGY	UPenn CC003 - NCORP-02			58,174	58,174
SubTotal 93.399						219,703	219,703
Genome Persistence of KSHV	93.939		4-R01-CA-171979-04		251,956		251,956
SubTotal 93.939					251,956		251,956
Cell-derived materials for Physical Sciences-Oncology Network (PS-ON) Cell Lines-Protomic Analysis	93.RD	LEIDOS, INC.	15X008			27,926	27,926
Clinical Trials Umbrella Scanned Beam	93.RD	MASSACHUSETTS GENERAL HOSPITAL	218209			11,879	11,879
mRNA synthesis and purification for flavivirus vaccine	93.RD	LEIDOS BIOMEDICAL RESEARCH, INC	16X273Q			103,838	103,838
RFP S17-056 Stoeckert Ontology Research Contract	93.RD	LEIDOS BIOMEDICAL RESEARCH, INC	17X056			20,980	20,980
Secure data management system to facilitate prospective follow up of participants in a clinical trial of protons versus photons for Breast Cancer (RADCOMP trial)	93.RD	SOCIAL & SCIENTIFIC SYSTEMS, INC.	PHR-SSS-S-16-004996			8,097	8,097
SubTotal 93.RD						172,720	172,720
NATIONAL CANCER INSTITUTE/NIH/DHHS Total				6,562,827	62,718,962	10,463,085	73,182,047
NATIONAL CENTER FOR ADVANCING TRANSLATIONAL SCIENCES/NIH/DHHS							
A national iPS cell network with deep phenotyping for translational research	93.350	BOSTON UNIVERSITY	4500002228			160,223	160,223
Conference on Clinical Research for Rare Diseases (CCRDR)	93.350		1-R13-TR-001587-01		70,528		70,528
Identification of Shared Molecular Targets	93.350	UNIVERSITY OF SOUTH FLORIDA	6119-1359-11-A			167,276	167,276
Institutional Clinical and Translational Science Award	93.350		1-UL1-TR-001878-01	2,777,438	10,865,218		10,865,218
The Dystonia Coalition Project 1: Natural history and biospecimen repository for Dystonia	93.350	DYSTONIA MED RES FD	SUB TO U54TR001456			8,182	8,182
SubTotal 93.350				2,777,438	10,935,746	335,681	11,271,427
NATIONAL CENTER FOR ADVANCING TRANSLATIONAL SCIENCES/NIH/DHHS Total				2,777,438	10,935,746	335,681	11,271,427
NATIONAL CENTER FOR COMPLEMENTARY AND INTEGRATIVE HEALTH/NIH/DHHS							
Mobile mindfulness to improve psychological distress after critical illness	93.213	DUKE UNIVERSITY	2034786			19,890	19,890
NOVEL SYNTHETIC SDG TO TREAT TRAUMA-INDUCED INFLAMMATION	93.213		1-R21-AT-008291-01A1		99,343		99,343
SubTotal 93.213					99,343	19,890	119,233
NATIONAL CENTER FOR COMPLEMENTARY AND INTEGRATIVE HEALTH/NIH/DHHS Total					99,343	19,890	119,233
NATIONAL CENTER FOR INJURY PREVENTION AND CONTROL/CDC/DHHS							
The Penn Violence and Injury Control Research Center	93.136		1-R49-CE-002474-01		3,789	369,684	369,684
SubTotal 93.136					3,789	369,684	369,684
NATIONAL CENTER FOR INJURY PREVENTION AND CONTROL/CDC/DHHS Total					3,789	369,684	369,684
NATIONAL CENTER FOR RESEARCH RESOURCES/NIH/DHHS							
T90 TRAINING THE GLOBAL READY SCHOLAR (9 OF10) TL1	93.310		1-TL1-CA-133837-01		-26,256		-26,256
SubTotal 93.310					-26,256		-26,256

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Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub- Recipients	Direct	Pass-Through	Expenditure Total
Resources for Education and Action for Community Health in Ambler (REACH Ambler)	93.351		1-R25-OD-010521-01	30,512	35,020		35,020
Resources for Education and Action for Community Health in Ambler (REACH Ambler)	93.351		4-R25-OD-010521-05	60,700	136,591		136,591
SubTotal 93.351				91,212	171,611		171,611
Institutional Clinical and Translational Science Award	93.389		2-UL1-RR-024133-06	466,857	454,086		454,086
Integrative mouse pathobiology: GI epithelial biology and genetics	93.389		1-K26-RR-032714-01		-67,815		-67,815
SubTotal 93.389				466,857	386,271		386,271
NATIONAL CENTER FOR RESEARCH RESOURCES/NIH/DHHS Total				558,069	531,626		531,626
NATIONAL EYE INSTITUTE/NIH/DHHS							
Broad Spectrum Molecular Therapy for Blinding Retina Disorders	93.310		1-DP1-OD-008267-01	87,591	149,791		149,791
SubTotal 93.310				87,591	149,791		149,791
Nanomedicine Center for Nucleoprotein Machines	93.394	RICE UNIVERSITY	R22568			-5,866	-5,866
SubTotal 93.394						-5,866	-5,866
A PILOT STUDY OF LASER PHOTOCOAGULATION FOR DIABETIC MACULAR EDEMA DRCR 1A	93.867	JAEB CENTER FOR HEALTH RESEARCH	EY 14231			47,352	47,352
Analyzing retinal microanatomy in retinopathy of prematurity to improve care	93.867	DUKE UNIVERSITY	2035511			35,648	35,648
Approaches to enhance lysosomal function in RPE cells	93.867		2-R01-EY-013434-12A1		222,892		222,892
Bioinformatics Approaches to Visual Disease Genetics	93.867		7-R01-EY-022300-04		-830		-830
Biophysical Design Strategies for Next-Generation Maquette-based Genetically Encoded Voltage Indicators (GEVIs)	93.867		1-R21-EY-027562-01		173,614		173,614
Clinical trials of gene therapy for Leber congenital amaurosis	93.867		2-U10-EY-017280-06		-4,797		-4,797
Color Constancy	93.867		2-R01-EY-010016-21A1		352,582		352,582
Complications of Immunosuppression for Eye Diseases	93.867		2-R01-EY-014943-07		2,747		2,747
Cortical Structure and Function in Blindness and following Restored Vision	93.867		1-R01-EY-020516-01A1		84,915		84,915
Degradative Processes in RPE-photoreceptor renewal	93.867		2-R01-EY-010420-17A1	53,640	223,402		223,402
Detection and Estimation of Local Properties in Natural Scenes	93.867	UNIVERSITY OF TEXAS AT AUSTIN	UTA17-000180			36,585	36,585
Developing new methods for early detection of Sjogren's syndrome	93.867		1-R01-EY-026972-01		35,227		35,227
Development of a novel antiviral to treat and prevent acyclovir resistance in human ocular herpes keratitis	93.867	FOX CHASE CHEMICAL DIVERSITY CENTER	R41EY026849-UP			41,933	41,933
FERROXIDASES IN RPE IRON TRANSPORT	93.867		2-R01-EY-015240-05A1		-2,158		-2,158
Follow-up Study: Comparison of AMD Treatments Trials (CATT)	93.867		1-U10-EY-023530-01	125,186	378,075		378,075
Genetic Analysis of Axonal Regeneration	93.867		1-R01-EY-024861-01		217,603		217,603
Genetic Epidemiology of Age-Related Macular Degeneration in the Older Order Amish	93.867		1-R01-EY-023164-01	770,247	1,018,671		1,018,671
Genetic Epidemiology of Refractive Error	93.867		1-R01-EY-020483-01		-65,408		-65,408
How vesicles send information to retinal ganglion cells	93.867		2-R01-EY-013333-12A1		207,845		207,845
Human Connectomes for low vision, blindness, and sight restoration	93.867	UNIVERSITY OF SOUTHERN CALIFORNIA	67228549			206,345	206,345
Integrative Data Analysis for Refractive Error	93.867		1-R01-EY-024233-01	147,205	328,197		328,197
Macular Edema Treatment Trials Associated with MUST (META-MUST)	93.867	JOHNS HOPKINS UNIVERSITY	2002565177			42,356	42,356
Mechanism of SIRT1 Activator Mediated Neuroprotection of Retinal Ganglion Cells	93.867		2-R01-EY-019014-06A1		281,226		281,226
Mechanisms of learning a visual discrimination	93.867		2-R01-EY-015260-11		496,197		496,197
Melanopsin and cone signals in human visual processing	93.867		1-R01-EY-024681-01A1		334,923		334,923
Membrane complement regulators in RPE degeneration and retinal injury	93.867		1-R01-EY-023709-01		5,116		5,116
Membrane complement regulators in RPE degeneration and retinal injury	93.867		4-R01-EY-023709-04		549,944		549,944
Models for Therapy of Hereditary Retinal Degeneration	93.867		2-R01-EY-006855-29		676,214		676,214
Multicenter Uveitis Steroid Treatment (MUST) Trial - Chairman's Grant	93.867	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	0255-1775-4609			15,329	15,329
Multicenter Uveitis Steroid Treatment Follow-up Study Extension (FUSE)	93.867	JOHNS HOPKINS UNIVERSITY	2003142816			1,689	1,689
MUST ME CHAIR SECTION	93.867	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	0255-7711-4609			8,345	8,345
NDC for the Optical Control of Biological Function	93.867	UNIVERSITY OF CALIFORNIA, BERKELEY	00007510/PO #2000038320			2,747	2,747
Neural mechanisms for landmark-based navigation	93.867		1-R01-EY-022350-01A1		137,466		137,466
Neural Mechanisms of Landmark-based Navigation	93.867		2-R01-EY-022350-04A1		211,388		211,388
Neuroimaging of dynamic navigational codes	93.867		1-R21-EY-027047-01		52,855		52,855
Novel Adeno-Associated Viral Therapy for Wet Age-Related Macular Degeneration	93.867	REGENX, LLC	SUB TO 1-R34-EY022821-01			42	42
Object Concepts	93.867		1-R01-EY-021717-01		-14,633		-14,633
Ocular Hypertension Treatment Study 20-Year Follow-up: Chair's Grant	93.867	WASHINGTON UNIVERSITY IN ST. LOUIS	WU-16-30			64,071	64,071
Ocular Hypertension Treatment Study 20-Year Follow-Up: Clinical Center Grant	93.867	WASHINGTON UNIVERSITY IN ST. LOUIS	WU-16-125			22,682	22,682
Optimizing Gene Therapies in Large Animal Models of Retinal Degeneration	93.867		1-F32-EY-023891-01A1		44,856		44,856
Oral therapy for diabetic retinopathy using ACE2/Ang1-7 bioencapsulated in plant cells	93.867	UNIVERSITY OF FLORIDA	UFDSP00010918			145,797	145,797
P-30 Core Grant for Vision Research	93.867		2-P30-EY-001583-41		623,207		623,207
Patient Centered Care for Diabetic Macular Edema	93.867		1-K23-EY-025729-01		209,928		209,928
PENN Vision Clinical Scientist Program	93.867		2-K12-EY-015398-11A1		397,351		397,351
PGC-1 coactivators in photoreceptor development and survival	93.867		7-R01-EY-023682-02	51,521	96,609		96,609
Photo switchable channel blockers for treatment of blindness	93.867	UNIVERSITY OF WASHINGTON	762671			305,590	305,590
Plasticity of Human Visual System in Response to Retinal Gene Therapy	93.867		1-R01-EY-025287-01A1			407,085	407,085
Platform Technologies for Microscopic Retinal Imaging	93.867	MEDICAL COLLEGE OF WISCONSIN	sub to U01-EY-025477-01	9,132	407,085		407,085
Platform Technologies for Microscopic Retinal Imaging	93.867	STANFORD UNIVERSITY	Sub to U01EY025477-02			72,301	72,301
Postnatal Growth and Retinopathy of Prematurity (G-RP) Studies	93.867	CHILDREN'S HOSPITAL OF PHILADELPHIA	3209850813 / PO #960522RSUB			61,796	61,796
Primary Open Angle African-American Glaucoma Genetics (POAAGG)	93.867		1-R01-EY-023557-01	85,790	1,913,156		1,913,156
Purines and the Health of Retinal Ganglion Cells	93.867		2-R01-EY-015537-08A1		378,002		378,002
Recycling of metabolites from ingested outer segments supports visual function	93.867		1-R01-EY-026525-01	198,691	481,531		481,531
REGULATION OF LYSOSOMAL PH IN RPE CELLS	93.867		2-R01-EY-013434-11A1		42,820		42,820
Research on normal and abnormal mechanisms of vision	93.867		2-T32-EY-007035-36		223,602		223,602
Retinal circadian rhythms and refractive development	93.867		1-R01-EY-022342-01A1	186,433	306,157		306,157
Retinal Circuitry for Robust Direction Selectivity	93.867	OREGON HEALTH & SCIENCE UNIVERSITY	1001748_UP			35,796	35,796
Retinal circuits for local synaptic processing	93.867		1-R01-EY023766-01A1	153,422	169,507		169,507
Retinal circuits for precise signaling	93.867		2-R01-EY-016607-21A1		12,422		12,422
Retinal iron transport in health and disease	93.867		2-R01-EY-015240-09		8,196		8,196
Retinal iron transport in health and disease	93.867		4-R01-EY-015240-12		720,476		720,476
Role of basal ganglia in reward-biased visual decisions	93.867		4-R01-EY-022411-04		404,162		404,162
Role of basal ganglia in reward-biased visual decisions	93.867		1-R01-EY-022411-01A1		-47		-47
SCORE2 Comparative Trial (SCT)	93.867	PENNSYLVANIA STATE UNIVERSITY	UPA023533			15,982	15,982

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Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub-Receiptients	Direct	Pass-Through	Expenditure Total
Secondary Analysis of the Data from the Telemedicine Approaches to Evaluating Acute-phase ROP (e-ROP)	93.867		1-R21-EY-025686-01	97,951	212,059		212,059
Secondary Data Analysis of the Data from Comparison of AMD Treatments Trials	93.867		1-R21-EY-023689-01		-626		-626
Synaptic organization of simple cell receptive fields	93.867		1-R01-EY-020765-01A1		-22,902		-22,902
Synaptic organization of simple cell receptive fields	93.867		2-R01-EY-020765-05A1		276,273		276,273
Telemedicine Approaches to Evaluating Acute-Phase ROP_eROP	93.867	CHILDREN'S HOSPITAL OF PHILADELPHIA	320886-01-01 / PO #950800RSUB			74,359	74,359
Telemedicine Approaches to Evaluating Acute-Phase ROP_eROP	93.867	CHILDREN'S HOSPITAL OF PHILADELPHIA	320886-01-02 / PO #950802RSUB			6,064	6,064
Thalamocortical mechanisms in primary visual cortex	93.867		1-F32-EY-026463-01		48,453		48,453
The Dry Eye Evaluation And Management (DREAM) Study: Coordinating Center	93.867		1-U10-EY-022879-01	613,120	1,724,338		1,724,338
The neural mechanisms responsible for recognizing and remembering novel objects and scenes	93.867		2-R01-EY-020851-06		367,692		367,692
The Role of Src-Family Tyrosine Kinases and Srcasm in Ocular Surface Epithelial Wound Repair and Neoplasia	93.867		1-K08-EY-025742-01		206,508		206,508
Therapeutic Approaches for ABCA4-Associated Disorders	93.867	COLUMBIA UNIVERSITY	2 (ACCT. #5-30209)			35,244	35,244
Training in Ophthalmic Statistical Genetics and Bioinformatics	93.867		1-T32-EY-021451-01		-107,671		-107,671
Translational Gene Therapy for Rhodopsin Autosomal Dominant Retinitis Pigmentosa	93.867		1-R24-EY-022012-01	223,928	821,483		821,483
Translational Research for Retinal Degeneration Therapies	93.867		2-R01-EY-017549-06	125,346	197,650		197,650
Translational Research for Retinal Degeneration Therapies	93.867		2-R01-EY-017549-10	21,843	663,018		663,018
Vision in Preschoolers - Hyperopia in Children (VIP-HIP)	93.867	OHIO STATE UNIVERSITY	60025489 / PO #RF01249423			39,929	39,929
SubTotal 93.867				2,863,455	16,728,568	1,414,154	18,142,722
Contractor Services - Federal	93.RD	JAEB CENTER FOR HEALTH RESEARCH	N/A			24,437	24,437
SubTotal 93.RD						24,437	24,437
NATIONAL EYE INSTITUTE/NIH/DHHS Total				2,951,046	16,878,359	1,432,725	18,311,084
NATIONAL HEART, LUNG, AND BLOOD INSTITUTE/NIH/DHHS							
Genetic Approaches to Sleep/Wake and Response to Sleep Loss in Mice	93.233		1-R01-HL-111725-01A1	32,018	250,503		250,503
Intermittent Hypoxia: Mechanisms of Hypersomnolence	93.233		2-R01-HL-079588-05		74,978		74,978
Metabolic regulation of wakefulness	93.233		1-R01-HL-123331-01A1	19,924	396,656		396,656
Neural basis for differential vulnerability to sleep deprivation	93.233		1-R01-HL-102119-01A1		-4,946		-4,946
Neurometabolic Assessment of Obstructive Sleep Apnea by MRI	93.233		1-R01-HL-122754-01A1		290,573		290,573
Premotor control of upper airway and REM sleep atonia	93.233		2-R01-HL-047600-20A1		371,286		371,286
Shift Work Sleep Loss: Locus Coeruleus Neuron Senescence and Degeneration	93.233		1-R01-HL-124576-01		534,584		534,584
Upper airway control during disrupted and misaligned sleep	93.233		1-R01-HL-116508-01A1		69,245		69,245
Use of telemedicine to promote sleep medicine education in healthcare training	93.233		1-R25-HL-120874-01	2,746	271,407		271,407
SubTotal 93.233				54,688	2,254,286		2,254,286
Surgery to Prevent Post Infarction Ventricular Remodeling	93.387		2-R01-HL-063954-14A1	31,401	919,164		919,164
SubTotal 93.387				31,401	919,164		919,164
ARRA - Engineering hematopoietic progenitors for efficient migration to the thymus	93.701		1-RC1-HL-099758-01		-65		-65
SubTotal 93.701					-65		-65
Training Program in Cardiovascular Biology and Medicine	93.827		2-T32-HL-007843-16		394,241		394,241
SubTotal 93.827					394,241		394,241
2015 International Molecular and Functional Pulmonary Imaging Workshop	93.837		1-R13-HL-129768-01		18,915		18,915
3D Echocardiography to Improve Clinical Outcomes After Surgery for Ischemic Mitral Regurgitation	93.837		2-R01-HL-103723-05		15,568		15,568
A Novel Approach for the Design Simulation of Valvular Replacement Biomaterials	93.837	UNIVERSITY OF TEXAS AT AUSTIN	UTA12-000569			19,317	19,317
A population-based approach to improve out-of-hospital cardiac arrest survival	93.837	THOMAS JEFFERSON UNIVERSITY	080-31050-S23801			56,087	56,087
A trial to determine the effect of psoriasis treatment on cardiometabolic disease	93.837		4-R01-HL-111293-04	17,845	868,486		868,486
AAV Gene Therapy for Lipid Disorders	93.837		2-P01-HL-059407-16A1	14,179	1,777,148		1,777,148
Advanced diagnostics for donor lung assessment and ex vivo lung perfusion candidate selection	93.837		1-R03-HL-135227-01		53,168		53,168
Affordable oral delivery of human blood protein drugs bioencapsulated in plant cells	93.837		2-R01-HL-107904-05		172,526		172,526
Aldosterone Targeted Neurohormonal Combined with Natriuresis Therapy - HF (ATHENA-HF)	93.837	DUKE UNIVERSITY	SUB TO U10HL084904			438	438
An Intervention to Improve ICD Deactivation Conversations	93.837	MOUNT SINAI MEDICAL CENTER	0255-3111-4609			-959	-959
Analysis of a Novel Homeobox gene in CV Development	93.837		2-R01-HL-071546-10		419,041		419,041
Anastrozole in Pulmonary Arterial Hypertension (AIPH2) - CCC (Lead)	93.837		1-R01-HL-134905-01	7,874	99,154		99,154
Anastrozole in Pulmonary Arterial Hypertension (AIPH2) - DCC	93.837		1-R01-HL-134904-01		74,049		74,049
Ancillary Study of Substrate and Intervention Mechanisms for Malignant Arrhythmia	93.837		7-R01-HL-116280-04	79,615	282,849		282,849
ApoC-III: Structure-Function and Regulation of Triglyceride Metabolism	93.837		1-F30-HL-124967-01		28,103		28,103
apoE, arterial biomechanics, and cardiovascular disease	93.837		1-R01-HL-119346-01A1	159,062	505,319		505,319
Aromatase Inhibitors in Pulmonary Vascular Complications of Liver Disease	93.837		1-K24-HL-103844-01A1		14,002		14,002
Atrial fibrillation burden, vascular disease of the brain and cardiac MRI in MESA	93.837	UNIVERSITY OF WASHINGTON	UWSC8520			45,200	45,200
Benefits of ICU admission for patients with acute respiratory failure or sepsis: A mixed-methods study across 26 hospitals	93.837		1-R01-HL-136719-01		91,696		91,696
Biodegradable polymeric nanoparticle CT contrast agents for vascular imaging	93.837		1-R01-HL-131557-01		355,235		355,235
Blood Systems Biology	93.837		2-R01-HL-103419-06A1	75,036	718,748		718,748
Bone Marrow Transplant Clinical Network	93.837		2-U10-HL-069286-11		242,736		242,736
Brown Adipose Tissue and Cardioprotection	93.837		7-R56-HL-131613-02		9,775		9,775
Cardiac Surgical Techniques to Treat Ventricular and Aortic Remodeling	93.837		2-UM1-HL-088957-06		432,321		432,321
Cardiology and Pulmonary Clinical Research Training Program	93.837		2-T32-HL-007891-16		461,506		461,506
Cardiovascular Inflammation Reduction Trial (CIRT): A randomized, double-blind, placebo-controlled, event-driven of weekly low-dose methotrexate (LDM) in the prevention of recurrent cardiovascular events among stable post-myocardial infarction patients with type 2 diabetes or metabolic syndrome	93.837		CIRT - UNDER U01HL101422 #1			22,157	22,157
Cellular and Molecular Biology of Lipoprotein Metabolism	93.837	BRIGHAM AND WOMEN'S HOSPITAL					
Cerebral Anatomy, Hemodynamics and Metabolism In Single Ventricles: Relationship to Neurodevelopment	93.837	CHILDREN'S HOSPITAL OF PHILADELPHIA	950357RSUB			3,049	3,049
Characterizing HIV-related Diastolic Dysfunction	93.837	CHILDREN'S HOSPITAL OF PHILADELPHIA	3207950619			99,465	99,465
Chronic Hypertension and Pregnancy (CHAP)	93.837	DUKE UNIVERSITY	223700			169,473	169,473
Cognitive Effects of Body Temperature During Hypothermic Circulatory Arrest	93.837	UNIVERSITY OF ALABAMA AT BIRMINGHAM	sub to U01-HL-120338			61,565	61,565
Community VOICES (3): Community VOICES on Informed Consent in Emergency Situation	93.837	DUKE UNIVERSITY	2035542			21,639	21,639
Comparative effectiveness of process and outcomes incentives for lipid management	93.837	MOUNT SINAI MEDICAL CENTER	0255-9033-4609			57,885	57,885
Deep Phenotyping of Human Knockouts and Population Studies of the APOC3 Pathway	93.837		1-R01-HL-118195-01A1	86,678	834,088		834,088
Defining mechanisms that regulate diet-induced wake impairments	93.837		1-R01-HL-133339-01A1		24,280		24,280
Dental Sentinel: Oral Appliance Monitor for Patients with Obstructive Sleep Apnea	93.837		1-F31-HL-128124-01		36,148		36,148
Determinants of Midlife & Longitudinal Change in Cognitive Function: CARDIA Study	93.837	BARRON ASSOCIATES, INCORPORATED	512-SC01			16,218	16,218
	93.837	KAISER PERMANENTE	RNG200103-PENN			2,949	2,949

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Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub- Recipients	Direct	Pass-Through	Expenditure Total
Detyrosinated microtubules in cardiomyocyte mechanics	93.837		1-R01-HL-133080-01		370,389		370,389
Development of a High Performance Clinical Cardiac SPECT/TCT System	93.837		7-R01-HL-108119-05		846,929		846,929
Developmental pathways regulating adult lung quiescence	93.837		1-R01-HL-132349-01		578,251		578,251
Discovery and Validation of Novel Loci Associated with HDL Function	93.837		1-R01-HL-111398-01		-182,464		-182,464
Discovery and Validation of Novel Loci Associated with HDL Function	93.837		4-R01-HL-111398		427,990		427,990
DNA VIRUS AS VECTORS FOR CARDIOVASCULAR DISEASES	93.837		2-P01-HL-059407-11		-120		-120
Early Clonal Evolution in Acquired Aplastic Anemia	93.837		1-K08-HL-132101-01		167,071		167,071
Early Detection of Heart Failure Via the Electronic Health Record in Primary Care	93.837	CALIFORNIA PACIFIC MEDICAL CENTER RESEARCH INSTITUTE	280201001-S163/PO #120418			-4,103	-4,103
Echocardiography to Predict Recurrent IMR After Surgical Mitral Valve Replacement	93.837		1-R01-HL-103723-01A1		-79,765		-79,765
Efficacy of Potassium Nitrate in Heart Failure with Preserved Ejection Fraction	93.837		1-R01-HL-121510-01A1	83,788	636,581		636,581
Enabling Medical Research Growth in Emergency Medicine (EMERGE)	93.837		1-K12-HL-109009-01	100,701	367,166		367,166
Endothelial targeting of antioxidants	93.837		1-R01-HL-126874-01A1		444,732		444,732
Engineered Stem Cell Microenvironments Controlled Vasculogenesis	93.837	JOHNS HOPKINS UNIVERSITY	2001253216			8,709	8,709
Entresto™ (LCZ696) In Advanced Heart Failure (LIFE Study)	93.837	DUKE UNIVERSITY	177494/218214/226028			2,779	2,779
Epigenetic fine-mapping of cardiometabolic disease loci in the human liver	93.837		1-R01-HL-133218-01A1		57,855		57,855
Epigenetic regulation of endothelial phenotype by flow and hypercholesterolemia in vivo and in vitro	93.837		1-K99-HL-127272-01A1		93,405		93,405
Epo Regulated Erythropoiesis	93.837	MAINE MEDICAL CENTER RESEARCH INSTITUTE	WOJCHOWSKI-110945A			77,018	77,018
Exercise and Vascular Function in Chronic Kidney Disease	93.837	UNIVERSITY OF DELAWARE	R01-HL-1135104			-1	-1
Expansion of cardiac and hematopoietic progenitors by Wnt and Notch	93.837		1-U01-HL-100405-01	4,367	308,143		308,143
Fully Automated 4D Echocardiographic Mitral Valve Analysis for Surgical Repair	93.837		1-F32-HL-119010-01		5,239		5,239
Functional Impact of GLP-1 for Heart Failure Treatment (FIGHT)	93.837	DUKE UNIVERSITY	193603			2,822	2,822
G-CSF, a key regulator of neutrophils, promotes alveolar repair	93.837		1-F32-HL-131079-01		33,849		33,849
Genetics, Mechanisms And Clinical Phenotypes Of Arrhythmogenic Cardiomyopathy	93.837	CINCINNATI CHILDREN'S HOSPITAL MEDICAL CENTER	131950			13,203	13,203
Glycomics of Heart and Lung Disease in the Genomic Era	93.837		1-U01-HL-108636-01		-800		-800
HCMR - Novel Predictors of Outcome in Hypertrophic Cardiomyopathy	93.837	UNIVERSITY OF VIRGINIA	SUB TO U01HL117006-01A1			29,674	29,674
HDL metabolism: Influence of extracellular lipases	93.837		4-R37-HL-055323-18		490,403		490,403
Heg-CCM Signaling in Cardiovascular Development and Disease	93.837		2-R01-HL-094326-06		361,405		361,405
HfpEF: more than just the heart - Why the mitochondria and capillaries matter	93.837		1-K23-HL-130551-01		212,904		212,904
High Altitude Adaptation: A Model for Chronic Hypoxia	93.837		1-R21-HL-120751-01	18,379	518,073		518,073
High Dimensional Cytometric Assay for Clinical Assessment of Vascular Health	93.837	CYTOVAS	SUB TO 1R43HL114147			-112	-112
HIPPO signaling in Pulmonary Arterial Hypertension	93.837	UNIVERSITY OF PITTSBURGH	Sub to 1-R01-HL-130261-01			13,102	13,102
Hybrid Coronary Revascularization Trial - CCC	93.837	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	0255-1521-4609			7,791	7,791
ICOMPARE-CCC	93.837		1-U01-HL-125388-01A1	384,695	1,094,367		1,094,367
Implementation of Cardiopulmonary Resuscitation Training for At-Risk Families	93.837		1-R18-HL-107217-01		8,938		8,938
Individual Differences in Obstructive Sleep Apnea	93.837		2-P01-HL-094307-06A1	221,190	1,469,866		1,469,866
Injectable Hydrogels for miR302 Mimic Delivery After Myocardial Infarction	93.837		1-F30-HL-134255-01		43,629		43,629
Integrative analysis of electrophysiology in the healed myocardial infarction scar	93.837	UNIVERSITY OF MASSACHUSETTS	OSP2017185			8,689	8,689
Integrative Genomics Approaches to Model the Genetic Architecture of Asthma	93.837		7-R00-HL-105663-04		145,514		145,514
Integrative genomics of human heart failure	93.837		1-R01-HL-105993-01A1		119,722		119,722
Interrogation of Novel Pathways Regulating VLDL Production and Plasma Lipids	93.837		1-R01-HL-109489-01		-16,428		-16,428
Investigating the role of Hopx in cardiac progenitor proliferation	93.837		4-K08-HL-119553-04		198,933		198,933
Lipidomic Screening For Functional Surfactant Gene Mutations	93.837	WASHINGTON UNIVERSITY IN ST. LOUIS	WU-16-181			99,670	99,670
Localized Targeting of Matrix Proteases Following Myocardial Infarction	93.837	UNIVERSITY OF SOUTH CAROLINA	13-2022 / PO #51636			26,961	26,961
Long Pentraxin-3 genomics and outcomes after lung transplantation	93.837		1-K23-HL-121406-01A1		150,474		150,474
Lung Transplant donor: prediction, evaluation, and mechanism	93.837		1-K23-HL-116656-01		-2,862		-2,862
LVAD Therapy: Exploring the effect of intramyocardial injection of mesenchymal precursor cells on myocardial function	93.837	MOUNT SINAI MEDICAL CENTER	Mt Sinani LVAD			7,823	7,823
Lymphangiogenesis in Pulmonary Lymphangioliomyomatosis (LAM)	93.837		1-R01-HL-131626-01	67,647	595,980		595,980
Management of hypertension in obesity: Antihypertensive class effects, blood pressure control, and renal and cardiac outcomes	93.837		1-K23-HL-133843-01		115,759		115,759
Mentored Patient Oriented Research in Lung Transplantation	93.837		1-K24-HL-115354-01		10,778		10,778
Mentored Patient Oriented Research in Lung Transplantation	93.837		4-K24-HL-115354-05		117,739		117,739
Metabolic control of DNA repair in pulmonary fibrosis	93.837	THOMAS JEFFERSON UNIVERSITY	080-18007-S24201			6,427	6,427
Mid-Atlantic Heart Failure Network	93.837		1-U10-HL-110338-01	134,758	343,555		343,555
Mindfulness-Based Stress Reduction for High Blood Pressure: A Two-SiteRCT	93.837	KENT STATE UNIVERSITY	403013-UPENN	20,886		351,683	351,683
Mitral Saddle Shape Preservation Improves Valvuloplasty	93.837		2-R01-HL-073021-05A2		-69,161		-69,161
Modifying Behavioral Response to Failure among Patients with Cardiovascular Disease Risk Factors	93.837		1-K23-HL-128837-01A1		175,989		175,989
Molecular mechanisms linking the CXCL12 pathway to atherosclerosis	93.837		1-R01-HL-122843-01A1	82,965	700,910		700,910
Molecular mechanisms of CCM signaling	93.837		1-R01-HL-102138-01		-31		-31
Molecular pathways controlling alveolar epithelial remodeling in development and regeneration	93.837		1-R01-HL-132999-01		520,509		520,509
MRI Assessment of Vascular Reactivity	93.837		1-R01-HL-109545-01		244,310		244,310
Multidisciplinary Training in Cardiovascular Biology	93.837		2-T32-HL-007954-16		669,992		669,992
Multi-Institutional Training in Genetic/Genomic Approaches to Sleep Disorders	93.837		1-T32-HL-110952-01A1	445,782	445,858		445,858
Multimarker Risk Prediction in Cancer Therapy Cardiotoxicity	93.837		1-R01-HL-118018-01A1	147,826	891,575		891,575
Multiscale Analysis of Trauma	93.837		1-U01-HL-131053-01A1	50,346	869,289		869,289
Multiscale modeling and empirical study of a mechanism limiting blood clot growth	93.837	UNIVERSITY OF NOTRE DAME	202403			-17,688	-17,688
Multiscale modeling and empirical study of a mechanism limiting blood clot growth	93.837	UNIVERSITY OF CALIFORNIA, RIVERSIDE	S-000856			361,334	361,334
Mutations in Smooth Muscle Contractile Proteins: Pathways to Vascular Diseases	93.837	UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER AT HOUSTON	0009085A			1,240	1,240
Neurological and Cognitive Effects of Hyperoxia After Cardiac Arrest	93.837	COOPER MEDICAL CNTR	311500191PENN			83,550	83,550
Neuroprotection in Patients Undergoing Aortic Valve Replacement	93.837	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	0255-3109-4605			8,078	8,078
Neuroprotection in Patients Undergoing Aortic Valve Replacement Trial	93.837	MOUNT SINAI MEDICAL CENTER	0225-3107-4609			247,132	247,132
NHLBI Progenitor Cell Biology Consortium Administrative Coordinating Center	93.837	UNIVERSITY OF MARYLAND	8382 / PO #SR00002870			20	20
Novel Methods for the Conduct of Clinical Trials	93.837		1-R01-HL-115041-01	100,317	119,523		119,523
Novel Methods for the Conduct of Clinical Trials	93.837		4-R01-HL-115041-04	154,182	285,311		285,311
Nuclear Magnetic Tirho Relaxation in Acute and Chronic Myocardial Infarctions	93.837		4-R00-HL-108157-03		42,747		42,747
Nuclear Mechanics varies with Tissue Mechanics & Regulates Cytoskeleton	93.837		1-R21-HL-128187-01		228,082		228,082
nuMOM2b Heart Health Study Capitation Funding	93.837	RESEARCH TRIANGLE INSTITUTE	nuMoM2b-HHS / U10HL1199930215			72,685	72,685
Outcomes in children undergoing cardiac catheterization	93.837	CHILDREN'S NATIONAL MEDICAL CENTER	30003297-01			10,132	10,132
Pathogenesis of Thrombotic Microangiopathy	93.837	UNIVERSITY OF ALABAMA AT BIRMINGHAM	000510232			164,923	164,923
Permanent alteration of PCSK9 in vivo genome editing	93.837		1-R01-HL-126875-01A1		39,477		39,477
Personalization of Therapeutic Efficacy and Risk	93.837		1-U54-HL-117798-01	1,853,931	3,177,872		3,177,872
PGC-1 Co-activators in muscle angiogenesis & ischemia	93.837		7-R01-HL-094499-06		-27,504		-27,504
PGC-1 Coactivators in Muscle Angiogenesis and Ischemia	93.837		2-R01-HL-094499-06		192,216		192,216

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Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub-Receiptipients	Direct	Pass-Through	Expenditure Total
Phase II Randomized, Placebo-Controlled, Double Blind Clinical Trial Of Valsartan For Attenuating Disease Evolution In Early Sarcomeric HCM (VANISH)	93.837		SUB TO 5-P50-HL-1123349-02			23,403	23,403
Phosphoinositide 3-Kinase Mediates Calcium Sensitization in Human Airway Smooth Muscle	93.837	BRIGHAM AND WOMEN'S HOSPITAL	1-F31-HL-134264-01		39,680		39,680
Precision Medicine for Dilated Cardiomyopathy in European and African Ancestry	93.837	OHIO STATE UNIVERSITY	6008444	334,196		38,037	38,037
Preclinical Cardiac Imaging Package for Clinical SPECT Systems	93.837		1-R01-HL-111883-01A1		533,354		533,354
Prediction and assessment of COPD lung volume reduction outcomes with polarized MRI	93.837		1-R01-HL-129805-01A1		201,352		201,352
Pregnancy as a Window to Future Cardiovascular Health	93.837		1-U10-HL-119993-01		44,377		44,377
Profilin-1 phosphorylation in neovascularization	93.837		4-R00-HL-103792-04		253,317		253,317
Pulmonary Hypertension Breakthrough Initiative	93.837	INDIANA UNIVERSITY	IN4667766PENN			273,789	273,789
Pulmonary Hypertension Breakthrough Initiative	93.837	UNIVERSITY OF COLORADO	sub to R24-HL-123767			-439	-439
Quantitative Force Measurements to Optimize Valve Repair for Ischemic MR	93.837		4-R01-HL-113216-04	170,413	872,714		872,714
Randomized Trial to Prevent Vascular Events in HIV – REPRIEVE (A5332)	93.837	BRIGHAM AND WOMEN'S HOSPITAL	SUB TO 1U01HL23336/A5332/A5333			105,331	105,331
RCT of automated hovering for congestive heart failure management	93.837		1-R01-HL-128465-01	14,275	784,695		784,695
Reducing heart failure re-admissions by enhancing sleep apnea treatment adherence	93.837	RIGHTCARE SOLUTIONS	SUB TO 1R44HL124923			132,548	132,548
Reducing mortality attributable to cardiac and pulmonary complications after traumatic injury: understanding the role of failure-to-rescue	93.837		1-K08-HL-131995-01		127,526		127,526
Regulation of distal lung epithelial regeneration by microRNA-Hippo Pathway	93.837	TEMPLE UNIVERSITY	361262-04710-02			188,220	188,220
Reversal of Direct FXa Inhibitors Using Zymogen-Like Variants of FXa	93.837		1-F30-HL-120487-01		3,820		3,820
Role of CCB1 in lymphatic vascular development and growth	93.837		4-R01-HL-111553-04		311,534		311,534
Role of RAGE and Necroptosis in Transfusion Mediated Lung Inflammation	93.837		1-R01-HL-126788-01A1	33,393	443,080		443,080
Role of RAGE in Bicuspid Aortic Valve Syndrome	93.837		1-R01-HL-122805-01A1		190,347		190,347
Safety & Efficacy of Intramyocardial Injection of Mesenchymal Precursor Cells on Myocardial Function in LVAD Recipients	93.837	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	0255-3106-4605			9,328	9,328
Semaphorin3d and Anomalous Pulmonary Venous Return	93.837		1-R01-HL-118768-01A1		21,947		21,947
Semaphorin3d and Anomalous Pulmonary Venous Return	93.837		4-R01-HL-118768-04		361,205		361,205
Serotonin Signaling in Mitral Valve Homeostasis maintenance and restoration	93.837	CHILDREN'S HOSPITAL OF PHILADELPHIA	3200120320			585,229	585,229
sFlt and Metabolic Mechanisms of Peripartium Cardiomyopathy	93.837		1-R01-HL-126797-01A1		360,978		360,978
Short-Term Research Education Program to Increase Diversity in Health-Related Research	93.837		2-R25-HL-084665-11		154,835		154,835
Sorafenib in Hepatopulmonary Syndrome	93.837		1-UM1-HL-116886-01A1	236,753	998,618		998,618
ST Research Education Program to Increase Diversity in Health Related Research	93.837		2-R25-HL-084665-06		-300		-300
Stem Cells Models of Familial Combined Hypolipidemia	93.837		7-R01-HL-118744-04		587,128		587,128
Stiffness, Cadherins, and Integrins in Mechanochemical Signaling	93.837		1-R01-HL-115553-01A1	27,048	22,429		22,429
Stiffness, Cadherins, and Integrins in Mechanochemical Signaling	93.837		4-R01-HL-115553-04		349,325		349,325
Stop-CA Statins to prevent cardiotoxicity from anthracyclines	93.837	MASSACHUSETTS GENERAL HOSPITAL	SUB TO 1R01HL130539-01A1			90,144	90,144
Strategies for Transcatheter Mitral Valve Replacement	93.837		1-R01-HL-115323-01A1	-38,754	-264,249		-264,249
Strategies for Transcatheter Mitral Valve Replacement	93.837		4-R01-HL-115323-04	38,754	792,476		792,476
Stretch-Dependent X-ROS Signaling: Implications for Cardiomyopathy	93.837		4-R00-HL-114879-03		162,487		162,487
Stroke and its implications across the spectrum of chronic kidney disease	93.837	MINNEAPOLIS MEDICAL RESEARCH FOUNDATION	N/A			1,955	1,955
Structural, Biochemical, and Mechanical Effects of Myosin Cardiomyopathy Mutations	93.837	RUTGERS UNIVERSITY	8254			25,027	25,027
Structure-Function Analysis of Triglyceride Regulators ApoC-III and ApoA-V Using Natural Variants	93.837		1-R01-HL-133502-01		425,990		425,990
Surgery to Prevent Post Infarction Ventricular Remodeling	93.837		2-R01-HL-063954-14A1	13,798	25,693		25,693
Surrogate measures of endothelial dysfunction with integrated MRI	93.837		4-K25-HL-111422-05		85,906		85,906
Targeting Central Pulsatile Hemodynamics in Chronic Kidney Disease	93.837		1-R56-HL-124073-01A1		266,145		266,145
Targeting NF-kB in Atherosclerosis	93.837		2-R56-HL-096642-05		211,607		211,607
The Biology of the ABCA3 Lipid Transporter in Health and Disease	93.837		1-R01-HL-129150-01A1		540,560		540,560
The Contribution of Melanocyte-like Cells to Atrial Function and Development	93.837		1-R01-HL-105734-01A1		2,982		2,982
The effect of RS-prasugrel, R-prasugrel and S-prasugrel on platelet activation and thrombus formation ex vivo and in vivo	93.837	DEUTERX	SUB TO 1R43HL131158			9,220	9,220
The genetic dissection of seamless tube shape control in the Drosophila trachea	93.837		1-F31-HL-132601-01		37,645		37,645
The Microcirculation in Claudication and Exercise Rehabilitation	93.837		2-R01-HL-075649-06A2		-24,037		-24,037
The Molecular and Genetic Pathogenesis of LAM	93.837	BRIGHAM AND WOMEN'S HOSPITAL	115809			22,133	22,133
The Role of ABO Glycosyltransferases in the Acute Respiratory Distress Syndrome	93.837		1-K23-HL-125723-01A1		151,549		151,549
The role of CAP2 in sex-related myocardial function	93.837		1-R01-HL-134923-01		182,047		182,047
The role of CAR-expressing Tregs on antigen-specific immune suppression	93.837		1-F31-HL-134325-01		39,428		39,428
The role of nuclear architecture in cardiac development	93.837		1-R01-HL-131611-01		427,982		427,982
The Role of the Cardiomyocyte HIF pathway and FOG2 in Coronary Microvascular Disease	93.837		1-K08-HL-136890-01		25,597		25,597
Training in Critical Care Health Policy Research	93.837		1-T32-HL-098054-01A1		-70		-70
Training in Critical Care Health Policy Research	93.837		2-T32-HL-098054-096A1		292,541		292,541
Training in Pulmonary Immunology	93.837		2-T32-HL-007586-31		375,088		375,088
Training in Sleep and Sleep Disorders	93.837		2-T32-HL-007953-16		371,228		371,228
Training in Sleep and Sleep Disorders	93.837		2-T32-HL-007953-11A1		85		85
Training Program in Respiratory Neurobiology and Sleep	93.837		2-T32-HL-007713-21		616,300		616,300
Trans-agency research consortium for trauma induced coagulopathy-(TACTIC- UM1)	93.837	OKLAHOMA MEDICAL RESEARCH FOUNDATION	0280-04/UPENN PROJECT 3 & 4			235,908	235,908
Trib1 regulation of hepatic lipid metabolism and atherogenesis	93.837		1-R01-HL-134853-01		266,812		266,812
Twitter and Cardiovascular Health	93.837		1-R01-HL-122457-01A1		747,432		747,432
Understanding the Drivers of Hospital Performance for In-Hospital Cardiac Arrest	93.837		1-K23-HL-109083-01		3,004		3,004
Understanding the sleep apnea/insomnia interaction: a CPAP/sham-CPAP trial	93.837		1-R34-HL-109462-01A1		-1		-1
West Philadelphia Asthma Care Implementation Program	93.837	CHILDREN'S HOSPITAL OF PHILADELPHIA	3210880816			9,605	9,605
Xanthine Oxidase Inhibition for Hyperuricemic Heart Failure Patients: EXACT-HF	93.837	DUKE UNIVERSITY	EXACT-HF 177494 SUB TO U10HL084904			5,114	5,114
	SubTotal 93.837			5,210,839	38,519,213	3,912,576	42,431,789
A Computational Biomechanical Airway Model for Obese Children at Risk for OSAS	93.838	ALBERT EINSTEIN COLLEGE OF MEDICINE, INC	311072			150,183	150,183
A New Approach for the Assessment of Pulmonary Inflammation	93.838		1-R01-HL-124986-01A1	41,551	402,926		402,926
A novel platform to assess gene function in human airway basal cells	93.838	DUKE UNIVERSITY	5-U01-HL-110967-04			180,916	180,916
A Patient Advocate to improve real-world asthma management for inner city adults	93.838		1-R18-HL-116285-01		3,001		3,001
A Patient Advocate to improve real-world asthma management for inner city adults	93.838		4-R18-HL-116285-04		725,968		725,968
Approaches to Genetic Heterogeneity of Obstructive Sleep Apnea	93.838		1-R01-HL-134015-01	66,107	206,611		206,611
Biosynthesis and Trafficking of Surfactant Protein C In Health and Disease	93.838		4-R01-HL-119436-04		379,862		379,862
CEBPD-Mediated Mechanisms of Glucocorticoid Insensitivity in Severe Asthma	93.838		1-R01-HL-133433-01A1		55,478		55,478
Clinical Risk Factors for Primary Graft Dysfunction	93.838		2-R01-HL-087115-06A1	257,472	737,261		737,261
Cor Pulmonale Parvus in Severe COPD	93.838	COLUMBIA UNIVERSITY	Sub to 2-R01-HL-093081-05			14,997	14,997
Data Coordinating Center for the Prematurity and Respiratory Outcomes Program	93.838		1-U01-HL-101794-01	45,726	134,070		134,070
Donor specific extracellular vesicle characterization for monitoring lung transplant rejection	93.838		1-K08-HL-132099-01A1		72,501		72,501
Editing alveolar progenitor cells for correction of monogenic disease	93.838	CINCINNATI CHILDREN'S HOSPITAL MEDICAL CENTER	137990			298,227	298,227
Effect of OSA & Chronic Intermittent Hypoxia on Cerebral Metabolic O2 Consumption	93.838		1-R56-HL-127020-01A1		259,844		259,844

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Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub- Receiptients	Direct	Pass-Through	Expenditure Total
Engineering and visualizing genome folding at high spatiotemporal resolution	93.838		1-U01-HL-129998-01	332,791	866,949		866,949
Epigenetic regulation of lung progenitor repair and regeneration	93.838		1-U01-HL-110942-01	212,918	469,274		469,274
Estrogen signaling in portopulmonary hypertension	93.838		1-R01-HL-113988-01	-239	-1,197		-1,197
Estrogen signaling in portopulmonary hypertension	93.838		4-R01-HL-113988-05	196,794	701,715		701,715
Function of the lncRNA transcriptome in lung development and regeneration	93.838		1-R01-HL-122993-01A1		889,085		889,085
Genetic Investigation of pulmonary lymphatic development and function	93.838		1-R01-HL-120872-01A1	26,652	533,690		533,690
GRADS Clinical Center: Studies in Sarcoidosis and Microbiomics Research	93.838		1-U01-HL-112712-01		-1		-
Human Respiratory Tract Microbiome in Health, HIV Infection and HIV Lung Disease	93.838		1-U01-HL-098957-01		-44		-44
ICAM-1 targeted thrombomodulin: an experimental therapeutic for the Acute Respiratory Distress Syndrome	93.838		1-K08-HL-130430-01A1		100,615		100,615
iCOMPARE—DCC	93.838	JOHNS HOPKINS UNIVERSITY	2002773100			7,666	7,666
Imaging-based characterization of the COPDGene cohort	93.838		1 R01 HL127969-01A1		633,838		633,838
Investigating the function and mechanism of NANC1 activity during lung development	93.838		1-F31-HL-129683-01		26,049		26,049
Lung Transplant donor: prediction, evaluation, and mechanism	93.838		4-K23-HL-116656-04		140,171		140,171
Lung Transplant Microbiome and Chronic Allograft Dysfunction	93.838		1-R01-HL-113252-01A1		67		67
Lung Transplant Microbiome and Chronic Allograft Dysfunction	93.838		4-R01-HL-113252-04		737,616		737,616
Mechanisms of Lung Homeostasis by F box Proteins	93.838	UNIVERSITY OF PITTSBURGH	0038410(124605-1)			19,123	19,123
Mentored Patient-Oriented Research in Pulmonary Arterial Hypertension	93.838		2-K24-HL-103844-06		68,250		68,250
Methods to improve the detection of treatment effects in ARDS clinical trials	93.838		1-F31-HL-127947-01		15,358		15,358
Molecular Imaging of the Lung Using Hyperpolarized Carbon-13 Compounds	93.838		1-R01-HL-116342-01		115,509		115,509
mTOR coordinates cell metabolism, growth and survival in pulmonary hypertension	93.838	UNIVERSITY OF PITTSBURGH	0037735 (I23597-1)			-1,155	-1,155
Novel Molecular Mechanisms Promote GPCR-Induced Bronchodilation in Asthma	93.838		1-P01-HL-114471-01A1	288,769	288,699		288,699
Obesity, Inflammation, and Lung Injury after Lung Transplantation	93.838	COLUMBIA UNIVERSITY	4(GG007576)			210,353	210,353
Probing the physics of chronic lung disease using microphysiological biomimicry	93.838		1-DP2-HL-127720-01		777,484		777,484
QUANTITATIVE STRUCTURAL AND FUNCTIONAL IMAGING OF THE LUNG	93.838		1-R01-HL-089064-01A1		138,916		138,916
Regulation of Airway Morphogenesis and Differentiation by Wnt Signaling	93.838		5-R01-HL-087825-08		403		403
Regulation of Airway Morphogenesis and Differentiation by Wnt Signaling	93.838		4-R01-HL-087825		304,356		304,356
Role of anti-Col (V) immunity in primary graft dysfunction	93.838		1-R01-HL-096845-01A1		8,562		8,562
Role of folliculin (FLCN) in lung cell survival	93.838		1-R01-HL-110551-01A1	-62	65,656		65,656
Role of Peroxiredoxin 6 in the Repair of Peroxidized Cell Membranes	93.838		2-R01-HL-102016-05A1		594,170		594,170
Role of Prdx6 in the activation of NADPH oxidase	93.838		1-R01-HL-105509-01		-23,958		-23,958
Role of RAGE in Transfusion Mediated Acute Lung Injury	93.838		1-K08-HL-098362-01		201		201
Targeted Drug Delivery For Acute Respiratory Distress Syndrome	93.838		1-F32-HL-129665-01		52,089		52,089
Targeted nanomedicine for ALI and IR	93.838		1-R01-HL-125462-01A1		551,625		551,625
Targeting novel biotherapeutics to endothelium	93.838		1-R01-HL-128398-01		581,246		581,246
The Lung DNA Virome in Health and Disease	93.838		1-R61-HL-137063-01		9,876		9,876
The role of lysophosphatidic acid signaling in lung ischemia/reperfusion injury	93.838		1 F32HL127972-01		50,600		50,600
The role of physician experience in outcomes of patients with acute respiratory failure	93.838		1-K08-HL-116771-01A1		891		891
The role of physician experience in outcomes of patients with acute respiratory failure	93.838		4-K08-HL-116771-04		154,226		154,226
THE ROLE OF TSC2 AND RHO GTPASES IN LAM	93.838		1-R01-HL-090829-01A1		-1		-1
Training in Pulmonary Immunology	93.838		2-T32-HL-007586-26		2,515		2,515
TSC signaling and pulmonary LAM	93.838		1-R01-HL-114085-01		51,125		51,125
SubTotal 93.838				1,468,479	11,883,147	880,310	12,763,457
Alpha-Defensins in perioperative thrombosis	93.839		1-R01-HL-123912-01A1		436,479		436,479
Biochemistry of Leukemia Virus Core Binding Factor	93.839		4-R01-HL-091724-23		296,201		296,201
Combined HIF deficiency in inflammation-associated colorectal tumorigenesis	93.839		4-R01-HL-066310-17		347,782		347,782
Comparative Effectiveness of Enoxaparin vs. Dalteparin for Thromboprophylaxis After Trauma	93.839		1-F32-HL-124914-01		1,047		1,047
Drug delivery by carrier erythrocytes	93.839		1-R01-HL-121134-01	42,602	500,069		500,069
Hematology Clinical Research Training Program	93.839		2-T32-HL-007439-36		547,375		547,375
In Vivo RNA-Mediated Gene Editing of Hemophilia A	93.839		1-R01-HL-134839-01		70,620		70,620
Inhibitors of the PHD2 Zinc Finger to Treat Anemia	93.839	FOX CHASE CHEMICAL DIVERSITY CENTER	R43HL137458-UP			12,735	12,735
Lnk Regulatory Functions in Hematopoietic Stem Cells	93.839	CHILDREN'S HOSPITAL OF PHILADELPHIA	3208231218			19,378	19,378
Long non-coding RNA regulation of short-lived myeloid homeostasis	93.839		1-F30-HL-138739-01A1		708		708
Mentored career development in clinical research in non-malignant hematology & transfusion medicine.	93.839		2-K12-HL-087064-06		-350		-350
Mentored career development in clinical research in non-malignant hematology & transfusion medicine.	93.839		4-K12-HL-087064-10	145,625	429,492		429,492
Nanosience of 'Self' - Reductionist Approaches to hCD47 Inhibition of Phagocytes	93.839		1-R01-HL-124106-01		429,344		429,344
Novel strategies for regulatory T cell expansion	93.839		2-R01-HL-111501-06A1		545		545
Oral immune modulatory therapy using antigens bioencapsulated in plant cells	93.839		7-R01-HL-107904-03				
Oral Therapy for Hemophilia A	93.839	UNIVERSITY OF FLORIDA	UF13086/00090658	11,561	76,467		76,467
Pathogenesis and Management of Heparin-Induced Thrombocytopenia	93.839	CHILDREN'S HOSPITAL OF PHILADELPHIA	330183-01-01/PO #960543RSUB			482,610	482,610
Pathogenesis and Management of Heparin-Induced Thrombocytopenia	93.839		330183-02-01/PO #960541RSUB			626,350	626,350
Pathogenesis and Management of Heparin-Induced Thrombocytopenia	93.839		330183-03-01/PO #960544RSUB			17,229	17,229
Platelet granule formation and function in health and disease	93.839	CHILDREN'S HOSPITAL OF PHILADELPHIA	321034			131,176	131,176
Platelet signals and their interface with external environment	93.839		1-P01-HL-120846-01A1			12,881	12,881
Post-Transcriptional controls in Mammalian Erythroid Differentiation	93.839		2-R01-HL-065449-15A1	521,005	2,062,304		2,062,304
Prevention and Management of Perioperative Pulmonary Embolism	93.839		1-R01-HL-116916-01	66,685	647,927		647,927
Prevention and Management of Perioperative Pulmonary Embolism	93.839		4-R01-HL-116916-04	3,457	21,391		21,391
Project 1: Mechano-Dynamics of the Transition to Firm Adhesion and Motility in Neutrophils	93.839	UNIVERSITY OF ROCHESTER	415341-G	37,433	377,524		377,524
Proximal signaling complexes in NK cell effector function and development	93.839		1-R01-HL-107589-01			217	217
Regulating Hematopoietic Stem Cell Homeostasis through GSK-3	93.839		1-R01-HL-110806-01		20,934		20,934
Regulation of Platelet and Endothelial Cell Function	93.839		2-P01-HL-040387-26A1	-918	9,923		9,923
Regulation of short-lived myeloid cells by the novel long non-coding RNA Morbid	93.839		1-R01-HL-136572-01	489,921	2,086,512		2,086,512
Role of PIKFyve in platelet-mediated inflammation and thrombosis	93.839		1-K08-HL-119597-01A1		32,219		32,219
Spatial regulation of platelet activation by Podoplanin-Clec2 signaling	93.839		1-R01-HL-121650-01A1		70,515		70,515
Structural analysis of the HIT immune complex	93.839		1-R01-HL-128895-01	192,653	414,580		414,580
Structural origin of fibrin clot mechanical properties	93.839		2-R56-HL-090774-05A1		439,764		439,764
The role of the T cell receptor in regulatory T cell homeostasis and expansion	93.839		4-R01-HL-111501-05		16,725		16,725
Training grant in hemostasis and thrombosis	93.839		2-T32-HL-007971-11		274,893		274,893
Training grant in hemostasis and thrombosis	93.839		2-T32-HL-007971-16A1		12,530		12,530
Transfusion Medicine Research Training Program	93.839		2-T32-HL-007775-21		494,571		494,571
SubTotal 93.839				1,510,024	10,263,844	1,302,576	11,566,420

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Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub-Recipients	Direct	Pass-Through	Expenditure Total
Interleukin-1 Receptor Antagonist in ARDS	93.847		1-R56-HL-122474-01A1		324,456		324,456
	SubTotal 93.847				324,456		324,456
Rate control versus rhythm control for postoperative atrial fibrillation	93.853	MOUNT SINAI MEDICAL CENTER	SUB TO 5U01HL088942			6,309	6,309
	SubTotal 93.853					6,309	6,309
Remodeling Potential of the Mitral Valve Following Surgical Repair	93.937	UNIVERSITY OF TEXAS AT AUSTIN	UTA13-000980	4,703		670,363	670,363
	SubTotal 93.937			4,703		670,363	670,363
GTRP Preclinical Vector Production Core Laboratory - Renewal	93.RD		HHSN268201200041C		1,233,961		1,233,961
Longitudinal Studies of Coronary Artery Risk Development in Young Adults (CARDIA) - Coordinating Center	93.RD	UNIVERSITY OF ALABAMA AT BIRMINGHAM	000501394-SC007			302,902	302,902
Registry of Genetically Triggered Thoracic Aortic Aneurysms and Cardiovascular Conditions (GenTAC)	93.RD	RESEARCH TRIANGLE INSTITUTE	2-312-0212746			-63,633	-63,633
Systolic Blood Pressure Intervention Trial (SPRINT)	93.RD	CASE WESTERN RESERVE UNIVERSITY	RES508735			28,356	28,356
Systolic Blood Pressure Intervention Trial (SPRINT)	93.RD	WAKE FOREST UNIVERSITY	WFUHS 30158			458,399	458,399
	SubTotal 93.RD				1,233,961	726,024	1,959,985
NATIONAL HEART, LUNG, AND BLOOD INSTITUTE/NIH/DHHS Total				8,280,134	65,792,247	7,498,158	73,290,405
NATIONAL HUMAN GENOME RESEARCH INSTITUTE/NIH/DHHS							
Advanced Techniques for Single Cell Transcriptomics	93.172		1-R25-HG-007515-01		16,480		16,480
Applying Genomic Sequencing in Pediatrics	93.172	CHILDREN'S HOSPITAL OF PHILADELPHIA	960033RUSB			182,646	182,646
Center for Photogenomics	93.172	UNIVERSITY OF WASHINGTON	N/A			362,518	362,518
Computational Tools for Mining Large Amounts of ChIP and Gene Expression Data	93.172	JOHNS HOPKINS UNIVERSITY	SUB to R01HG006282-01A1			20,238	20,238
Enzyme-Less DNA Base Discrimination Using Solid-State Nanopores With High-Frequency Integrated Detection Electronics	93.172	COLUMBIA UNIVERSITY	1 (GG012559)			110,940	110,940
Genomic and functional analysis of active DNA demethylation in mammalian cells	93.172		4-R00-HG-007982-02		295,154		295,154
Genomic Medicine Pilot Demonstration Projects Coordinating Center	93.172		1-U01-HG-007266-01		17,549		17,549
High-bandwidth DNA sequencing using graphene nanoribbon-nanopore devices	93.172		1-R21-HG-007856-01		338,075		338,075
Integrated, Multiplexed High-Frequency Electronic Analysis of DNA in Nanopores	93.172	COLUMBIA UNIVERSITY	1 (GG009283)/PO #G03078			27,831	27,831
Integrative Variation Detection, Annotation and Analysis for High-Throughput Sequence Data	93.172	UNIVERSITY OF SOUTHERN CALIFORNIA	H51483			6,964	6,964
iPS-derived hepatocytes for interrogation of lipid phenotypes	93.172		1-U01-HG-006398-01	44,840	391,865		391,865
Statistical Models and Analysis of Complex Genomic Variation in Clonal Mixtures	93.172		2-R01-HG-006137-04	70,411	227,823		227,823
Statistical Models for Genome Sequencing and Association	93.172	STANFORD UNIVERSITY	60247895-50011-A			-630	-630
The Use of Whole-Exome Sequencing to Guide the Care of Cancer Patients (Project 3)	93.172	DANA-FARBER CANCER INSTITUTE	1198202			11,429	11,429
Training grant in computational biology	93.172		2-T32-HG-000046-16			282,079	282,079
	SubTotal 93.172			115,251	1,569,025	721,936	2,290,961
Genetically Encoded Probes of RNA Localization	93.396	UNIVERSITY OF SOUTHERN CALIFORNIA	57916791			57,907	57,907
	SubTotal 93.396					57,907	57,907
NATIONAL HUMAN GENOME RESEARCH INSTITUTE/NIH/DHHS Total				115,251	1,569,025	779,843	2,348,868
NATIONAL INSTITUTE OF ALLERGY AND INFECTIOUS DISEASES/NIH/DHHS							
Developing a Women-Focused PrEP Intervention for HIV Prevention	93.242		1-R34-MH-108437-01A1	62,972	154,125		154,125
Implementing DRISHTI: Reducing HIV Risk Among High Risk Women with Depression	93.242		1-R21-MH-100935-01		14,457		14,457
Modulation of Inflammasome Activation by Yersinia	93.242		R01AI103062		-569		-569
	SubTotal 93.242			62,972	168,013		168,013
ACTG; AIDS Clinical Trials Group - A5340 Bar Support	93.279	BRIGHAM AND WOMEN'S HOSPITAL	A5340			9,022	9,022
The HIV-1 and HCV Transmission Bottleneck in Chinese Injection Drug Users	93.279		1-R01-DA-037244-01		66,904		66,904
	SubTotal 93.279				66,904	9,022	75,926
Mechanisms of Haemophilus Influenzae Pathogenesis in the Lung	93.355	UNIVERSITY OF MISSISSIPPI MEDICAL CENTER	66103650115-UP			81,147	81,147
	SubTotal 93.355					81,147	81,147
KSHV genome modification in KS tissue	93.394		1-R01-CA-177423-01		123,713		123,713
Point of Care Diagnostics of HPV-Associated Cervical Cancer in HIV Epidemic Areas in China	93.394		1-R01-CA-214072-01		74,144		74,144
	SubTotal 93.394				197,857		197,857
NA-ACCORD	93.395	YALE UNIVERSITY	M17Q12603 (Q01414)			15,999	15,999
	SubTotal 93.395					15,999	15,999
AIDS Clinical Trials Group (ACTG HIV Reservoirs and Viral Eradication TSG, CURE)	93.853	BRIGHAM AND WOMEN'S HOSPITAL	110009			22,877	22,877
	SubTotal 93.853					22,877	22,877
(Core) Synergies among inhibitory receptors in tolerance cancer and antiviral immunity	93.855	UNIVERSITY OF PITTSBURGH	9011702 (126206-1)			326,467	326,467
(Project) Synergies among inhibitory receptors in tolerance cancer and antiviral immunity	93.855	UNIVERSITY OF PITTSBURGH	9011707 (126211-1)			483,426	483,426
20th Annual Woods Hole Immunoparasitology Meeting	93.855		1-R13-AI-124627-01		5,000		5,000
21st Annual Woods Hole Immunoparasitology (WHIP) Meeting	93.855		1-R13-AI-131505-01		791		791
A FAST Assay to Quantify HIV Reservoirs	93.855		1-R01-AI-120011-01		559,748		559,748
A FOXP3 complex that controls human regulatory T cell function	93.855	BENAROYA RESEARCH INSTITUTE	0112701S01	198,081		100,014	100,014
A Novel Virus-Derived Adjuvant	93.855		2-R01-AI-083284-06		435,571		435,571
A Phase 2b/3 Double Blind Safety and Efficacy Study of Injectable Cabotegravir Compared to Daily Oral Tenofovir Disoproxil Fumarate/Emtricitabine (TDF/FTC), For Pre-Exposure Prophylaxis in HIV-Uninfected Cisgender Men and Transgender Women who have Sex with Men	93.855	FHI 360	SUB TO UM1 AI068619			262,058	262,058
A strategy for point-of-care molecular detection of parasitic helminth infections	93.855		1-R21-AI-112713-01		7,620		7,620
Acetate metabolism in human cytomegalovirus infection.	93.855		1-R21-AI-105679-01		14,063		14,063
AIDS Clinical Trial Group (ACTG) - Committee Membership Support	93.855	BRIGHAM AND WOMEN'S HOSPITAL	108085			5,412	5,412
AIDS Clinical Trials Group (ACTG) - Protocol Chair Support	93.855	BRIGHAM AND WOMEN'S HOSPITAL	110236			3,545	3,545
AIDS Clinical Trials Group; Protocol Funds	93.855	BRIGHAM AND WOMEN'S HOSPITAL	sub to UM1AI068636/fund 110215			268,775	268,775
AIDS Clinical Trials Group; Protocol Funds (Cost Reimbursement)	93.855	BRIGHAM AND WOMEN'S HOSPITAL	SUB TO UM1 AI068636/111674			285,219	285,219
Alternative MHCI Processing of Influenza Virus Proteins	93.855	CHILDREN'S HOSPITAL OF PHILADELPHIA	3210970000			54,837	54,837
An ex vivo model to predict outcomes and probe mechanism of anti-reservoir agents	93.855		1-R21-AI-116216-01		84,836		84,836
An International Prospective Observational Study to Assess the Characteristics and Outcomes of Post-transplant Patients Treated for C. Difficile Infections (INSIGHT 007 or CDIFF 007)	93.855	INSTITUTE FOR CLINICAL RESEARCH, INC	M71-PN-110-1606-7 TASK ORDER 7			161	161

University of Pennsylvania  
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Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub- Recipients	Direct	Pass-Through	Expenditure Total
Anti IL-5 and Churg Strauss Syndrome: a double blind, placebo controlled study	93.855	NATIONAL JEWISH HEALTH	1-U01-AI-097073-01A1			25,596	25,596
Antibacterial Resistance Leadership Group or ALRG (Project)	93.855	DUKE UNIVERSITY	203-9727			39,014	39,014
Antiviral immunity in the gut: how the intestinal epithelium and microbiota regulate infection	93.855		1-R01-AI-122749-01		536,962		536,962
Asthma, anxiety and GR abnormalities in non-human primates	93.855	UNIVERSITY OF CALIFORNIA, DAVIS	201503774-01			31,206	31,206
Autoimmune encephalomyelitis and c-Rel	93.855		2-R01-AI-050059-08A1		147		147
Autoimmune encephalomyelitis and c-Rel	93.855		4-R01-AI-050059-12		360,907		360,907
Autoimmune Encephalomyelitis And Regulatory T Cells	93.855		4-R01-AI-099216-04		434,678		434,678
A-WISH - Gradual Withdrawal of Immune System Suppressing Drugs in Patients Receiving a Liver Transplant	93.855	BENAROYA RESEARCH INSTITUTE	1-UM-1AI-109565-01			6,166	6,166
BEAT-HIV- Delaney Collaborative to Cure HIV-1 Infection by Combination Immunotherapy	93.855	WISTAR INSTITUTE	25281-10-324			877,239	877,239
BEAT-HIV- Delaney Collaborative to Cure HIV-1 Infection by Combination Immunotherapy	93.855		25281-18-324			65,256	65,256
BEAT-HIV- Delaney Collaborative to Cure HIV-1 Infection by Combination Immunotherapy	93.855	WISTAR INSTITUTE	25281-17-324			96,261	96,261
Behavioral Acceptability Protocol for MTN 027	93.855	MAGEE-WOMENS RESEARCH INSTITUTE & FOUNDATION	9437			59,658	59,658
Behavioral Acceptability Protocol for MTN 026	93.855	MAGEE-WOMENS RESEARCH INSTITUTE & FOUNDATION	9491			10,281	10,281
BELIEVE: Bench to Bed Enhanced Lymphocyte Infusions to Engineer Viral Eradication	93.855	GEORGE WASHINGTON UNIVERSITY	16-M93			253,396	253,396
Biomedical Computing and Informatics Strategies for Infectious Disease Research	93.855		1-R01-AI-116794-01A1	114,113	560,215		560,215
Carbapenem-Resistant Klebsiella Pneumoniae in Long-Term Acute Care Hospitals	93.855		4-K01-AI-103028-04		124,842		124,842
CD4+ T and B Cell Mechanisms of Influenza Vaccine	93.855	CASE WESTERN RESERVE UNIVERSITY	RES508678			210,141	210,141
CD8+ T cell effector transcriptional programming in SIV infection	93.855		1-R56-AI-106481-01		-3,046		-3,046
Cellular and transcriptional control of exhausted CD8 T cells lineage dynamics	93.855		1-R01-AI-105343-01A1		285,855		285,855
Center for AIDS Research	93.855		2-P30-AI-045008-16	364,708	2,831,880		2,831,880
Center for HIV/AIDS Vaccine Immunology (CHAVI)-ID	93.855	DUKE UNIVERSITY	5-UM1-AI-100645-04			43,165	43,165
Center for HIV/AIDS Vaccine Immunology (CHAVI)-ID	93.855		2035055			574,746	574,746
Center for HIV/AIDS vaccine immunology and immunogen discovery supplement (UM1AI100663)	93.855	SCRIPPS RESEARCH INSTITUTE	SUB TO 5UMAI100663-04			17,486	17,486
Class II Processing and Presentation During Secondary Responses to Influenza	93.855	CHILDREN'S HOSPITAL OF PHILADELPHIA	3210960000/PO#961957-RSUB			21,051	21,051
Class II Processing and Presentation During Secondary Responses to Influenza	93.855		27007-321096000			22,238	22,238
Clinical and Molecular Epidemiology of ESBL bloodstream infections in solid organ transplant recipients	93.855	DUKE CLINICAL RESEARCH INSTITUTE	203-8463			4,744	4,744
Cloning, characterization and in vivo testing of mucosally transmitted SIV	93.855		7-R21-AI-087383-03		555,974		555,974
Collaboratory of AIDS Researchers for Eradication	93.855	UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL	5105566			123,043	123,043
Combined Adult and Pediatric Infectious Disease Postdoctoral Training Grant	93.855		1-T32-AI-118684-01A1		64,481		64,481
Complement dysregulation and atypical hemolytic uremic syndrome	93.855		1-R01-AI-117410-01		427,641		427,641
Complement in inflammatory diseases: mechanisms & therapeutic modulation	93.855		2-P01-AI-068730-06	30,429	1,937,312		1,937,312
Concept Working Group	93.855	HUTCHINSON (FRED) CANCER RESEARCH CENTER	0000851168			34,166	34,166
Consortium for AIDS Vaccine Research in Nonhuman Primates - CORE D: Virology Core	93.855	BETH ISRAEL MEDICAL CENTER	01025093-CORED			1,373	1,373
Consortium on Resistance Against Carbapenems in Klebsiella Pneumoniae and Other Enterobacteriaceae (CRACKLE): A Prospective, Observational Cohort Study ("PROTOCOL")	93.855	DUKE CLINICAL RESEARCH INSTITUTE	SUB TO 4UM1AI104681			1,536	1,536
Control of B Cell Development by YY1	93.855		1-R01-AI-079002-01A2		470		470
Control of B Cell Development by YY1	93.855		2-R01-AI-079002-06		386,517		386,517
Control of coronavirus pathogenesis by antagonism of RNase L	93.855		1-R21-AI-114920-01A1	33,533	131,487		131,487
Control of plasma cell longevity by the IRE1 pathway	93.855		1-R21-AI-115710-01		20,926		121,505
Control of Viral Pathogenesis by Regulation of 2-5A Levels	93.855		1-R01-AI-104887-01		-817		-817
Control of Viral Pathogenesis by Regulation of 2-5A Levels	93.855		4-R01-AI-104887-04	275,592	647,790		647,790
Coronavirus Antagonism of the OAS-RNase L Pathway	93.855		1-F32-AI-114143-01A1		-473		-473
CTOT-11 Novel Therapies to Improve Renal and Cardiac Allograft Outcomes	93.855	BRIGHAM AND WOMEN'S HOSPITAL	PS #105087 / CTOT-11			-1,971	-1,971
Defense-in-depth against mucosal HIV clade C invasion	93.855	TEXAS BIOMEDICAL RESEARCH INSTITUTE	39800			10,226	10,226
Defining human noncanonical inflammasome responses to Legionella pneumophila	93.855		1-R01-AI-123243-01		401,089		401,089
Defining the non-apoptotic role of Caspase-8 activity in anti-bacterial immune defense	93.855		1-R01-AI-128530-01		105,807		105,807
Defining the role of microRNAs in CD8 T cell exhaustion	93.855		1-R21-AI-117718-01		132,576		132,576
Defining the specificity of antibodies in ZIKV-infected humans	93.855	STANFORD UNIVERSITY	61250564-28291			199,897	199,897
Delaney Collaboratory to Cure HIV-1 Infection by Combination Immunotherapy	93.855	WISTAR INSTITUTE	25281-12-324			321,456	321,456
Determination of Exhaled Biomarkers for Low-Cost Diagnosis and Monitoring of TB	93.855		1-R21-AI-105611-01A1		24,048		24,048
Developing of a novel adjuvant for Vaccine Sparring	93.855	NEW YORK BLOOD CENTER	SUB TO 1R01-AI105431-01			121,370	121,370
Development of antiviral agents for treating molluscum contagiosum	93.855	FOX CHASE CHEMICAL DIVERSITY CENTER	R44AI125005-UP-Y1			409,599	409,599
Development of small molecule therapeutics against RNA viruses	93.855	FOX CHASE CHEMICAL DIVERSITY CENTER	1R41AI113952-UPENN			87,425	87,425
Development of Small Molecule Therapeutics Against Smallpox and Other Poxviruses	93.855	FOX CHASE CHEMICAL DIVERSITY CENTER	SUB TO 1R44AI115759-01			202,855	202,855
Discovering host factors impacting ZIKV infection via forward genetic screens	93.855		1-R21-AI-129531-01		39,384		39,384
Discovery of a Novel Immune Response to the S' Leader of HIV-1	93.855		1-F30-AI-112426-01		3,820		3,820
Disrupting Vector-Borne Disease Transmission in Complex Urban Environments	93.855		1-R01-AI-101229-01A1	120,920	136,515		136,515
Disrupting Vector-Borne Disease Transmission in Complex Urban Environments	93.855		4-R01-AI-101229-04	187,926	436,156		436,156
Dissecting the alphavirus entry receptor NRAMP	93.855		1-R01-AI-095500-01A1		85,073		85,073
Dissecting the mechanism of RIPK1 kinase-dependent cell death in control of Yersinia infection	93.855		1-R21-AI-125924-01		224,011		224,011
Diversity of CD4+ Th subsets in TB immunity: Impact of HIV infection	93.855	UNIVERSITY OF CAPE TOWN	Sub to R21-AI-115977	10,992		111,265	111,265
Donor Organ-Specific Exosome Platform for Monitoring Transplant Organ Rejection	93.855		1-R21-AI-111010-01		-2,158		-2,158
Dynamics of TB and MDR TB transmission in areas with high HIV prevalence	93.855		1-R01-AI-097045-01	2,297	125,365		125,365
E. coli niche expansion and adaptation in the dysbiotic intestine	93.855		1-R21-AI-125814-01		89,225		89,225
Effects of aging on the T follicular helper response to influenza vaccine	93.855		1-K08-AI-114852-01		150,928		150,928
Efficacy of Strain 68-1 RhCMV Vectors Expressing SIVmac S' Leader Polypeptides	93.855	OREGON HEALTH & SCIENCE UNIVERSITY	1007881_UPA			118,979	118,979
Elucidating the Chemistry and Biology of Nucleic Acid Cytidine Deaminases in HIV	93.855		7-K08-AI-089242-02		264		264
Engineering a human brain organoid-based platform to study neurotropic viruses	93.855		1-U19-AI-131130-01		23,732		23,732
Engineering protein vesicles for drug delivery applications	93.855		1-F32-GM-119430-01		56,554		56,554
Engineering T cells to Provide Durable Control of HIV-1 Replication	93.855		1-U19-AI-117950-01	105,594	2,145,844		2,145,844
Epigenetic Control of Plasma Cell Differentiation	93.855		1-R21-AI-116317-01		146,101		146,101
Evaluation of Donor Specific Immune Senescence and Exhaustion as Biomarkers of Operational Tolerance Following Liver Transplantation in Adults (ITN056ST)	93.855	BENAROYA RESEARCH INSTITUTE	FY171TN224			166	166
Evolution of Cryptococcus Neoformans Strains from Patients with HIV/AIDS	93.855	DUKE UNIVERSITY	203-1433			3,309	3,309
Expression of X-linked autoimmunity genes in B cells during female-biased autoimmunity	93.855		1-R21-AI-124084-01A1		120,832		120,832
Favored sites for HIV cDNA integration in the human genome	93.855		4-R01-AI-052845-15	44,867	572,813		572,813
Fecal Microbiome Transplant National Registry	93.855	AMERICAN GASTROENTEROLOGICAL ASSOCIATION	2016002			3,825	3,825
Foxo1-Dependent Programme in the Control of Regulatory T Cell Function	93.855	MEMORIAL SLOAN-KETTERING CANCER CENTER	BD516327			15,590	15,590
Foxp transcription factors in regulatory T cell development and homeostasis	93.855		1-R56-AI-108786-01	34,528	41,920		41,920
Fully-Integrated, Non-Instrumented Device for Molecular Diagnostics	93.855		4-K25-AI-099160-05		162,115		162,115
Functional Cure and Virus eradication by early HAART plus vaccination with live attenuated rubella virus vectors in macaque infants and neonates	93.855	TEXAS BIOMEDICAL RESEARCH INSTITUTE	15-4547-001			4,754	4,754
Functions of HSV glycoproteins in virus entry and the humoral immune response	93.855		2-R01-AI-018289-34		546,185		546,185



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Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub- Recipients	Direct	Pass-Through	Expenditure Total
Genetic determinants of systemic host-adapted Salmonella	93.855		1-R21AI-117135-01A1		212,559		212,559
GP340 AND SYNDECAN INHIBITION BASED MICROBICIDE FOR HIV	93.855		1-R21-AI-082701-01	97,990	110,935		110,935
Great Ape Reservoirs of Human Malaria	93.855		2-R01-AI-091595-04A1	47,808	601,866		601,866
Harnessing inflammasome activation to enhance efficacy of Salmonella vaccines	93.855		1-R21-AI-117365-01	7,905	41,364		41,364
Harnessing type 1 IFN-stimulated antiviral mechanisms for HIV vaccine design	93.855		1-R01-AI-111789-01	41,267	233,735		233,735
High-throughput SPR for Screening and Characterizing Vaccines	93.855	WASATCH MICROFLUIDICS	SUB TO 1-R44- AI-127039-01			241,759	241,759
HIV cure studies: risk, risk perception, and ethics	93.855	HARVARD MEDICAL SCHOOL	116543-5079901			73,346	73,346
Host-Oriented Therapeutics Targeting Filovirus Budding	93.855		4-R33-AI-102104-01		287,865		287,865
HSV-2 immune evasion as a virulence factor	93.855		1-R01-AI-104854-01A1		521,674		521,674
Human mast cell-specific Mas-related Gene-X2 (MrgX2) in Anaphylaxis and Asthma	93.855		1-R21-AI-108585-01A1		151,069		151,069
HVTN Protocol Funding	93.855		0000852931			197,738	197,738
HVTN Protocol Funding (PF)	93.855	HUTCHINSON (FRED) CANCER RESEARCH CENTER	0000853385			1,372,081	1,372,081
HVTN Protocol Funding (PF): HVTN 117	93.855	HUTCHINSON (FRED) CANCER RESEARCH CENTER	0000866273			207,899	207,899
Identification of Host Factors Required for HIV and HCV Infection	93.855	UNIVERSITY OF ALABAMA AT BIRMINGHAM	Sub to P30AI027767-28			173,728	173,728
Identifying Rare Subtypes of CD8 T-cells Using Single Cell Reactors	93.855		1-R21-AI-124057-01		115,019		115,019
IL-10 producing neutrophils during respiratory virus infection	93.855		1-R21-AI-109472-01A1		250,362		250,362
IL-27 and Treg cells	93.855		1-R01-AI-110201-01		334,597		334,597
IL-33 Blockade as a Novel Therapeutic for T-cell Mediated Hypercytokinemia Syndromes	93.855	CHILDREN'S HOSPITAL OF PHILADELPHIA	3200280521-FP00019478-sub01-01			210,426	210,426
Immune Activation and Isoniazid Metabolism in HIV TB	93.855		1-R21-AI-104441-01		-18		-18
Immune System Development and Regulation	93.855		2-T32-AI-055428-11A1		160,687		160,687
Immune Tolerance Network	93.855	BENAROYA RESEARCH INSTITUTE	FY16ITN191			11,515	11,515
Immunopathogenesis of Toxoplasmic encephalitis	93.855		2-R01-AI-041158-15		408,713		408,713
Impact of CCR5 Blockade in HIV+ Kidney Transplant Recipients	93.855	UNIVERSITY OF CALIFORNIA, SAN FRANCISCO				78,470	78,470
Impact of early T-bet on CD8 T cell effector responses	93.855		1-R01-AI-125563-01		343,537		343,537
Impact of eliminating nonmedical exemptions from Immunization mandates in California	93.855	EMORY UNIVERSITY	T6836910			47,569	47,569
Impact of prior influenza exposures on antibody repertoires to new viral strains	93.855		7-R01-AI-108686	7,724	222,721		222,721
Infectious Diseases Clinical Epidemiology Training Program	93.855		2-T32-AI-055435-11A1		393,305		393,305
Initial Research Focus (IRF) Area #1 – Viral reservoir in replicating cells; defective to replication competent reservoir	93.855	WISTAR INSTITUTE	25281-07-324			247,806	247,806
Innate Immune Regulation of Intracellular Pathways Involved in Filovirus Budding	93.855		1-R21-AI-103785-01A1		73,145		73,145
Innate immune-mediated control of pulmonary Legionella pneumophila infection	93.855		1-R01-AI-118861-01A1		439,464		439,464
INSULIN-LIKE SIGNALING IN PARASITIC NEMATODE DEVELOPMENT	93.855		2-R01-AI-050668-09A1		74,372		74,372
INSULIN-LIKE SIGNALING IN PARASITIC NEMATODE DEVELOPMENT	93.855		4-R01-AI-050668-12		379,115		379,115
Integrated Multi-scale Adhesive Dynamics Modeling of T-lymphocyte Homing	93.855		4-R01-AI-082292-06	40,629	540,172		540,172
Investigating the role of the nasopharyngeal microbiome in mediating the increased susceptibility of HIV-exposed, uninfected infants to colonization and disease caused by Streptococcus pneumoniae	93.855	DUKE UNIVERSITY	2034655			20,000	20,000
KL4 Surfactant to Mitigate Radiation-Induced Lung Injury	93.855	WINDTREE THERAPEUTICS, INC.	SUB TO 1-R43-AI-102308			-245	-245
Leukocyte Activation and Migration in Autoimmune Encephalomyelitis	93.855		1-R01-AI-121166-01		282,438		282,438
Long noncoding RNAs in innate lymphoid cell biology	93.855		1-F31-AI-124538-01A1		43,558		43,558
Longitudinal analysis of respiratory tract microbiome change and sequence-based infection diagnosis during mechanical ventilation	93.855		1-K23-AI-121485-01A1		148,733		148,733
Long-lived CD19-positive plasma cells	93.855		1-R01-AI-097590-01A1		157		157
Long-lived CD19-positive plasma cells	93.855		4-R01-AI-097590-05		227,241		227,241
Massively Parallel Analysis of Integration in Therapeutic Gene Transfer	93.855		2R01AI082020-05A1	57,972	406,841		406,841
Mechanism for virus persistence after acute infections	93.855		1-R21-AI-127832-01		30,743		30,743
Mechanisms and Immunological Consequences of Host-Virus Interactions	93.855	HARVARD MEDICAL SCHOOL	152384.5077707.0006			168,575	168,575
Mechanisms and Treatment of Chronic, Latent Human Strongyloidiasis	93.855		1-R21-AI-105856-01	338,656	598,781		598,781
Mechanisms of Neuronal Spread of Neurotropic Mouse Hepatitis Virus	93.855		4-K08-AI-098503-05		128,743		128,743
Mechanisms of repeated control of acute hepatitis C infection in humans	93.855	JOHNS HOPKINS UNIVERSITY	2002973536			159,942	159,942
Mechanisms of systemic IgA induction by commensal bacteria	93.855		1F32AI114089-01A1		57,787		57,787
Mechanistic studies of BlyS-mediated modulation in HIV-1 Env-specific antibody responses	93.855		1-R01-AI-118691-01	149,645	557,153		557,153
METABOLIC CONTROL OF TISSUE SPECIFIC MACROPHAGE DIFFERENTIATION	93.855		7-K08-AI-106953-03		170,724		170,724
MHC and KIR immunogenetics in the great apes	93.855	STANFORD UNIVERSITY	61175374-3252			4,734	4,734
Microbial pathogenesis and genomics	93.855		2-T32-AI-060516-06		12,512		12,512
Microbicide Behavioral Research Working Group	93.855	MAGEE-WOMENS RESEARCH INSTITUTE & FOUNDATION	9436			11,403	11,403
Modulation of Inflammasome Activation by Yersinia	93.855		1-R01-AI-103062-01		37,854		37,854
Modulation of Inflammasome Activation by Yersinia	93.855		4-R01-AI-103062-04		375,148		375,148
Molecular and cellular basis of Combined Adjuvant-Elicited Cellular Immunity	93.855	UNIVERSITY OF COLORADO DENVER	FY17.600.001			194,945	194,945
Molecular Basis for Activity by Membrane Bound O-Acyltransferases	93.855		1-R21-AI-119892-01A1	70,553	337,957		337,957
Molecular Epidemiology and Natural History of SIVcpz	93.855		7-R01-AI-058715-09		3,369		3,369
Multiplexed point-of-care molecular detection for multiple infections in co-endemic settings	93.855		1-R21-AI-128059-01A1		832		832
Myeloid-lineage cells and immunopathology in Leishmania braziliensis	93.855		1-U01-AI-088650-01	-2,782	-2,782		-2,782
Natural SIV Reservoirs and Human Zoonotic Risk	93.855		4-R37-AI-050529-12		-1,611		-1,611
Natural SIV Reservoirs and Human Zoonotic Risk	93.855		4-R37-AI-050529-13	121,607	635,941		635,941
Non-CD4 tropic SIV: Enhancing CD4 T-cell help in antiviral immune responses	93.855		1-R01-AI-112456-01	517,486	797,582		797,582
Norovirus-specific T cell responses in human blood and intestinal mucosa	93.855	MASSACHUSETTS GENERAL HOSPITAL	224466			49,963	49,963
Notch Regulation of Hematopoietic Cell Fates	93.855		2-R01-AI-047833-11A1		5,559		5,559
Notch Regulation of Hematopoietic Cell Fates	93.855		4-R01-AI-047833-15	83,491	258,383		258,383
Novel approaches to propagate molluscum contagiosum virus in cell culture	93.855		1-R21-AI-117100-01	10,101	155,416		155,416
Novel SIVsmm Strains for Analysis of Mucosal Transmission and Vaccine Protection	93.855		7-P01-AI-088564-03	23,205	19,846		19,846
Nucleoside modified mRNA based HIV vaccine	93.855		1-R01-AI-124429-01	268,587	723,912		723,912
Optimization HIV Inhibition by Allosteric Integrase Inhibitors	93.855		1-R01-AI-129661-01A1		140,062		140,062
Origins of serum IgA antibodies	93.855		1-R01-AI-113543-01		470,214		470,214
Parasitology: Modern Approaches	93.855		5-T32-AI-007532-17		218,245		218,245
Pathogenesis and therapy of dense deposit disease in a mouse model	93.855		2-R01-AI-085596-05A1		467,751		467,751
Pathogenic determinants of the SIV envelope transmembrane cytoplasmic domain	93.855		2-R01-AI-074362-04	72,505	62,209		62,209
Penile transmission and neutralization of pathogenic SIVsmm	93.855		7-R01-AI-094604-02	209,593	850,806		850,806
PHASE II: KL4 SURFACTANT TO MITIGATE RADIATION INDUCED LUNG INJURY	93.855	WINDTREE THERAPEUTICS, INC.	SUB TO 2-R44-AI-102308-03			369,032	369,032
Philadelphia HIV Therapeutics and Prevention Clinical Trials Unit	93.855		2-UM1-AI-069534-08		1,213,506		1,213,506
Phylogeographic dynamics of a vector and pathogen in a natural environment	93.855		4-R01-AI-097137-05	101,866	157,320		157,320
Physiological roles of schistosome TRP ion channels with atypical pharmacology	93.855		1R01AI123173-01A1		213,702		213,702
Plasma Cell Priming	93.855		1-R21-AI-133998-01		3,847		3,847
Predicting Epitopes in Vaccine and Therapeutic Antibody Research	93.855	WASATCH MICROFLUIDICS	SUB TO R43AI132075			16,662	16,662
Protective and Pathologic Roles for CD8+ T cells in Leishmaniasis	93.855		1-R01-AI-106842-01A1		358,958		358,958

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Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub-Recipients	Direct	Pass-Through	Expenditure Total
Rapid and highly sensitive influenza detection with RNA FISH	93.855		1-F30-AI-114475-01A1		29,971		29,971
Rapid Immune Restoration and Lung Injury in HIV/TB	93.855		1-R01-AI-120821-01	495,310	671,852		671,852
Reconstructing Berlin:Role of co-receptor modified cells in HIV and SIV infection	93.855		1-R01-AI-104400-01		1,468,934		1,468,934
Reducing viral reservoirs by opening HIV-1 Env to antibody attack	93.855	HARVARD UNIVERSITY	1280901			4,264	4,264
Regulation of group 1 ILcBs by a novel lncRNA	93.855		1-R21-AI-128060-01		143,822		143,822
Regulation of protective immunity following enteric viral infection	93.855	CORNELL UNIVERSITY	sub to U01AI095608			19,041	19,041
Regulation of T cell responses to oral antigens	93.855		1-R01-AI-125284-01A1		128,775		128,775
Resident Memory T cells in Leishmaniasis	93.855		1-R01-AI-125265-01		427,753		427,753
RESTARTT - Immunosuppression with Antithymocyte Globulin, Rituximab, Tacrolimus, Mycophenolate Mofetil and Sirolimus, Followed by Immunosuppression Withdrawal in Living-donor Renal Transplant Recipients	93.855	BENAROYA RESEARCH INSTITUTE	1-UM1-AI-109565-01			3,725	3,725
Restriction of HIV-1 Transmission by Type 1 Interferons	93.855		1-R01-AI-114266-01	260,502	641,513		641,513
Reversal of Immune Failure with Viral Antigen Removal in Chronic HCV Infection, Core A	93.855	MASSACHUSETTS GENERAL HOSPITAL	sub to U-19-AI-082630 Core			24,258	24,258
Reversal of Immune Failure with Viral Antigen Removal in Chronic HCV Infection, Project 2	93.855	MASSACHUSETTS GENERAL HOSPITAL	224470			212,269	212,269
Reversal of Immune Failure with Viral Antigen Removal in Chronic HCV Infection, Project 3	93.855	MASSACHUSETTS GENERAL HOSPITAL	224471			157,897	157,897
Risk of Liver Complications with HBV and HIV Viremia During Tenofovir-Based ART	93.855		1-R21-AI-124868-01	14,591	223,369		223,369
Role of a novel human mast cell G protein coupled receptor in Allergy and Inflammation	93.855		1-R01-AI-124182-01A1		248,694		248,694
Role of beta-arrestin-2 on IgE-mediated cofilin dephosphorylation and mast cell activation	93.855		1-R21-AI-115688-01A1		190,912		190,912
Role of Caspase-8 in Yersinia virulence and host defense	93.855		1-R21-AI-109267-01		8,033		8,033
ROS responses during Vibrio cholerae infection	93.855		1-R01-AI-120489-01A1	44,704	373,796		373,796
Separation of GVHD and GVT effects by a TCR signaling mutation	93.855		1-R21-AI-117282-01		219,208		219,208
SHIV/HIV Env-Antibody Coevolution as a Guide to Iterative Vaccine Design	93.855		1-P01-AI-131251-01		85,635		85,635
Signals Affecting Homeostasis and Tolerance in Memory T Cells	93.855		1-R01-AI-085160-01	3,469	3,469		3,469
Single molecule FRET study of viral programmed ribosomal frameshifting	93.855		1-F30-AI114187-01		28,208		28,208
Sofosbuvir and ledipasvir in HIV/HCV coinfectd pre or post liver transplant	93.855	UNIVERSITY OF CALIFORNIA, SAN FRANCISCO	8659sc			42,691	42,691
Splicing and Nuclear Transport of Influenza Virus mRNA	93.855		1-R01-AI-125524-01	311,152	498,503		498,503
Structural analysis of the third component of complement	93.855		2-R01-AI-030040-16	51,724	112,956		112,956
Structural analysis of the third component of complement	93.855		4-R01-AI-030040-19		216,752		216,752
Structure and function of HIV-1 integrase	93.855						
Studies of the precursor of the human AIDS virus in its natural chimpanzee host	93.855	OHIO STATE UNIVERSITY	60050510			24,924	24,924
Super-Enhancer Structure Defines a Signature of Inflammatory Bowel Disease (IBD)	93.855		1-R01-AI-120810-01A1	132,348	730,554		730,554
T cell functionality and control of HIV infection	93.855		1-K22-AI-112570-01		125,365		125,365
T cell functionality and control of HIV infection	93.855		2-R01-AI-076066-06A1		-2,584		-2,584
Targeting 5' leader-encoded defective ribosomal products for HIV T cell vaccines	93.855		4-R01-AI-076066-09		376,877		376,877
Targeting Blys/Baff in Non-Human Primate Islet Transplantation	93.855		1-R01-AI-118549-01A1	187,454	823,270		823,270
Targeting the Persistent HIV-1 Viral Reservoir Using Engineered T cells	93.855		1-U01-AI-102430-01		668,969		668,969
Testing the role of BATF as a pioneer transcription factor in effector T cells	93.855		4-R33-AI-104280-03		445,614		445,614
The effect of human pre-exposure history on antigenic drift of influenza viruses	93.855	DANA-FARBER CANCER INSTITUTE	sub to R01-AI-115712-01			261,606	261,606
The REL gene and human autoimmune diseases	93.855		7-R01-AI-113047-04	40,240	337,084		337,084
The role of autophagy in innate anti-viral immunity in Drosophila	93.855		1-R21-AI-113220-01A1		98,173		98,173
The role of innate cells in the pathogenesis of Leishmania braziliensis infection	93.855		4-R01-AI0-74951-09		400,277		400,277
The Role of Myeloid Lineage Cells in Leishmaniasis	93.855		2-U01-AI-088650-06	153,491	272,447		272,447
The Role of Tox in Regulating T Cell Exhaustion	93.855		1-F32-AI-114080-01		49,557		49,557
Thiol-based switches in Vibrio cholerae pathogenesis	93.855		1-F30-AI-129263-01		30,448		30,448
TISSUE COMPARTMENTALIZATION OF HUMAN LYMPHOCYTES	93.855		1-R21-AI-109316-01A1		63,490		63,490
Towards Eradication: Reducing Proviral HIV DNA with Interferon-kinfin; Immunotherapy	93.855	COLUMBIA UNIVERSITY	#4-GG007579-03			209,691	209,691
Towards Eradication: Reducing Proviral HIV DNA with Interferon-a Immunotherapy	93.855	WISTAR INSTITUTE	24971-06-324			27,942	27,942
Towards eradication: Reducing proviral HIV DNA with interferon-ol immunotherapy	93.855	WISTAR INSTITUTE	24971-04-324			229,677	229,677
TRAF6 and the Fate of CD8 T Cells	93.855	WISTAR INSTITUTE	Sub to 1-U01-AI-110434-01			103,527	103,527
Training in Emerging Infectious Diseases	93.855		4-R01-AI-064909-09		374,479		374,479
Training in HIV Pathogenesis	93.855		2-T32-AI-055400-11		186,917		186,917
Training in HIV Pathogenesis	93.855		2-T32-AI-007632-11		794		794
Training in HIV Pathogenesis	93.855		2-T32-AI-007632-16		414,479		414,479
Training in Virology	93.855		2-T32-AI-007324-21A1		236,367		236,367
Transmitted/Founder HCV clones as targets for treatment and eradication.	93.855		1-R21-AI-106000-01		2,540		2,540
Treatment as Prevention for injection drug users: A pilot study for a network-based randomized prevention trial	93.855	FAMILY HEALTH INTERNATIONAL	FCO 790/ID 0080.0224			21,551	21,551
Trefoil factor proteins regulate inflammation and immunity	93.855		1-U01-AI-125940-01		447,496		447,496
Trefoil Factors Regulate Th2 Immunity	93.855		7-R01-AI-095289-07		68,654		68,654
TRIM2, a novel host factor that restricts New World Arenavirus infection	93.855		1R21-AI-112696-01		-4,852		-4,852
Understanding the role of IL-22 in cutaneous leishmaniasis	93.855		1-F31-AI-114227-01		33,329		33,329
Urinary Infections due to Escherichia Coli with Reduced Quinolone Susceptibility	93.855		1-R21-AI-103497-01A1		133,757		133,757
Utilizing BATF3-dependent DC to generate vaccine-induced cell mediated immunity	93.855		1-R21-AI-126042-01		222,702		222,702
Vibrio Cholerae-Host Interaction at the Intestinal Interface	93.855		1-R01-AI-080654-01A2		-24,342		-24,342
Viral and Immune Dynamics of Rebound Viremia after VRC01 Administration	93.855		1-R21-AI-118431-01		92,936		92,936
Viral control mechanisms of HIV-specific T cells in HIV-infected lymph node	93.855		1-R01-AI-118694-01A1	219,702	559,472		559,472
Viral Modulation of Epigenetic Mechanisms	93.855		1-R01-AI-118891-01	262,048	525,863		525,863
VMD-PhD training in infectious disease-related research	93.855		2-T32-AI-070077-06		163,311		163,311
SubTotal 93.855				5,992,608	45,893,544	11,116,832	57,010,376
The Eukaryotic Pathogen Bioinformatics Resource Center (EuPathDB) (CORE)	93.856		HHSN272201400030C	1,211,348	4,308,739		4,308,739
SubTotal 93.856				1,211,348	4,308,739		4,308,739
SRSC I-Virus Biology Hahn	93.885	DUKE UNIVERSITY	2031969			964,746	964,746
SubTotal 93.885						964,746	964,746
A PHASE 1, SINGLE DOSE STUDY OF THE SAFETY AND VIROLOGIC EFFECT OF A HUMAN MONOCLONAL ANTIBODY, VRC-HIVMAB080-00-AB (VRC01LS), WITH BROAD HIV-1 NEUTRALIZING ACTIVITY, ADMINISTERED INTRAVENOUSLY TO HIV-INFECTED ADULTS	93.RD	EMMES CORPORATION	VRC 607 SUB TO HHSN272201000049I			21,447	21,447
BIOINFORMATICS RESOURCE CENTER FOR INFECTIOUS DISEASES	93.RD		HHSN272200900038C	-1,630	-56,171		-56,171
Evaluation of SDG as Countermeasure to Radiation-Induced Lung Damage	93.RD	LIGNAMED	LGM-2605			1,252,438	1,252,438
Modified mRNA ITS103 macaque monoclonal antibody studies	93.RD	QUALITY BIOLOGICAL, INC	SUB TO HHSN272201100023C			69,517	69,517
ODSH as a Countermeasure for Radition-Induced Thrombocytopenia	93.RD	CHILDREN'S HOSPITAL OF PHILADELPHIA	7300220817			38,284	38,284
Option 14A Prizm 40	93.RD	UNIVERSITY OF ROCHESTER	416939			170,481	170,481
Option 16B Prizm 41	93.RD	UNIVERSITY OF ROCHESTER	416944			167,027	167,027
Protective Immunity in Special Populations	93.RD	WISTAR INSTITUTE	29902-04-307; WHERRY			-2,616	-2,616

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Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub- Recipients	Direct	Pass-Through	Expenditure Total
SubTotal 93.RD				-1,630	-56,171	1,716,578	1,660,407
NATIONAL INSTITUTE OF ALLERGY AND INFECTIOUS DISEASES/NIH/DHHS Total				7,265,298	50,578,886	13,927,201	64,506,087
NATIONAL INSTITUTE OF ARTHRITIS & MUSCULOSKELETAL & SKIN DISEASES/NIH/DHHS							
A Clinical Trial for the Surgical Treatment of Elderly Distal Radius Fractures	93.846	UNIVERSITY OF MICHIGAN	R01AR062066			8,276	8,276
Adaption and Validation of PROMIS for use in Vasculitis	93.846		1-R01-AR-064153-01	80,415	180,573		180,573
African-Americans with Atopic Dermatitis: Skin Barrier and Immune	93.846		1-R01-AR-069062-01	94,357	424,819		424,819
Ahr and Osteoporosis	93.846	MOUNT SINAI MEDICAL CENTER	0255-7261-4609			287,210	287,210
Behavioral & Social Science Research on Understanding and Reducing Health Dispar	93.846		1-R01-AR-059615-01		151,830		151,830
Bone structure and strength recovery and the role of PTHrP post lactation	93.846		1-R03-AR-065145-01A1		27,792		27,792
Bone Water and Mineralization Measured by Nuclear Magnetic Resonance	93.846		2-R01-AR-050068-09A1		35,763		35,763
CCR7 and its ligands in Osteoarthritis	93.846		1-R21-AR-067916-01		125,881		125,881
Cell Adhesion Regulation of Osteoclast Maturation	93.846		1-R01-AR-069546-01		345,016		345,016
Challenging Treatment Paradigms for Achilles Tendon Ruptures in an Animal Model	93.846		1-R01-AR-064216-01A1		82,020		82,020
Challenging Treatment Paradigms for Achilles Tendon Ruptures in an Animal Model	93.846		4-R01-AR-064216-04		376,656		376,656
Clinical Assessment of Hip Fracture Biomechanics using MRI	93.846		1-R01-AR-068382-01	61,373	353,590		353,590
Cloning and genetics of human pemphigus autoantibodies	93.846		2-R01-AR-052672-06		180,622		180,622
Collagen turnover-stimulated gene delivery to enhance chronic wound repair	93.846	UNIVERSITY OF DELAWARE	42811			15,620	15,620
Core Center for Musculoskeletal Disorders	93.846		2-P30-AR-050950-06	1,210	-21,679		-21,679
Defining the tendon lineage to improve tissue engineering strategies	93.846		4-R00-AR-067283-03		86,881		86,881
DERMATOLOGY RESEARCH TRAINING GRANT	93.846		2-T32-AR-007465-31		337,932		337,932
Diabetic Fracture Healing	93.846		1-R01-AR-060055-01A1	6,228	150,464		150,464
Differential Roles of Collagen V in Establishing the Regional Properties in Mature and Aging Supraspinatus Tendons	93.846		1-R01-AR-070750-01		8,608		8,608
Disc Mechanics and Altered Loading in Degeneration	93.846	UNIVERSITY OF DELAWARE	27360			6,690	6,690
Disruption of Osmoregulation Promotes Degenerative Disc Disease	93.846	THOMAS JEFFERSON UNIVERSITY	080-23000-S13301			9,357	9,357
DYNAMIC FIBROUS SCAFFOLDS FOR ENGINEERING DENSE CONNECTIVE TISSUES	93.846		1-R01-AR-056624-01A1		10		10
Dynamic Fibrous Scaffolds for Repairing Dense Connective Tissues	93.846		2-R01-AR-056624-06		494,908		494,908
Effect of Chronic Proton Pump Inhibitor Therapy on Bone Mineral Density and Bone	93.846		1-R01-AR-057102-01A1	105	2,138		2,138
EMRSHN: Exploring the Modulatory Role of Sex Hormones Along the Neuromechanical Axis in Females	93.846	REHABILITATION INSTITUTE OF CHICAGO	SUB TO 1R01AR069176-01A 1			80,163	80,163
Engineering disease-specific T cells for pemphigus therapy	93.846		1-R01-AR-068288-01		396,127		396,127
Epigenomic mechanisms of skin carcinogenesis	93.846		1-K08-AR-070289-01		121,188		121,188
Esrp regulated programs of alternative splicing in skin development and function	93.846		1-R01-AR-066741-01A1	24,559	497,549		497,549
Hair follicle neogenesis in response to wounding	93.846		2-R01-AR-055309-06A1		-27,956		-27,956
Hair follicle neogenesis in response to wounding	93.846		4-R01-AR-055309-09		350,288		350,288
HDAC functions in skin development, renewal and disease	93.846		4-R01-AR-063146-04		261,241		261,241
Identification of Early Psoriatic Arthritis	93.846		4-K23-AR-063764-04		133,395		133,395
In Vivo Monitoring of Strain and Oxygen in TE Constructs Using MEMS-Based Sensors	93.846	GEORGIA INSTITUTE OF TECHNOLOGY	RF880-G2			132,705	132,705
Injury Response in Normal and EDS Tendons: Regulatory Roles of Collagen V	93.846		1-R01-AR-065995-01	135,084	337,243		337,243
Intrinsic and extrinsic regulation of epidermal stem cells	93.846		1-R01-AR-066755-01		307		307
Mechanism of radiotherapy-induced osteoporosis and its treatment	93.846		1-R01-AR-066098-01A1	2,156	319,292		319,292
Mechanisms of Joint Damage Following Tendon Injury	93.846		1-R01-AR-056658-01A2		23,826		23,826
Mechanisms of Vertebral Bone Disease in Mucopolysaccharidosis VII	93.846		1-R03-AR-065142-01A1		46,965		46,965
Mechanosensing in the bone lacunar-canalicular system	93.846	UNIVERSITY OF DELAWARE	39762			14,086	14,086
Migration and function of skin B cells	93.846	THOMAS JEFFERSON UNIVERSITY	080-03000-S23701			2,607	2,607
Molecular Genetics of Progressive Osseous Heteroplasia	93.846		2-R01-AR-046831-09A1		180,430		180,430
Molecular regulation of osteoclast maturation	93.846		1-R01-AR-067726-01		357,176		357,176
Mouse Models for SLRP Roles in Tendon Aging and Impaired Healing in Aging	93.846		1-R01-AR-068057-01A1	161,363	331,416		331,416
MRI of Proximal Femur Microarchitecture as a Biomarker of Bone Quality	93.846	NEW YORK UNIVERSITY	14-A1-00-001693-01			34,003	34,003
Notochordal Cell Derived Therapies for Painful Disc Degeneration	93.846	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	1 R01 AR064157-01A1			3,979	3,979
Osteoarthritis Progression and Sensory Pathway Alterations	93.846	RUSH UNIVERSITY	12052504-PENN			15,000	15,000
Psoriasis and the risk of diabetes	93.846		4-K24-AR-064310-04		165,828		165,828
Racial Disparities in the Treatment of Psoriasis: A Mixed Methods Approach	93.846		1-K23-AR-068433-01		155,687		155,687
Racial Disparity in the Utilization of Joint Replacement for Osteoarthritis	93.846		2-K24-AR-055259-07		65,857		65,857
Regulators of Ischemic Fracture Healing	93.846	MICHIGAN STATE UNIVERSITY	RC105700UPENN			40,160	40,160
Regulators of Ischemic Fracture Healing	93.846	UNIVERSITY OF MICHIGAN	sub to R01AR066028-02			13,648	13,648
Relationships Between Autoimmune IgG1 and IgG4 Repertoires in Pemphigus Vulgaris	93.846		1-F30-AR065870-01		27,541		27,541
Resource-based Center for Musculoskeletal Disorders Research	93.846		1-P30-AR-069619-01		810,759		810,759
Role of Mechanical Loading and Stem Cell Mechanotransduction in Tendon Degeneration	93.846		1-F32-AR-070562-01		53,545		53,545
Role of RGS12, a Regulator of G protein Signaling, in Bone Remodeling	93.846		7-R01-AR-066101-03	20,067	282,745		282,745
Roles of Decorin and Biglycan in Cartilage Nanomechanics and Osteoarthritis	93.846	DREXEL UNIVERSITY	1-R21-AR-066824-01A1			3,271	3,271
R-Spondin-2 modulates Wnt signaling to increase bone mass	93.846		1-F31-AR-065858-01		27,671		27,671
Skin Biology and Diseases Resource-based Center (SBDRC)	93.846		1-P30-AR-069589-01		566,718		566,718
Skin microbiome interactions with complement	93.846		1-R01-AR-066663-01A1		331,946		331,946
Skin-on-a-Chip: A Microfluidic Organ Model to Study the Mechanobiology of Keloid Disease	93.846		1-F32-AR-068838-01A1		62,951		62,951
Stimulation of Tendon Repair by Metabolic Modifiers	93.846	CHILDREN'S HOSPITAL OF PHILADELPHIA	3200340421			10,426	10,426
Stimulation of Tendon Repair by Retinoid Nuclear Receptor Agonists	93.846	CHILDREN'S HOSPITAL OF PHILADELPHIA	3210090615/PO #960855RSUB			126	126
Structure and Function of Human Pemphigus Autoantibodies	93.846		1-R56-AR-064220-01A1		-1,295		-1,295
The Characteristics of Self-recognizing CD4 T Cells in Rheumatoid Arthritis	93.846		7-K08-AR-059760-05		-356		-356
The effect of parathyroid hormone on modeling-based bone formation	93.846		1-K01-AR-066743-01A1		130,222		130,222
The role of collagen organization in determination of fibrotic muscle function and regeneration	93.846		1-K99-AR-067867-01A1		89,876		89,876
Training in Muscle Biology and Muscle Disease	93.846		2-T32-AR-053461-06		-446		-446
Training in Muscle Biology and Muscle Disease	93.846		2-T32-AR-053461-11		222,504		222,504
Training in Musculoskeletal Research	93.846		2-T32-AR-007132-37		165,076		165,076
Training Program Rheumatic Diseases	93.846		4-T32-AR-007442-29		363,130		363,130
Translation of Hip Microarchitectural Assessment Technology to the Clinic to Diagnose Glucocorticoid-Induced Osteoporosis	93.846	NEW YORK UNIVERSITY	16-A0-00-005518-01			52,313	52,313
Treatment of Dermatomyositis with ajulemic acid, a non-psychoactive cannabinoid	93.846		1-R21-AR-066286-01		222,838		222,838
Uncovering the Molecular Basis of Malignant Hyperthermia	93.846	UNIVERSITY OF CALIFORNIA, DAVIS	201223252-02			95,735	95,735
Understanding Appendage Regeneration in Mice	93.846		7-K08-AR-066661-01		175,522		175,522
Vasculitis Clinical Research Consortium	93.846		2-U54-AR-057319-13	639,724	1,183,943		1,183,943
WNT Signals in Skin and Hair Development and Hair Growth	93.846		2-R37-AR-047709-11		-29,742		-29,742
WNT Signals in Skin and Hair Development and Hair Growth	93.846		4-R37-AR-047709-15		359,129		359,129

Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub- Receptients	Direct	Pass-Through	Expenditure Total
	SubTotal 93.846			1,226,641	12,103,960	825,375	12,929,335
NATIONAL INSTITUTE OF ARTHRITIS & MUSCULOSKELETAL & SKIN DISEASES/NIH/DHHS Total				1,226,641	12,103,960	825,375	12,929,335
NATIONAL INSTITUTE OF BIOMEDICAL IMAGING AND BIOENGINEERING/NIH/DHHS							
Imaging genomics bases of pediatric executive functioning	93.113		1-K01-ES-025432-01		-1,267		-1,267
	SubTotal 93.113				-1,267		-1,267
A Resource for Magnetic Resonance and Optical Imaging	93.286		2-P41-EB-015893-31		984,854		984,854
Adaptive Large-Scale Framework for Automatic Biomedical Image Segmentation	93.286		1-R01-EB-017255-01A1		478,986		478,986
An Inducible System for Gene Delivery	93.286		1-R21-EB-018064-01A1		130,403		130,403
Approximating and Reasoning about Data Provenance	93.286		1U01EB020954-01		598,266		598,266
Assessment of Medical Image Quality with Foveated Search Models	93.286	UNIVERSITY OF CALIFORNIA, SANTA BARBARA	KK1614			72,463	72,463
Bioconjugate technique for site-specific attachment of IgG onto nanoparticles	93.286		1-R21-EB-018863-01A1		32,646		32,646
Bridging multiple scales in modeling targeted drug nanocarrier delivery	93.286		1-U01-EB-016027-01A1		574,408		574,408
Carbon Nanopipe-Based Automated Cell Injection System	93.286		1-R21-EB-016343-01A1		97,695		97,695
Cerenkov Specific Contrast Agents	93.286		1-R01-EB-018645-01		304,489		304,489
Comprehensive Assessment of Pulmonary Disorders Using Polarized 13C Technology	93.286		1-R01-EB-010208-01		1,016,383		1,016,383
Continued Development and Maintenance of ITK-SNAP 3D Image Segmentation Software	93.286		1-R01-EB-014346-01	29,774	284,575		284,575
Cross-Scale Interactions Between Mineral and Collagen for Tendon-Bone Attachment	93.286	WASHINGTON UNIVERSITY IN ST. LOUIS	1-U01-EB016422-01A1			12,965	12,965
Dendritic unconvverting nanoparticles for multiphoton imaging and sensing	93.286		1-R01-EB-018464-01A1	98,123	381,486		381,486
Detector Concepts for Time-of-Flight PET	93.286		1-R21-EB-016205-01A1		21,918		21,918
Engineering Developmental Microenvironments: Cartilage Formation and Maturation	93.286		2-R01-EB008722-05A1	5,425	423,997		423,997
Expert System for Personalized Reconstruction of PET Acquisitions	93.286		1-R21-EB-021559-01A1		220,910		220,910
Folate targeted intraoperative cancer imaging to guide pulmonary resections	93.286		1-R03-EB-017828-01A1		34,862		34,862
IEEE Medical Imaging Conference	93.286		1-R13-EB-022391-01		9,701		9,701
In-vivo Assessment of Extracellular-Matrix-Based Micromachined Neuroelectrodes	93.286		1-R21-EB-022209-01		241,367		241,367
Microscopic Imaging of Tissue Oxygen Delivery Altered by Microvascular Changes	93.286	MASSACHUSETTS GENERAL HOSPITAL	226968			77,179	77,179
Multi-scale biomechanics of engineered and native fibrous load-bearing tissue	93.286	UNIVERSITY OF DELAWARE	sub to 2-R01-EB-002425-01A1			288,961	288,961
Multiscale Modeling of Facet Capsule Mechanobiology	93.286	UNIVERSITY OF MINNESOTA	A003160902			205,697	205,697
Optical Barriers to Improve Performance of a Continuous Detector for Clinical PET	93.286		1-R21-EB-017966-01	7,496	76,201		76,201
Pathological consequences of altered tissue mechanics in fibrosis	93.286		1-R01-EB-017753-01A1		340,142		340,142
Pattern Analysis of fMRI via machine learning/sparse models: application to brain development	93.286		1-R01-EB-022573-03		396,220		396,220
Producing Large Quantities of Polarized Xenon with DNP Method	93.286		1-R01-EB-015767-01A1		343,152		343,152
Quantitative Image Modeling for Brain Tumor Analysis and Tracking	93.286	OLD DOMINION UNIVERSITY RESEARCH FOUNDATION	16-249-100594-010			19,999	19,999
RESEARCH TRACK RADIOLOGY RESIDENCY	93.286		2-T32-EB-004311-11		188,955		188,955
Targeted Microcarrier Design and Optimization	93.286		2-R01-EB-006818-05A1		-374		-374
Targeted Microcarrier Design and Optimization	93.286		4-R01-EB-006818-08		393,974		393,974
Theranostic Nanoparticles to Enhance Morpholino Delivery to the Liver for Suppres	93.286		4-R00-EB-012165-03		416		416
Training in Structural, Physiologic and Functional MRI	93.286		1-T32-EB-020087-01A1		123,187		123,187
TRAINING PROGRAM IN BIOMEDICAL IMAGING AND INFORMATIONAL SCIENCES	93.286		2-T32-EB-009384-06		273,838		273,838
TRAINING PROGRAM IN BIOMEDICAL IMAGING AND INFORMATIONAL SCIENCES	93.286		1-T32-EB-009384-01		80		80
Tunable microbubbles for antivasular ultrasound	93.286		1-R01-EB-022612-01		199,632		199,632
Ultra-high resolution BOLD fMRI of medial temporal lobe at 7 Tesla	93.286		1-R03-EB-016923-01A1		16,673		16,673
Uncovering mechanical mechanisms of traumatic axonal injury	93.286		1-R01-EB-021293-01A1		324,563		324,563
	SubTotal 93.286			140,818	8,513,605	677,264	9,190,869
Nuclear pre-mRNA analysis of single cells in brain slice	93.310		1-R33-MH-106637-01		391,880		391,880
Validation and development of single nucleotide variant RNA FISH in single cells in culture and tissue	93.310		1-R33-EB-019767-01		412,022		412,022
	SubTotal 93.310				803,902		803,902
Multi-parametric 4-D Imaging Biomarkers for Neoadjuvant Treatment Response	93.394		1-R01-CA-197000-01A1	47,546	572,023		572,023
	SubTotal 93.394			47,546	572,023		572,023
Protoacoustics - Clinical based range verification for Cancer Treatment	93.395		1-R21-CA-205063-01A1		114,746		114,746
Radiation and Receptor Targeted RadioTheranostic Nanoparticles for Glioblastoma	93.395		1-R01-CA-181429-01A1		633,571		633,571
	SubTotal 93.395				748,317		748,317
Dynamic MRI Image Analysis for Studying Thoracic Insufficiency Syndrome	93.837		1-R21-HL-124462-01A1	142,908	283,832		283,832
	SubTotal 93.837			142,908	283,832		283,832
Controlling neural circuits with single-cell resolution in behaving animals	93.853		1-R01-NS-084835-01		-960		-960
Controlling neural circuits with single-cell resolution in behaving animals	93.853		4-R01-NS-084835-04		323,217		323,217
	SubTotal 93.853				322,257		322,257
NATIONAL INSTITUTE OF BIOMEDICAL IMAGING AND BIOENGINEERING/NIH/DHHS Total				331,272	11,242,669	677,264	11,919,933
NATIONAL INSTITUTE OF CHILD HEALTH AND HUMAN DEVELOPMENT/NIH/DHHS							
A National Training Program in Reproductive Medicine	93.865		2-T32-HD-040135-11	-3,129	65,839		65,839
A new player in placental dysfunction: mir210	93.865		1-R21-HD-076271-01A1		19,221		19,221
A Randomized Trial of Induction versus Expectant Management (ARRIVE)	93.865	GEORGE WASHINGTON UNIVERSITY	SUB U10HD036801 (MFMU40C ARRIVE)			54,844	54,844
A Randomized Trial of Pessary and Progesterone for Preterm Prevention in Twin Gestation with a Short Cervix (PROSPECT)	93.865	GEORGE WASHINGTON UNIVERSITY	SUB TO U10HD036801/MFMU40C PROSPECT			47,714	47,714
A Randomized Trial of Pessary in Singleton Pregnancies with a Short Cervix (TOPS)	93.865	GEORGE WASHINGTON UNIVERSITY	SUB TO U10HD036801			5,304	5,304
A Randomized Trial to Prevent Congenital Cytomegalovirus Infection (CMV)	93.865	GEORGE WASHINGTON UNIVERSITY	SUB TO U10HD036801			7,134	7,134
Adult genome-wide phenotypic analysis of molecularly defined mutant genes	93.865		1-R01-HD-069321-01		24,491		24,491
Adverse Childhood Experiences and Adolescent HIV Risk: Causal Inference from a Longitudinal Study	93.865	STATE UNIVERSITY OF NEW YORK	77545-1138238-2			14,381	14,381
Age and molecular mechanisms contributing to aneuploidy in oocytes	93.865		2-R01-HD-058730-06A1		278,690		278,690
Ambulatory Care Access and Quality	93.865		1-R01-HD-074756-01A1	3,832	3,733		3,733
Ambulatory Care Access and Quality	93.865		4-R01-HD-074756-03		2,598		2,598
Behavioral effects of teen exposure to multiple risk behaviors in Media	93.865		1-R21-HD-079615-01A1	20,148	144,865		144,865
CHOP/UPenn Intellectual and Developmental Disabilities Research Center	93.865	CHILDREN'S HOSPITAL OF PHILADELPHIA	203661015-S1			63,862	63,862
Choroid Plexus-Directed Gene Therapy for Alpha-Mannosidosis	93.865	CHILDREN'S HOSPITAL OF PHILADELPHIA	FP00015905_A1_SUB_01			136,642	136,642
Clinical Center for NICHD/Neonatal Research Network	93.865		2-UG1-HD-068244-06	180,762	224,621		224,621

Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub-Receiptients	Direct	Pass-Through	Expenditure Total
Community/Academic Partnership to Increase Activity in Youth and their Families	93.865		1-R13-HD-085960-01		40,693		40,693
Comparative Effectiveness of Pregnancy Failure Management Regimens (Pre-Fai-R)	93.865		1-R01-HD-071920-01A1	49,628	49,628		49,628
Comparative Effectiveness of Pregnancy Failure Management Regimens (Pre-Fai-R)	93.865		4-R01-HD-071920-04	108,957	398,316		398,316
Contributions of infant learning to language acquisition	93.865		2-R01-HD-049681-06A1	-7,940	-8,655		-8,655
Contributions of infant learning to language acquisition	93.865		4-R01-HD-049681-09	5,144	285,888		285,888
Cooperative Multicenter Reproductive Medicine Network	93.865		2-U10-HD-027049-21		281,765		281,765
Developing a multi-modality, paradigm-shifting approach for in vivo assessment of the human placenta and the impact of maternal nutrition on its development and function	93.865		1-U01-HD-087180-01	73,148	803,169		803,169
Developing and Pilot Testing a Mobile Phone-Based HIV/STI Prevention Intervention	93.865		1-R01-HD-072825-01A1	69,789	280,221		280,221
Development of a serum biosignature for ectopic pregnancy	93.865		1-R01-HD-076279-01A1	476,758	695,400		695,400
Direct, Single Molecule RNA Expression and Mutational Profiling of Individual Microfluidic FISH-SCALYS	93.865	CALIFORNIA INSTITUTE OF TECHNOLOGY	68D-1097566			22,869	22,869
Early Child Development Programs: Effective Interventions for Human Development	93.865		1-R01-HD-065436-01A1	12,261	12,341		12,341
Early Childhood Development for the Poor: Impacting at Scale	93.865	YALE UNIVERSITY	C14AI1661 (A08990)			8,099	8,099
Eliciting Maternal Knowledge about the Technology of Skill Formation	93.865		4-R01-HD-073221-04	568,040	750,455		750,455
Epigenetic landscapes of embryonic lymphoid progenitors and HSCs	93.865		1-R21-HD-081054-01A1		68,758		68,758
Epigenetic regulation of histone eviction in spermatogenesis	93.865		1-F32-HD-086939-01A1		53,430		53,430
Flu2Text: A National, Practice-Based Randomized Controlled Trial of Text Message Reminders for 2nd Dose of Influenza	93.865	COLUMBIA UNIVERSITY	4(GG011848-01)			8,833	8,833
Functional Diffuse Optical Measurements of Psychomotor Function in Neonates with Hypoplastic Left Heart Syndrome (HLHS)	93.865		1-F31HD085731-01A1		38,910		38,910
Functional impact of differential expression and DNA methylation in mouse oocytes and embryos resulting from maternal diet-induced obesity	93.865	WASHINGTON UNIVERSITY IN ST. LOUIS	UWash-St.Louis Sub			169,467	169,467
Functions of MOV10L1 in piRNA biogenesis and germ cell development	93.865		1-R01-HD-069592-01A1		-496		-496
Functions of MOV10L1 in piRNA biogenesis and germ cell development	93.865		4-R01-HD-069592-01A1	42,329	212,836		212,836
Gene expression in the preimplantation mouse embryo	93.865		4-R01-HD-022681-29		19		19
Gene Therapy for Urea Cycle Disorders	93.865		2-P01-HD-057247-05		-288,741		-288,741
Gene Therapy for Urea Cycle Disorders	93.865		4-P01-HD-057247-10	207,667	815,989		815,989
Graduate Training in Demography	93.865		2-T32-HD-007242-31		271,170		271,170
Graduate Training in Developmental Biology	93.865		1-T32-HD-083185-01		360,995		360,995
Growth Recovery, Schooling and Cognitive Achievement: Evidence from Four Cohorts	93.865		7-R01-HD-070993-04	59,467	260,517		260,517
High-Speed Motion-Corrected Pediatric Neuroimaging with MRI	93.865		7-R00-HD-074649-05		122,600		122,600
Home-Based Mirror Therapy for Treating Hemiparesis in Stroke Patients	93.865	MOSS REHABILITATION RESEARCH INSTITUTE	SUB TO R01-HD068565			34,722	34,722
Identifying sources of HIV infection in adolescent girls in rural South Africa	93.865	CAPRISA (CENTER FOR THE AIDS PROGRAMME OF RESEARCH IN SOUTH AFRICA)	SUB TO 1-R01-HD083343			32,380	32,380
Immigration and Fertility in the U.S.	93.865		1-R01-HD-075560-01A1		199,232		199,232
Improving Math Ability via Primitive Number Sense Training	93.865		7-R01-HD-79106-02		553,092		553,092
Improving participation in vector control campaigns through behavioral economics	93.865		1-R01-HD-075869-01A1	305,279	579,518		579,518
Intellectual and Development Disabilities Research Center -Neuroimaging Core	93.865	CHILDREN'S HOSPITAL OF PHILADELPHIA	951220RSUB			-11,200	-11,200
Longitudinal study of adolescents, neighborhoods, and drinking	93.865	PACIFIC INSTITUTE FOR RESEARCH AND EVALUATION	Sub to 1-R01-HD-078415-01A1			33,579	33,579
Longitudinal study of adverse driving outcomes among adolescents with ADHD	93.865	CHILDREN'S HOSPITAL OF PHILADELPHIA	3210580717		15,590		15,590
Male germline development and estrogenic exposures	93.865	WASHINGTON STATE UNIVERSITY	123853-G003469			35,508	35,508
Medical Optimization & Management of Pregnancies with Overt Type 2 Diabetes	93.865	UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL	5106229			3,368	3,368
Mobility, selectivity, and the migrant mortality advantage	93.865		1-R01-HD-079475-01A1	126,657	510,219		510,219
Neonatal and Pediatric Platelet Function and Pharmacology	93.865	COLUMBIA UNIVERSITY	1 (GG011666)			141,475	141,475
Neural Predictors of Risky Driving and Susceptibility to Peer Influences in Adolescence	93.865		1-R21-HD-073549-01A1		16,497		16,497
Neurobehavioral study of graphic warnings on adolescents at risk for nicotine dependence	93.865		1-K99-HD-084746-01		120,775		120,775
NICHD Maternal Fetal Medicine Units Network	93.865		1-U01-HD-087192-01		323,534		323,534
NICHD Neonatal Research Network (NRN) Capitation Funding	93.865	RESEARCH TRIANGLE INSTITUTE	MOU sub to U10HD036790	5,561		454,304	454,304
Optimizing Management of the Second Stage of Labor: Multicenter Randomized Trial	93.865	WASHINGTON UNIVERSITY IN ST. LOUIS	WU-15-54			247,497	247,497
Optimizing Respiratory Function in Delivery Room Resuscitation: The INFLATE Study (INfant Lung Aeration during Transition Events)	93.865		1-K23-HD-084727-01A1		138,218		138,218
Ovarian Reserve After Cancer: Longitudinal Effects (The ORACLE Study)	93.865		1-R01-HD062797-01		6,649		6,649
Pelvic Floor Disorders Network Clinical Sites (U10)	93.865		1-U10-HD-069010-01		-84,764		-84,764
Pelvic Floor Disorders Network Clinical Sites (UG1)	93.865		2-U01-HD-069010-06		267,746		267,746
Penn Center for Study of Epigenetics in Reproduction	93.865		1-U54-HD-068157-01	-3,894	105,846		105,846
PFDN Capitation Funding	93.865	RESEARCH TRIANGLE INSTITUTE	PFDN CAPITATION FUNDING			166,688	166,688
POPULATION RESEARCH CENTER GRANT	93.865		2-R24-HD044964-11		190,529		190,529
POPULATION RESEARCH CENTER GRANT	93.865		4-R24-HD044964-14		461,054		461,054
Prenatal Cytogenetic Diagnosis By Array-Based Copy Number Analyses: Follow-Up	93.865	COLUMBIA UNIVERSITY	3 (GG006961 )/PO #G03619			-88	-88
Preterm Birth in Nulliparous Women: An Understudied Population at Great Risk	93.865		1-U10-HD063048-01		-75		-75
Promoting Recovery Optimization with Walking Exercise After Stroke	93.865	UNIVERSITY OF DELAWARE	44252			55,008	55,008
Reproductive Epidemiology Training Grant	93.865		2-T32-HD-007440-16		2,358		2,358
Reproductive Epidemiology Training Grant	93.865		2-T32-HD-007440-21		345,306		345,306
Reproductive Scientist Development Program (K12) - Scholar[NIH: 1 of 3]	93.865	WASHINGTON UNIVERSITY IN ST. LOUIS	WU-14-90			-142	-142
Respiratory function monitoring during resuscitation of extremely preterm infants: An ancillary study to the SAIL trial	93.865		1-R03-HD-086655-01A1	3,310	73,315		73,315
Sedation Strategy and Cognitive Outcome after Critical Illness in Early Childhood	93.865	SEATTLE CHILDREN'S HOSPITAL RESEARCH INSTITUTE	UNDER R01HD074757			186,397	186,397
Single cell reconstruction of lineages and variability in C. elegans embryos	93.865		1-R21-HD-085201-01		181,241		181,241
SmartToyGym: Smart detection of atypical toy-oriented actions in at-risk infants	93.865		1-R21-HD-084327-01	76,069	271,257		271,257
Spontaneous Code Switching	93.865		1-R21-HD-078072-01A1		177,920		177,920
Sustained Aeration of Infant Lungs (SAIL)	93.865	CHILDREN'S HOSPITAL OF PHILADELPHIA	3210050618 / PO #961074RSUB			572,148	572,148
Systems Analysis of BMP Regulation in Developing Zebrafish Embryos	93.865	PURDUE UNIVERSITY	4102-57125			102,902	102,902
Targeting School Climate and Children's Behavioral Health in Urban Schools	93.865	CHILDREN'S HOSPITAL OF PHILADELPHIA	Activity #3209921217-P			16,207	16,207
Targeting the piRNA pathway and meiotic recombination for male contraception	93.865		1-U01-HD-084007-01		188,281		188,281
TBI: IgG Autoantibodies in Secondary Neuronal Injury	93.865	UNIVERSITY OF PITTSBURGH	0024922 (125803-11)			118,450	118,450
Temporal connectomes for infant brain: neurodevelopment modulated by pathology	93.865		1-R01-HD-089390-01A1	13,383	81,498		81,498
The CFAR Social & Behavioral Science Research Network National Scientific Meeting	93.865		1-R13-HD-074468-01	5,698	39,089		39,089
The CFAR Social & Behavioral Science Research Network National Scientific Meeting	93.865		4-R13-HD-074468-05	2,331	-4,931		-4,931
The Development of On-Line Sentence Processing in Children	93.865		2-R01-HD-037507-15		6,804		6,804
The Development of On-Line Sentence Processing in Children	93.865		4-R01-HD-037507-18		229,934		229,934
The Function of MOV10L1 in piRNA Biogenesis	93.865		1-F31-HD081892-01		12,147		12,147
The Intellectual and Developmental Disabilities Research Center at CHOP/Penn	93.865	CHILDREN'S HOSPITAL OF PHILADELPHIA	321098 (PO#962254 RSUB)			4,821	4,821
The Intellectual and Developmental Disabilities Research Center at CHOP/Penn	93.865		321098 PO #961914RSUB			7,055	7,055
The Penn Center for Career Development in Women's Health Research	93.865		2-K12-HD-001265-16		350,809		350,809
The role of TLR signaling in fetal brain injury from prenatal inflammation	93.865		1-R01HD-076032-01A1		349,821		349,821
The UNC/Emory Center for Innovative Technology (iTech) across the prevention and care continuum	93.865	UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL	5106045			91,915	91,915
Traumatic Bridging Vein Failure in Infants	93.865		1-R21-HD-078842-01A1		51,709		51,709

University of Pennsylvania  
Schedule of Expenditures  
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Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub-Receiptients	Direct	Pass-Through	Expenditure Total
US-France Research Proposal: Modeling and Predicting Brain-Computer Interface Learning from Dynamic Networks	93.865		1-R01-HD-086888-01		94,635		94,635
Vaccination Status of Children Exempted from School-Entry Immunization Mandates	93.865		1-R03-HD-080732-01		-2,006		-2,006
	SubTotal 93.865			2,403,853	12,373,879	2,847,733	15,221,612
Clinical Evaluation of Novel Products for Female Contraception (Main Study)	93.RD		HHSN2752013000201		63,055		63,055
Contraceptive Clinical Trials Network - Female Sites	93.RD		HHSN2752013000201		-29,083		-29,083
NICHD International and Domestic Pediatric and Maternal HIV Studies Coordinating Center	93.RD	CHILDREN'S HOSPITAL OF PHILADELPHIA	8234501114			33,323	33,323
	SubTotal 93.RD				33,972	33,323	67,295
NATIONAL INSTITUTE OF CHILD HEALTH AND HUMAN DEVELOPMENT/NIH/DHHS Total				2,403,853	12,407,851	2,881,056	15,288,907
NATIONAL INSTITUTE OF DENTAL AND CRANIOFACIAL RESEARCH/NIH/DHHS							
A Microfluidic System for POC Molecular Diagnosis of HPV in Oral Fluids	93.121	LUCIGEN	10049846			65,175	65,175
A novel anti-caries approach to modulate virulence of cariogenic biofilms	93.121		2-R01-DE-018023-07A1	46,263	340,157		340,157
A quiescent G0-like cell state as a barrier to eradication oral cancer stem cells	93.121		1-R21-DE-024396-01	-1,642	188,298		188,298
A randomized trial of cognitive vs. behavioral incentives to induce sustained healthy oral hygiene habits and improve oral health	93.121		1-R34-DE-025426-01A1		126,553		126,553
A. actinomycetemcomitans Cdt induces pro-inflammatory innate immune responses	93.121		4-R01-DE-023071-04		474,893		474,893
Adherence to Swallowing Rehabilitation Exercises in Head and Neck Cancer	93.121	UNIVERSITY OF TEXAS	12114647 / 00000065			-4,737	-4,737
Bacteria and Lymphocyte Suppression in Periodontitis	93.121		2-R01-DE-006014-29A1		538		538
Bacteria and Lymphocyte Suppression in Periodontitis	93.121		2-R01-DE-006014-34A1		111,421		111,421
Biofilm Elimination and Caries Prevention using Multifunctional Nanocatalysts	93.121		1-R01-DE-025848-01A1		245,130		245,130
Clinical Registry of Dental Outcomes in Head and Neck Cancer Patients	93.121	CAROLINAS HEALTH CARE SYSTEM	SUB TO 1U01DE022939-01			259,718	259,718
Defining the role and therapeutic implications of altered Notch signaling in oral cancer	93.121		1-F32-DE-026957-01		15,227		15,227
Del-1: Molecular and Cellular Targets in Periodontitis	93.121		1-R01-DE-024716-01		221,442		221,442
Dendritic Cells and Periodontal Disease	93.121		1-R01-DE-021921-01A1		2,344		2,344
Dendritic Cells and Periodontal Disease	93.121		4-R01-DE-021921-05		276,309		276,309
Diabetes-enhanced Experimental Periodontitis	93.121		2-R01-DE-017732-07A1	2,839	357,007		357,007
Epigenetics, dysbiosis and inflammation in epithelial cells	93.121		1-R01-DE-024160-01A1		454,154		454,154
FAS Controls Exosome-Mediated miRNA Transfer in MSC-Based Therapy	93.121		1-K99-DE-025915-01A1		53,028		53,028
Local endogenous regulators of functional immune plasticity in the periodontium	93.121		1-R37-DE-026152-01	71,757	270,327		270,327
Lysosomal maturation during periodontal infections	93.121		4-R01-DE-022465-05		242,430		242,430
Mechanisms for Impaired Diabetic Oral Wound Healing	93.121		7-R01-DE-019108-02		18,767		18,767
Mechanisms for Impaired Diabetic Oral Wound Healing	93.121		2-R01-DE-019108-06A1		169,364		169,364
Molecular and Antibody Detection of Zika Virus in Saliva at the Point of Care	93.121		1-R21-DE-026700-01		96,906		96,906
MOLECULAR BIOLOGY OF VIRULENCE IN PERIODONTAL DISEASE	93.121		2-R01-DE-009517-21A1		352,291		352,291
Neutrophil homeostasis and periodontitis: Novel concepts and treatments	93.121		1-R01-DE-024153-01A1		249,256		249,256
Novel mechanisms and 'complement-ary' therapy in periodontitis	93.121		1-R01-DE-021685-01A1		-44,855		-44,855
Novel mechanisms and 'complement-ary' therapy in periodontitis	93.121		4-R01-DE-021685-05		170,648		170,648
Oral Hygiene, Periodontal Disease and Infective Endocarditis	93.121	CAROLINAS HEALTH CARE SYSTEM	SUB TO 1R01DE023375			96,383	96,383
Oral immunity and adjuvant receptors	93.121		7-R01-DE-017138-08	7,912	13,498		13,498
OSTEOGENIC AND IMMUNOMODULATORY PROPERTIES OF DECIDUOUS TOOTH STEM CELLS	93.121		7-R01-DE-017449-08		467,835		467,835
P. gingivalis as a keystone pathogen	93.121		2-R01-DE-015254-12A1		273,387		273,387
Penn Multidisciplinary Consortium: Personalized Dental, Oral and Craniofacial Tissue Regeneration	93.121		1-R34-DE-025587-01		142,663		142,663
Regulation of embryonic patterning and adult stem cells of oral appendages	93.121		1-R01-DE-024570-01		397,497		397,497
Regulation of skeletal development and homeostasis by IFT protein	93.121		7-R01-DE-023105-04		289,372		289,372
Regulation of Wnt signaling in tooth development and regeneration	93.121		1-R56-DE-023100-01A1		-105		-105
Role of dyskerin in oral epithelial homeostasis	93.121		1-K08-DE-021428-01A1		5,017		5,017
Role of Gtfb on S.mutans-C.albicans interactions and cariogenic biofilm formation	93.121		1-R03-DE-025728-01		81,520		81,520
Roles of Epithelial Splicing Regulatory Proteins in craniofacial development	93.121		1-R01-DE-024749-01	165,605	532,713		532,713
S. mutans-C. albicans interactions synergize the virulence of cariogenic biofilms	93.121		1-R01-DE-025220-01	49,768	425,418		425,418
Targeting mesenchymal-like cells in oral cancer to overcome cetuximab resistance	93.121		1-K08-DE-022842-01		19,354		19,354
Targeting mesenchymal-like cells in oral cancer to overcome cetuximab resistance	93.121		4-K08-DE-022842-05		109,612		109,612
Understanding revascularization and repair of cranial bone grafts via intravital imaging	93.121	UNIVERSITY OF ROCHESTER MEDICAL CENTER	41605-G			13,210	13,210
	SubTotal 93.121			342,502	7,149,416	429,749	7,579,165
Dynamic Network Neuroscience and Control Theory: Toward Interventions for Cognitive Control Dysfunction	93.310		1-DP5-OD-021352-01		412,551		412,551
	SubTotal 93.310				412,551		412,551
NATIONAL INSTITUTE OF DENTAL AND CRANIOFACIAL RESEARCH/NIH/DHHS Total				342,502	7,561,967	429,749	7,991,716
NATIONAL INSTITUTE OF DIABETES AND DIGESTIVE AND KIDNEY DISEASES/NIH/DHHS							
Pragmatic Trials in Maintenance Hemodialysis	93.213		1-UH2-AT-007797-01	332,346	827,325		827,325
	SubTotal 93.213			332,346	827,325		827,325
Infant Growth and Microbiome Study 2	93.837	CHILDREN'S HOSPITAL OF PHILADELPHIA	3200040820			240,416	240,416
	SubTotal 93.837					240,416	240,416
10/16 Action for Health in Diabetes Extension Study Research Project	93.847		2-U01-DK-057135-17		320,586		320,586
A population-based cohort to study outcomes in end-stage liver disease patients	93.847		1-K08-DK-098272-01A1		11,767		11,767
A population-based cohort to study outcomes in end-stage liver disease patients	93.847		4-K08-DK-098272-04		130,947		130,947
A Trial of Expanded Choice Sets in Advance Directives for Hemodialysis Patients	93.847		1-F32-DK-107109-01		31,970		31,970
A vascularized 3D biomimetic for islet function and physiology	93.847		1-UC4-DK-104196-01	276,647	1,134,934		1,134,934
Action for Health in Diabetes Brain Magnetic Resonance Imaging Ancillary Study	93.847	WAKE FOREST UNIVERSITY	WFUHS 10475			64,066	64,066
Acute Adipose Inflammation as a Contributor to Acute Kidney Injury After Trauma	93.847		1-K23-DK-097307-01		74,254		74,254
Age, functional status, and survival benefit from kidney transplantation	93.847		1-R01-DK-090388-01A1	19,045	67,259		67,259
Amylin modulates food reward	93.847		1-R01-DK-105155-01A1	35,376	261,317		261,317
Amylin receptors in the lateral dorsal tegmental area regulate food intake	93.847		1-F31-DK-105858-01A1		44,408		44,408
Amylin-mediated control of energy balance in the mesolimbic reward system	93.847		1-K01-DK-103804-01		17,753		17,753
APOL1 associated kidney disease	93.847		1-R01-DK-105821-01A1		392,199		392,199
ATP5 in the developing pancreas and survival functions in the mature beta cell	93.847		1-F32-DK103454-01		58,836		58,836
Beta Cell Regeneration by an Epigenetic Pathway	93.847		1-R01-DK-097555-01A1		1,282		1,282
Beta Cell Regeneration by an Epigenetic Pathway	93.847		4-R01-DK-097555-04		264,495		264,495
Biochemistry and genetics of iron transport in mitochondria and related processes	93.847		4-R37-DK-053953-16		27,428		27,428

Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub-Receiptients	Direct	Pass-Through	Expenditure Total
Biology of the Orphan Receptor Rev-Erb Alpha	93.847		2-R01-DK-045586-19		82,187		82,187
Biology of the Orphan Receptor Rev-Erb Alpha	93.847		2-R01-DK045586-24		566,793		566,793
Biostatistics for Renal and Urologic Diseases	93.847		2-T32-DK-060455-11A1		85,785		85,785
Blood Pressure in Advanced Chronic Kidney Disease	93.847	UNIVERSITY OF WASHINGTON	UWSC7208			-9	-9
Catalytic Independent Functions of Histone Deacetylase 3 in Metabolism	93.847		1-F32-DK-102284-01		25,306		25,306
CENTER FOR DIGESTIVE AND LIVER DISEASES	93.847		2-P30-DK-050306-16		116,672		116,672
CENTER FOR DIGESTIVE AND LIVER DISEASES	93.847		4-P30-DK-050306-20		1,202,949		1,202,949
Chronic Kidney Disease (CKD) Biomarkers Consortium Data Coordinating Center	93.847		1-U01-DK-103225-01	88,390	337,170		337,170
Clinical epidemiology training in gastroenterology	93.847		2-T32-DK-007740-16		230,587		230,587
Clinical Islet Transplantation: Data Coordinating Center Limited Competition: Continuation of Clinical Islet Transplantation (CTT) Consortium (U01) B-Lymphocyte Immunotherapy in Islet Transplantation	93.847	UNIVERSITY OF IOWA	W000685190			79,537	79,537
Clinical Research Training in Kidney Disease	93.847		2-T32-DK-007785-16		313,759		313,759
Cognitive Decline in Chronic Renal Insufficiency	93.847	NORTHERN CALIFORNIA INSTITUTE FOR RESEARCH AND EDUCATION	YAF1637-02 / 081782			30,773	30,773
Continuation of Clinical Islet Transplantation Consortium: Data Coordinating Center	93.847	UNIVERSITY OF IOWA	PO #1001235745/W000521064			2,718	2,718
Continuation of the Chronic Renal Insufficiency Cohort (CRIC) Study	93.847		2-U01-DK-060990-13	18,767	3,001,378		3,001,378
Control of adipose function through a PRDM16/Type 1 Interferon Axis	93.847		1-R01-DK-107589-01A1		273,025		273,025
Control of Brown Adipose Physiology Via Genomic Recruitment of Histone Deacetylase 3	93.847		1-F30-DK-104513-01		30,250		30,250
Control of Erythropoiesis by the Oxygen Sensor PHD2	93.847		1-R01-DK-104796-01A1		354,149		354,149
Control of intestinal regeneration by an Msi-mTORC1 signaling axis	93.847		1-R01-DK-106309-01A1		448,703		448,703
Cyclin D1/CDK4 Complex in Hepatocyte Proliferation	93.847	UNIVERSITY OF MINNESOTA	N005271001			37,879	37,879
Data Coordinating Center for Hemodialysis Pilot Studies Consortium	93.847		1-U01-DK-099919-01	145,550	1,148,174		1,148,174
Defining the role of Drip27, a novel long noncoding RNA, in erythropoiesis	93.847		1-K08-DK-102533-01A1		155,669		155,669
Determinants of Hemodialysis AV Fistula Maturation	93.847		7-U01-DK-082232-05		74,214		74,214
Determinants of Human Growth Hormone Expression and Pituitary Cell Differentiation	93.847		1-R01-DK-107453-01A1		437,135		437,135
Determining the function of Trim58 in terminal erythropoiesis	93.847		1-F30-DK-102291-01		30,503		30,503
Development and Assessment of Decision Supporting System for Renal Studies	93.847	EMORY UNIVERSITY	T674972			76,057	76,057
Development and Functional Analysis of a human adipose tissue chip	93.847	AUGUSTA UNIVERSITY	30367-2			498,646	498,646
Development of novel means to stimulate Ca2+-dependent exocytotic secretion	93.847		1-R01-DK-109979-01		448,441		448,441
Diabetes, Endocrine and Metabolic Disease	93.847		2-T32-DK-007314-31		2,421		2,421
Diabetes, Endocrine and Metabolic Disease	93.847		2-T32-DK-007314-36		316,228		316,228
Dietary Patterns and the Course of Inflammatory Bowel Disease	93.847		2-K24-DK-078228-06		24,185		24,185
Dietary Patterns and the Course of Inflammatory Bowel Disease	93.847		4-K24-DK-078228-10		109,888		109,888
Do Patient Safety Events Account for Adverse Outcomes in CKD?	93.847	UNIVERSITY OF MARYLAND	SR00002162			4,517	4,517
Does a New Supermarket Improve the Diet and Food Environment of Residents	93.847	UNIVERSITY OF DELAWARE	38843			112,597	112,597
Does a new supermarket improve the diet and food environment of residents?	93.847	FOOD TRUST	Sub to 1-R01-DK-102324-01			-53	-53
Does geographic access to care impact pediatric ESRD outcomes?	93.847	CHILDREN'S HOSPITAL OF PHILADELPHIA	321046			26,480	26,480
Drug-Drug Interactions Involving Antidiabetic Agents	93.847		1-R01-DK-102694-01	7,208	524,538		524,538
Dynamic Hydrogels for Probing Hepatic Stellate Cell Behavior During Fibrosis	93.847		1-F32-DK103463-01		7,848		7,848
Eating Phenotypes for Childhood Obesity in the Context of Familial Obesity Risk	93.847		1-R01-DK-101480-01A1	54,684	443,854		443,854
Enhancing appreciation of the clinical significance of acute kidney injury	93.847	UNIVERSITY OF CALIFORNIA, SAN FRANCISCO	8233sc			1,742	1,742
EP-BETA: Endodermal Progenitor-Derived Beta C	93.847	CHILDREN'S HOSPITAL OF PHILADELPHIA	FP14249 SUB01_01/PO #960610RSUB			-1,312	-1,312
Epidemiology of Diabetes Interventions and Complications (EDIC)	93.847	CASE WESTERN RESERVE UNIVERSITY	RESS07516			168,298	168,298
Epigenetic drivers and biomarkers of diabetic kidney disease	93.847		1-DP3-DK-108220-01		635,208		635,208
Epigenetic Landscape of Chronic Kidney Disease	93.847		2-R01-DK-087635-06	26,332	276,131		276,131
Epigenetic Rejuvenation of Human Beta-Cells	93.847		1-UC4-DK-104119-01	285,991	718,026		718,026
Epigenomic Profiling of Normal and Diabetic Pancreatic Beta-Cells	93.847		1-R01-DK-088383-01		565		565
Epigenomics of the regenerating and aging beta-cell.	93.847		1-U01-DK-089529-01		-253		-253
Evaluation of Entero-Insular (Incretin) Axis in Cystic Fibrosis	93.847	CHILDREN'S HOSPITAL OF PHILADELPHIA	320981 / PO #960506RSUB			194,951	194,951
FGF-23 and Cardiovascular Disease in CKD	93.847	NORTHWESTERN UNIVERSITY	60036902 UP			6,648	6,648
FGF-23 and Cardiovascular in CKD	93.847	DUKE UNIVERSITY	2036139			55,621	55,621
Formation and maturation of endocrine pancreas progenitors	93.847		1-R01-DK-105689-01A1	261,113	832,071		832,071
Fuel Metabolism and Insulin Secretion in KATP-Hyperinsulinism Human Islets	93.847	CHILDREN'S HOSPITAL OF PHILADELPHIA	321019 / PO #960980RSUB			37,022	37,022
Fuel Metabolism and Insulin Secretion in KATP-Hyperinsulinism Human Islets	93.847		321019 / PO #960981RSUB			45,639	45,639
Functional studies of KLF14, a putative master regulator of metabolism	93.847		7-R01-DK-099571-02		592,696		592,696
Gender and hormonal influences on liver fibrosis after transplant for hepatitis C	93.847		4-K23-DK-090209-05		159,779		159,779
Gender Disparities and Vascular Function in Chronic Kidney Disease Outcomes	93.847	UNIVERSITY OF ILLINOIS	SUB TO 1-K23-DK-094829-01A1			12,480	12,480
Gender disparities in liver transplant: Examining organ acceptance patterns	93.847		1-F32-DK-108527-01		77,663		77,663
Gene Therapy for Mucopolysaccharidosis	93.847		2-R01-DK054481-18A1	33,909	547,470		547,470
Genetic and environmental regulation of liver fat metabolism	93.847		1-F32-DK-108555-01		46,191		46,191
Genetic basis of liver repopulation	93.847		1-K08-DK-106478-01		155,151		155,151
Glucokinase Regulation of Hepatic Metabolism	93.847		1-K01-DK-111715-01		96,064		96,064
Glucose Counterregulation in Long Standing Type 1 Diabetes	93.847		1-R01-DK-091331-01		-16,022		-16,022
Glucose Counterregulation in Long Standing Type 1 Diabetes	93.847		2-R01-DK-091331-06		346,252		346,252
HDAC2 Inhibition Mitigates Renal Ischemia Reperfusion Injury	93.847		1-R01-DK-106243-01A1		115,172		115,172
Health Disparities in Chronic Kidney Disease	93.847	UNIVERSITY OF ILLINOIS	2011-06727-01-00			1,707	1,707
Health Literacy in Hispanics with Chronic Kidney Disease	93.847	UNIVERSITY OF ILLINOIS	2012-00004-01-00			4,428	4,428
Hearing Impairment in Long-Term Type 1 Diabetes	93.847	CASE WESTERN RESERVE UNIVERSITY	RESS08603			-1,993	-1,993
Heart Failure and Atrial Arrhythmias in CKD	93.847	UNIVERSITY OF WASHINGTON	UWSC8765			109,747	109,747
HEMATOPOIESIS TRAINING GRANT	93.847		2-T32-DK-007780-16		262,720		262,720
HEMATOPOIESIS TRAINING GRANT	93.847		2-T32-DK-007780-11		9,673		9,673
Hispanic Chronic Renal Insufficiency Cohort (CRIC) Study	93.847	UNIVERSITY OF ILLINOIS	489983 E3922			56,278	56,278
Histone/Protein Deacetylase Inhibitors Minimize Renal Ischemia-Reperfusion Injury	93.847		1-K08-DK-092282-01		-961		-961
Human Hematopoietic Stem Cell Center of Excellence	93.847	CHILDREN'S HOSPITAL OF PHILADELPHIA	320901-01-04 / PO #950999RSUB			-143	-143
Identifying kidney cell phenotype factors using single cell RNA sequencing	93.847	UNIVERSITY OF SOUTHERN CALIFORNIA	84029069			29,839	29,839
Identifying Modifiable Biomarkers/Mediators for Cardiovascular Disease in Chronic Kidney Disease	93.847	UNIVERSITY OF CALIFORNIA, SAN FRANCISCO	9644sc			89,602	89,602
IMMUNE REGULATION AND CO-STIMULATION IN TREATMENT OUTCOME OF CHRONIC HEPATITIS B	93.847		5-U01-DK-082866-06		13,661		13,661
Innovative Genetic Approaches for Hepatic Repopulation	93.847		1-R01-DK-102667-01A1		485,110		485,110
Insulin regulation of glucose metabolism independent of hepatic Akt	93.847		1-F32-DK-101175-01		10,994		10,994
Integrated Islet Distribution Program	93.847	BECKMAN RESEARCH INSTITUTE OF THE CITY OF HOPE	50578.914951.6560			123,768	123,768
Integrating cellular metabolic pathways into browning of white fat	93.847		1-R01-DK-107667-01A1		419,965		419,965
Integrative genomic, epigenetic and functional studies in diabetic kidney disease	93.847	BROAD INSTITUTE OF MIT AND HARVARD	5000110-5500000842			84,182	84,182

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Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub-Receiptients	Direct	Pass-Through	Expenditure Total
Integrative metabolic adaptions to environmental and nutritional challenge	93.847		5-P01-DK-049210-19		-69,038		-69,038
Integrative metabolic adaptions to environmental and nutritional challenge	93.847		4-P01-DK-049210-20		1,392,883		1,392,883
Integrative Nutrigenomic and Metabolomic Analyses of Africans with Variable Diets	93.847		1-R01-DK-104339-1	129,897	393,629		393,629
Interplay of IMPI and autophagy in intestinal barrier function and tumorigenesis	93.847		1-F32-DK-107052-01		53,823		53,823
Interstitial Cystitis-Examination of the Central Autonomic Network (ICECAN)	93.847	MEDICAL COLLEGE OF WISCONSIN	SUB TO 5R01DK083538			27,405	27,405
Investigating the role of Pdx1 in coordinating translational regulation in pancreatic beta cells	93.847		1-F30-DK-105758-01		35,957		35,957
Is there a digital divide in chronic kidney disease (CKD)	93.847	DUKE UNIVERSITY	3020695			19,258	19,258
Islet Dysregulation in infants with Congenital Hyperinsulinism	93.847	CHILDREN'S HOSPITAL OF PHILADELPHIA	204200419			68,637	68,637
Isolation, identification and characterization of a toxin causing biliary atresia	93.847		2R56DK092111-05	33,775	134,572		134,572
Joint Analysis of Longitudinal Outcomes and Clinical Events in Chronic Kidney Disease Cohorts	93.847	UNIVERSITY OF UTAH	10017651-01			-794	-794
MAPP Research Network	93.847		2-U01-DK-082316-07	666,971	2,064,131		2,064,131
Mass Spectrometry-based Proteome Maps for Human Islet Cells	93.847	BECKMAN RESEARCH INSTITUTE OF THE CITY OF HOPE	51504.2000556.669305			37,800	37,800
Measures of Fibrosis and Clinical Outcomes in Chronic Kidney Disease	93.847		1-R01-DK-104730-01		336,109		336,109
Mechanisms by which IUGR Leads to Diabetes	93.847		2-R01-DK-055704-09A2		-1,013		-1,013
Mechanisms of bile duct reprogramming	93.847		2-R01-DK-083355-06A1	141,191	847,296		847,296
Mediators & Prognostic Value of Muscle Mass & Function in Chronic Kidney Disease	93.847	YALE UNIVERSITY	M15A12103(A10152			3,476	3,476
Menin/MLL promotes cell survival in the setting of EGFR inhibition	93.847		1-K08-DK-106489-01		134,893		134,893
Metabolic defects in mice with adipocyte-specific deletion of Akk2	93.847		1-F30-DK-100123-01		3,862		3,862
Metabolomics of CKD and CKD Progression	93.847	MASSACHUSETTS GENERAL HOSPITAL	Sub to U01DK106981			55,627	55,627
Methtoxresate Response in Treatment of UC - MERIT-UC	93.847	UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL	5-31690			15,268	15,268
Methotrexate Response In Treatment of UC-Merit	93.847	UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL	5-31695			27,526	27,526
MIND the Kidneys	93.847	STANFORD UNIVERSITY	60233474-51126-G			2,096	2,096
Mitotic chromatin and implications in erythroid transcriptional regulation	93.847		FDK108469A		41,041		41,041
Models for Optimal Liver Transplant Outcomes	93.847	STANFORD UNIVERSITY	60896108-116817			57,075	57,075
Molecular Stable Isotope Profiles of Dietary Exposure (MoSPIDE)	93.847	UNIVERSITY OF ALASKA FAIRBANKS	Sub to R01DK109946			67,309	67,309
Molecular Therapy for Cystic Fibrosis	93.847		2-P30-DK-047757-21	83,750	427,952		427,952
Muscle Accrual and Function in Cystic Fibrosis-Impact of Glucose Intolerance	93.847	CHILDREN'S HOSPITAL OF PHILADELPHIA	3258760720			3,699	3,699
Nephrotic Syndrome Rare Disease Clinical Research Network II	93.847	UNIVERSITY OF MICHIGAN	3003289619			12,899	12,899
Nephrotic Syndrome Rare Disease Clinical Research Network II	93.847		SUB TO 1U54DK083912			19,758	19,758
Net Acid Excretion and Morbidity in CKD	93.847	DUKE UNIVERSITY	3020704			9,549	9,549
Networks for functional regulation of pancreatic acinar-ductal metaplasia and epithelial plasticity	93.847		2-R01-DK-060694-15		220,764		220,764
Neural hierarchy in the modulation of ingestive behavior	93.847		2-R01-DK-021397-36A1	-97,101	-93,386		-93,386
Neural hierarchy in the modulation of ingestive behavior	93.847		4-R01-DK-021397-39	26,999	275,415		275,415
Neural mechanisms of nausea, vomiting, and energy balance dysregulation in animal models	93.847		1-R01-DK-112812-01	3,390	144,004		144,004
Neuroendocrinology of energy balance control	93.847		1-R01-DK-096139-01A1		113		113
Neuroendocrinology of energy balance control	93.847		4-R01-DK-096139-05		352,751		352,751
Neuronal protein tyrosine phosphatases in metabolism	93.847		2-R01-DK-082417-06A1		30,304		30,304
NIDDK Mentored Research Scientist Development Award	93.847		7-K01-DK-102868-02		121,146		121,146
Noninvasive subharmonic aided pressure estimation of portal hypertension	93.847	THOMAS JEFFERSON UNIVERSITY	080-30000-S09201			117,917	117,917
Novel Biomarker Validation and Dosing Algorithms for Anemia Management in ESRD	93.847	UNIVERSITY OF LOUISVILLE	OICB111041z03		4,803		4,803
Novel Diagnostics and Therapeutic Targets for Calcification in CKD	93.847	NORTHWESTERN UNIVERSITY	60044864		29,148		29,148
Novel Kidney Injury Tools in Deceased Organ Donation to Predict Graft Outcome	93.847	YALE UNIVERSITY	M13A11472 (AO8744)		788		788
Novel Kidney Injury Tools in Deceased Organ Donation to Predict Graft Outcome	93.847		M17A12557(A10910)		69,114		69,114
Nuclear hormone receptors in adipocyte differentiation	93.847		4-R01-DK-049780-25		436,884		436,884
Nuclear hormone receptors in adipocyte differentiation	93.847		2-R01-DK-049780-23		32,625		32,625
Oxalate and the Progression and Complications of CKD	93.847	BRIGHAM AND WOMEN'S HOSPITAL	113077			85,484	85,484
Pathophysiological role of Prorenin in CKD	93.847	UNIVERSITY OF UTAH	10030258-00			231,328	231,328
Patient Oriented Research in Kidney Disease	93.847	UNIVERSITY OF CALIFORNIA, SAN FRANCISCO	7521SC			5,170	5,170
PATTERNS AND IMPLICATIONS OF FUNCTIONAL DECLINE AMONG KIDNEY TRANSPLANT CANDIDATES	93.847	DREXEL UNIVERSITY	sub to K23DK105207			5,184	5,184
Penn integrated Human Pancreas procurement and Analysis Program	93.847		1-UC4-DK-112217-01		2,699,081		2,699,081
Prenatal Conditions and the Pathway to Obesity and Diabetes in Children	93.847	UNIVERSITY OF OKLAHOMA	RS20100590-06			5	5
Primary Outcomes in Glomerulonephritis Study (PROGRESS)	93.847		1-UM1-DK-100846-01	962,162	1,425,350		1,425,350
Prospective renal insufficiency cohort evaluation: PRICE	93.847		2-U01-DK-060984-13		807,349		807,349
Psychopathology, Disordered Eating, and Impulsivity as Predictors of Outcomes of Bariatric Surgery	93.847	TEMPLE UNIVERSITY	258377-UPENN			170,355	170,355
Psychosocial Determinants of Urinary Stone Disease	93.847	CHILDREN'S HOSPITAL OF PHILADELPHIA	3200400817			77,868	77,868
Randomized study of daytime vs. delayed eating: Effect on weight and metabolism	93.847		1-R21-DK-100787-01		167,371		167,371
Regulation and function of the MEG3 locus in human beta-cells	93.847		2-R01-DK-088383-05		506,047		506,047
Regulation of adipose tissue inflammation by the miR-181 family	93.847		1-R21-DK-111755-01		214,081		214,081
Regulation of brown and beige adipocyte development through Eb2	93.847		1-R01-DK-103008-01		306,179		306,179
Regulation of brown and beige adipogenesis by the histone reader DPF3	93.847		1-F31-DK-108507-01		44,754		44,754
Regulation of esophageal gene expression and function by KLF5 and p53	93.847		1-R01-DK-101294-01		53,267		53,267
Regulation of esophageal gene expression and function by KLF5 and p53	93.847		4-R01-DK-101294-04		367,385		367,385
Regulation of T cell differentiation during enteric viral infection	93.847		1-K08-DK-097301-01		27,014		27,014
Regulation of T cell differentiation during enteric viral infection	93.847		4-K08-DK-097301-05		130,507		130,507
Regulatory cascades in gastrointestinal proliferation	93.847		2-R37-DK-053839-15		-138,747		-138,747
Regulatory cascades in gastrointestinal proliferation	93.847		4-R37-DK-053839-19		370,663		370,663
Regulatory cascades in gastrointestinal proliferation	93.847		4-R37-DK-053839-20		29,095		29,095
RENAL AND UROLOGIC BIOSTATISTICS TRAINING GRANT	93.847		2-T32-DK-060455-06A1		-131		-131
Renal Research Training Program	93.847		2-T32-DK-007006-42		199,883		199,883
Research Regulation of Mature Beta Cell Function by the Transcription Factor FoxM1	93.847		1-R01-DK-110183-01A1		69,552		69,552
Residual beta cell function in patients with long-term Type1 diabetes (C-Peptide)	93.847	CASE WESTERN RESERVE UNIVERSITY	RESS09457			21,462	21,462
Role of EGFR signaling in bone formation and the anabolic actions of PTH	93.847		1-R01-DK-095803-01A1		-559		-559
Role of EGFR signaling in bone formation and the anabolic actions of PTH	93.847		4-R01-DK-095803-04		296,528		296,528
Role of the Notch Pathway in Kidney Injury	93.847		2-R01-DK-076077-06		103,275		103,275
Role of trans-endothelial fatty acid transport in insulin resistance	93.847		1-F31-DK-111091-01		39,458		39,458
Skeletal development and the hematopoietic niche	93.847		1-R01-DK-088334-01A1		-8,542		-8,542
Slit Diaphragm and Actin Dynamics	93.847		4-R01-DK-080751-10		291,763		291,763
Stem Cell Mobilization and Diabetic Skin Ulcers	93.847	UNIVERSITY OF MARYLAND	8875			52,015	52,015
Targeting NAD Metabolism to Improve Glucose Homeostasis in Obesity and Aging	93.847		1-R01-DK-098656-01A1	3,928	-195,253		-195,253
Targeting NAD Metabolism to Improve Glucose Homeostasis in Obesity and Aging	93.847		4-R01-DK-098656-04	19,452	460,714		460,714
TGF-beta, matrix, and myofibroblasts in hepatic fibrosis	93.847		2-R01-DK-058123-11A1		11,594		11,594



University of Pennsylvania  
Schedule of Expenditures  
For the year ended June 30, 2017

Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub- Recipients	Direct	Pass-Through	Expenditure Total
TGF-beta, matrix, and myofibroblasts in hepatic fibrosis	93.847		4-R01-DK-058123-15		172,357		172,357
The functional role of mitophagy in esophageal cell biology	93.847		1-K01-DK-103953-01A1		96,347		96,347
The Gut Microbiome and The Metabolome in Chronic Kidney Disease	93.847		1-R01-DK-107566-01A1	36,139	263,346		263,346
The identification and characterization of a novel circadian ETS factor	93.847		1-F30-DK-112507-01		40,310		40,310
The Impact of Healthy Food Marketing Strategies In Supermarkets	93.847		1-R01-DK-101629-01A1	8,107	633,896		633,896
The LINC28B-Let7 axis in intestinal epithelial biology	93.847		2-R01-DK-056645-14A1		402,995		402,995
The Prrx-1 transcription factor in pancreatic ductal biology	93.847		2-R01-DK-060694-11		-6,770		-6,770
The regulation of adipocyte lipolysis by insulin	93.847		1-R01-DK-093959-01		-9,093		-9,093
The role of ARF6 in cytoskeletal dynamics in podocyte injury	93.847		1-F32-DK-108566-01		59,407		59,407
The role of Foxd1 in the differentiation of hepatocytes and cholangiocytes	93.847		1-F32-DK-104592-01		22,565		22,565
The role of IMP1 mRNA binding protein in intestinal epithelial biology	93.847		1-K01-DK-100485-01A1		94,189		94,189
The role of Prdm16 in maintaining small intestinal crypt integrity	93.847		1-F32-DK-105743-01		54,630		54,630
The role of the tyrosine kinase tyk2 in regulation of obesity	93.847	VIRGINIA COMMONWEALTH UNIVERSITY	PD303498-SC105185			27,692	27,692
Therapeutic potential and broader applicability of forced chromatin looping	93.847		1-F30-DK-107055-01		32,932		32,932
Thyroid hormone receptors - regulation and function	93.847		4-R37-DK-043806-23		-11,852		-11,852
Thyroid hormone receptors - regulation and function	93.847		4-R37-DK-043806		597,975		597,975
Towards Precision Medicine in Childhood Acquired Aplastic Anemia	93.847	CHILDREN'S HOSPITAL OF PHILADELPHIA	Activity #3210590715/PO# 961757 - R			61,994	61,994
Tracing transcriptomic changes to uncover unknown roles of TZDs	93.847		1-R01 DK-106027-01		288,421		288,421
Training Program in Gastrointestinal Sciences	93.847		2-T32-DK-007066-41		415,736		415,736
Transcriptional and epigenomic control of adipose tissue development and function	93.847		1-R01-DK-098542-01		-21,457		-21,457
Transcriptional and epigenomic control of adipose tissue development and function	93.847		4-R01-DK-098542-04		344,928		344,928
Translating human PPARγ binding regions to gene regulation and metabolic disease	93.847		4-K08-DK-094968-05		118,410		118,410
Tubular Secretion in Chronic Kidney Disease	93.847	UNIVERSITY OF WASHINGTON	UWSC 9063			69,720	69,720
Undergraduate Training in Gastrointestinal Sciences	93.847		2-R25-DK-066028-11		102,545		102,545
Undergraduate Training in Gastrointestinal Sciences	93.847		2-R25-DK066028-06		40		40
Unique and overlapping functions of BET proteins during erythroid differentiation	93.847		1-F30-DK-112573-01		41,231		41,231
University of Pennsylvania Diabetes Research Center	93.847		2-P30-DK-019525-36	25,677	26,228		26,228
University of Pennsylvania Diabetes Research Center	93.847		4-P30-DK-019525-40	517,963	1,745,519		1,745,519
University of Pennsylvania Diabetes Research Center	93.847		2-P30-DK-019525-41		331,097		331,097
University of Pennsylvania+ PLUS Clinical Center (PENN+PLUS CC)	93.847		1-U01-DK-106892-01	243,860	558,108		558,108
Unlocking heterochromatin to potentiate cell conversion to the hepatocyte fate	93.847		1-F31-DK-107183-01		-2,689		-2,689
Urological and Renal Disease Engaging Adolescents in Adherence Collaborative Trial	93.847	CHILDREN'S HOSPITAL OF PHILADELPHIA	3200370521 I PO# 962245 - R SUB			17,540	17,540
Validation of Novel CKD Biomarkers in CRIC	93.847	UNIVERSITY OF CALIFORNIA, SAN FRANCISCO	5972sc			14,321	14,321
Visceral Adiposity and Fitness Among CRIC Participants (Phase 3)	93.847	BAYLOR COLLEGE OF MEDICINE	SUB TO R01DK101500			56,062	56,062
Visceral Adiposity and Physical Fitness in CKD	93.847	BAYLOR COLLEGE OF MEDICINE	SUB TO R01DK101500			34,831	34,831
Vitamin D catabolism in chronic kidney disease	93.847	UNIVERSITY OF WASHINGTON	762370			57,200	57,200
Vitamin K status, CVD and arterial stiffness in chronic kidney disease	93.847	TUFTS UNIVERSITY	101517-00002			12,111	12,111
Whole-exome sequencing study of diabetic nephropathy	93.847	TULANE UNIVERSITY	TUL-HSC-553788-15/16			30,886	30,886
	SubTotal 93.847			4,059,172	41,400,318	3,631,298	45,031,616
Investigating a mechanism for loss of competence during embryonic development	93.859		1-F31-GM-116588-01		32,330		32,330
	SubTotal 93.859				32,330		32,330
A Program to Promote Diversity Within the American Society of Andrology	93.865	AMERICAN SOCIETY OF ANDROLOGY	SUB TO 1-R25-DK096957-01			29,407	29,407
	SubTotal 93.865					29,407	29,407
NATIONAL INSTITUTE OF DIABETES AND DIGESTIVE AND KIDNEY DISEASES/NIH/DHHS Total				4,391,518	42,259,973	3,901,121	46,161,094
NATIONAL INSTITUTE OF ENVIRONMENTAL HEALTH SCIENCES/NIH/DHHS							
African Odyssey: An Integrative Genomics Analysis of Complex Physiologic Traits	93.113		1-DP1-OD-006445-01		-168		-168
Center of Excellence in Environmental Toxicology	93.113		2-P30-ES-013508-10		1,527,224		1,527,224
Effects of ozone on the central nervous system: Nrf2 pathway involvement	93.113		1-F32-ES-025076-01		1,781		1,781
Epigenetic Signatures of Developmental Reprogramming in Target and Surrogate Tissues	93.113	BAYLOR COLLEGE OF MEDICINE	PO #7000000399			65,381	65,381
Lead exposure, externalizing behavior, and neurobiological mediating factors	93.113		1-R01-ES-018858-01		201,344		201,344
Mechanisms that mediate the link between lead exposure and child behavior problem	93.113		1-K02-ES-019878-01 REVISED		92,698		92,698
Paternal exposure to dioxins and offspring sex ratio distortion	93.113		1-R21-ES-024527-01		274,311		274,311
Protein kinase C and lung carcinogenesis	93.113		1-R01-ES-026023-01		461,186		461,186
Selective inhibitors of ubiquitin E3 ligase to treat high cholesterol	93.113	PROGENRA, INC.	RES025600A			62,081	62,081
Steer and trees summer research programs	93.113		4-R25-ES-021649-04		60,124		60,124
Transgenerational effects of endocrine disruptors: epigenetics and physiology	93.113		1-R01-ES-023284-01		20,114		20,114
Transgenerational effects of endocrine disruptors: epigenetics and physiology	93.113		4-R01-ES-023284-04		487,382		487,382
Translational Research Training Program in Environmental Health Sciences	93.113		1-T32-ES-019851-01A1		366,321		366,321
	SubTotal 93.113				3,492,317	127,462	3,619,779
Asbestos fate, exposure, remediation, and adverse health effects	93.143		1-P42-ES-023720-01	156,415	2,075,422		2,075,422
	SubTotal 93.143			156,415	2,075,422		2,075,422
NATIONAL INSTITUTE OF ENVIRONMENTAL HEALTH SCIENCES/NIH/DHHS Total				156,415	5,567,739	127,462	5,695,201
NATIONAL INSTITUTE OF GENERAL MEDICAL SCIENCES/NIH/DHHS							
A Comprehensive Spatial Picture of Transcription in the Nucleus	93.310		1-DP2-OD-008514-01		-24,676		-24,676
Combating Bacterial Drug Resistance by Targeting the Enzymes of Evolution	93.310		1-DP2-GM-105444-01		1,007,782		1,007,782
	SubTotal 93.310				983,106		983,106
The Impact Vasopressin on Mitochondrial Dysfunction in Hemorrhagic Shock	93.389	AMERICAN COLLEGE OF SURGEONS	N/A			7,687	7,687
	SubTotal 93.389					7,687	7,687
Algorithms to identify non-coding mutational burden and disease-relevant pathways	93.847		1-R01-DK-101478-02	26,406	492,844		492,844
	SubTotal 93.847			26,406	492,844		492,844
A Novel Mechanistic Paradigm for Cross-Coupling	93.859	STANFORD UNIVERSITY	1-R01-GM-113878-01		418,822		418,822
Adaptation in 6 Dimensions	93.859		60078513-52304-A			44,925	44,925
Alternative macrophage activation limits immunopathology	93.859		7-R01-GM-083204-09		324,772		324,772

Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub-Receiptients	Direct	Pass-Through	Expenditure Total
An unexpected signaling output for the tumor suppressor APC	93.859		1-R01-GM-115517-01A1		198,662		198,662
Analysis of Septin Structure and Function	93.859		1-R01-GM-116876-01A1		255,581		255,581
Angstrom-scale structural dynamics of potassium channel	93.859		2-R01-GM-055560-18A1		226,631		226,631
Arylation of Weakly Acidic sp3 Hybridized C-Ifs	93.859		1-R01-GM-104349-01		-115,544		-115,544
Arylation of Weakly Acidic sp3 Hybridized C-Ifs	93.859		4-R01-GM-104349-04		318,870		318,870
Basis for genotoxic stress relief by ATP-dependent chromatin remodelers	93.859		1-R01-GM-115888-01		336,871		336,871
Biogenesis of voltage-gated K+ channels	93.859		2-R01-GM-052302-21		384,410		384,410
Biogenesis of Voltage-Gated K+ Channels	93.859		2-R01-GM-052302-17		-15,410		-15,410
Biological super-resolution imaging using high-index microspheres for cancer research application	93.859	SPHEREVIS, LLC	sub to R41GM117844			93,354	93,354
BMP morphogen gradient spatiotemporal modulation by metalloprotease activity	93.859		1-F31-GM-113362-01		22,979		22,979
Catalytic Oxidative Fragment Coupling Reactions	93.859		1-R01-GM-112684-01A1		267,291		267,291
Cell biology of meiotic drive in mammals	93.859		1-R01-GM-107086-01		37,078		37,078
Cell biology of meiotic drive in mammals	93.859		4-R01-GM-107086-04		196,235		196,235
Centromere Identity and Function	93.859		2-R01-GM-082989-06		8,502		8,502
Centromere Identity and Function	93.859		4-R01-GM-082989-09		375,693		375,693
CG-GRID: Computational Genetics Grid Resource for Interaction Discovery	93.859	PARABON COMPUTATION, INC.	20150301-PCI-STTR-UPENN-051-001			226,172	226,172
Clinical Pharmacoepidemiology Training Grant	93.859		2-T32-GM-075766-06		11,548		11,548
Clinical Pharmacoepidemiology Training Grant	93.859		2-T32-GM-075766-11		276,496		276,496
Competition and morphogenesis in tip cell-mediated branching of tubular networks	93.859		2-R01-GM-089782-06		285,367		285,367
Computational genome-wide RNA profiling using next-generation sequencing	93.859		1-R01-GM-099962-01A1		1,410		1,410
Computational genome-wide RNA profiling using next-generation sequencing	93.859		4-R01-GM-099962-05		306,905		306,905
Computational Methods for Selective Catalysis	93.859		2-R01-GM087605-04A1		253,985		253,985
Costimulatory Ligand Mobility Effects on T Cell Activation	93.859	CHILDREN'S HOSPITAL OF PHILADELPHIA	321004 / PO #960802RSUB			76,613	76,613
Coupling kinetochore microtubule dynamics to chromosome motion	93.859		1-R01-GM-098389-01A1		28,425		28,425
Coupling kinetochore microtubule dynamics to chromosome motion	93.859		4-R01-GM-098389-05		227,417		227,417
Cytoskeletal Effects on Mitochondrial Dynamics Through the ER-Bound Formin INF2	93.859	DARTMOUTH COLLEGE	1261			59,829	59,829
Cytoskeletal Mechanisms of Endocytosis	93.859		1-R01-GM-095977-01A1		-1,228		-1,228
Cytoskeletal Mechanisms of Endocytosis	93.859		4-R01-GM-095977-04		368,201		368,201
Cytoskeletal Motors and Scaffolds in Membrane Dynamics and Motility	93.859		2-P01-GM-087253-11	-1,719	1,629,171		1,629,171
Defining the mechanistic basis of a prion disaggregase	93.859		2-R01-GM-099836-05		197,408		197,408
Defining the role of conformational entropy in high affinity protein interactions	93.859		1-F32-GM-117878-01A1		45,288		45,288
Defining the structural and mechanistic basis of a prion disaggregase	93.859		4-R01-GM-099836-04		104,587		104,587
DNA Double Strand Break Chromatin Alterations and Genome Integrity	93.859		4-R01-GM-101149-04		195,464		195,464
DNA Double Strand Break Chromatin Alterations and Genome Integrity	93.859		2-R01-GM-101149-05		22,703		22,703
Dorsal-Ventral Pattern Formation in the Zebrafish Embryo	93.859		2-R01-GM-056326-14		20,568		20,568
Dorsal-Ventral Pattern Formation in the Zebrafish Embryo	93.859		2-R01-GM-056326-18		316,475		316,475
Dual-Action Virolytic Entry Inhibitors Against HIV-1	93.859	DREXEL UNIVERSITY	232511			100,496	100,496
Dynamics & energetics of p38a kinase regulation by ligands	93.859		4-R01-GM-100910-04	127,250	246,786		246,786
Effects of Translational Pausing Elements on the Rhythm of Protein Synthesis	93.859		1-F32-GM110955-01A1		6,516		6,516
Electrophysiology of nuclear membrane InsP3 receptor	93.859		2-R01-GM-056328-13		-58,038		-58,038
Electrophysiology of nuclear membrane InsP3 receptor	93.859		4-R37-GM-056328-18		686,913		686,913
Engagement of heterotrimeric G proteins by Sonic hedgehog	93.859		2-R01-GM-080396-05A1	169,986	408,231		408,231
Enhancer memory and dynamics of H. saltator reproductive plasticity	93.859		1-F32-GM-120933-01A1		13,269		13,269
Epigenetic mediated long-term aberrations in myeloid cells after critical illness	93.859		1-K23-GM-120630-01A1		84,249		84,249
Evolutionary and functional diversification of chromatin proteins	93.859		4-R00-GM-107351-03		256,285		256,285
Examining the role of Cbk1/NDR kinase in regulating mRNA localization	93.859		4-R01-GM-097327-04		78,492		78,492
Exploring respiratory chain glycoproteomics in mitochondrial disease	93.859	CHILDREN'S HOSPITAL OF PHILADELPHIA	ACTIVITY 3210930818			3,626	3,626
Exploring the molecular mechanisms of TET1 in genomic imprinting	93.859		1-F31-GM-119271-01		43,533		43,533
Fluctuations and Entropy in the Energetics and Function of Protein Complexes	93.859		1-R01-GM-102447-01		15,747		15,747
Fostering Diversity in Biostatistics Workshop	93.859		4-R13-GM-075338-07		14,993		14,993
Functional characterization of piRNPs	93.859		2-R01-GM-072777-10		507,078		507,078
Functions of TEX11 and its associated proteins in mice and humans	93.859		2-R01-GM-076327-05		11,696		11,696
Genetic analysis of a developmental clock in Arabidopsis thaliana	93.859		2-R01-GM-051893-16		27,058		27,058
Genetic analysis of a developmental clock in Arabidopsis thaliana	93.859		4-R01-GM-051893-19		292,178		292,178
Genomics of rapid adaptation on seasonal timescales in D. melanogaster	93.859		2-R01-GM-100366-05		319,701		319,701
Graduate training in systems and integrative biology	93.859		4-T32-GM-007517-39		499,976		499,976
High-throughput screening and stem cell modeling of causal eQTL variants	93.859		7-R01-GM-104464-04		247,995		247,995
Host-Microbial Interactions in the Gut Oxygen Equilibrium	93.859		4-R01-GM-103591-04	21,769	192,743		192,743
In Vivo Translational Analysis in Neurons	93.859		1-R01-GM-110005-01		152,379		152,379
Integrative Genomics of Body Size and Metabolism in Ethnically Diverse Africans	93.859		1-R01-GM-113657-01		590,568		590,568
Interaction of Inhaled Anesthetics with Macromolecules	93.859		2-P01-GM-055876-14A1	146,828	148,980		148,980
Interaction of Inhaled Anesthetics with Macromolecules	93.859		4-P01-GM-055876-17	1,137,564	1,719,120		1,719,120
Intersections of Sleep and Coma: Neural Pathways of Alpha-2 Adrenergic Hypnosis	93.859		1-K08-GM-123317-01		28,504		28,504
Investigating KA1 domain-mediated regulation of MARK/PAR1 kinases	93.859		1-F32-GM-115098-01		47,138		47,138
Large Serine Recombinase Mechanisms	93.859		1-R01-GM-108751-01		242,550		242,550
Light-activated oligonucleotides for biological applications	93.859		2-R01-GM-083030-06A1		400,683		400,683
Mechanism of blood pressure lowering by fatty acid nutraceuticals	93.859		1-R01-GM-121375-01		102,602		102,602
Mechanism of Chromatin Accessibility Mediated by Pioneer Transcription Factors	93.859		1-F31-GM-112417-01A1		45,347		45,347
Mechanism of K+ Channels	93.859		2-R01-GM-055560-14A1		196,608		196,608
Mechanism of U1 snRNPs suppression of premature cleavage & polyadenylation	93.859		1-R01-GM-112923-01		475,049		475,049
Mechanisms and consequences of CELF2 regulation in T cell development	93.859		1-R01-GM-103383-01		21,070		21,070
Mechanisms Establishing Oocyte Polarity	93.859		1-R01-GM-117981-01		378,375		378,375
Mechanisms governing context-dependent Wnt activity in C. elegans embryogenesis	93.859		1-K99-GM-111825-01		34,022		34,022
Mechanisms integrating lineage history with fate specification in C. elegans	93.859		1-R01-GM-105676-01A1		-81,926		-81,926
Mechanisms integrating lineage history with fate specification in C. elegans	93.859		4-R01-GM-105676-04		407,386		407,386
Mechanisms of Anesthesia Mediated Neurotoxicity	93.859		2-R01-GM-084979-06A1	14,051	352,870		352,870
Mechanisms of Balbiani body-generated early oocyte polarity in zebrafish	93.859		1-F31-GM-115066-01		42,182		42,182
Mechanisms of Cellular Stress-Induced Sleep	93.859		1-R01-GM-123783-01A1		138,018		138,018
Mechanisms of Curvature Sensing and Generation by Peripheral Membrane Proteins	93.859		1-R01-GM-097552-01A1		77,730		77,730
Mechanisms of DNA synthesis during alternative lengthening of telomeres	93.859		1-F30-GM-120905-01		28,264		28,264
Mechanisms of Signal-Induced Alternative Splicing: CD45	93.859		2-R01-GM-067719-10		1,557		1,557

Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub-Receiptients	Direct	Pass-Through	Expenditure Total
Mechanisms of spindle formation	93.859		1-R01-GM-102215-01		106,019		106,019
Mechanistic Analysis of Cytokinesis in Eukaryotes	93.859		1-R01-GM-115420-01		404,265		404,265
Medical Scientist Training Program	93.859		2T32GM007170-39		2,272,486		2,272,486
Membrane shape transition control in cellular membrane trafficking phenomena	93.859		2-R01-GM-097552-06		387,734		387,734
Mitochondria-cytoplasm interactions for cytosolic Fe-S cluster assembly	93.859	UNIVERSITY OF MEDICINE AND DENTISTRY OF NJ	8159			156,932	156,932
Modeling how keystone individuals emerge and influence disease	93.859	UNIVERSITY OF CALIFORNIA, LOS ANGELES	0830 G UA376			47,926	47,926
Molecular analysis of methylated p53	93.859	UNIVERSITY OF COLORADO	SUB TO 3 R01-GM101664			12,533	12,533
Molecular and Architectural Mechanisms of Reprogramming to Pluripotency	93.859	UNIVERSITY OF CALIFORNIA, LOS ANGELES	1445 G PB337			4,423	4,423
Molecular and Architectural Mechanisms of Reprogramming to Pluripotency	93.859		1445 G UE023			137,794	137,794
Molecular function of Myosin-I	93.859		2-R37-GM-057247-18	77,313	543,181		543,181
Molecular Mechanisms and inhibition of Protein Acetyltransferases	93.859		1-R35-GM-118090-01		339,141		339,141
Molecular Mechanisms and Signal-Induced Regulation of Alternative Splicing	93.859		1-R35-GM-118048-01		523,708		523,708
Molecular mechanisms of ER luminal [Ca2+] modulation of InsP3R channel activity	93.859		1-R01-GM-114042-01A1		293,205		293,205
Molecular mechanisms of mitochondrial DNA deletion formation	93.859	UNIVERSITY OF PITTSBURGH	0047527 (125989-2)			45,631	45,631
Molecular Mechanisms of Protein Arginylation	93.859		1-R01-GM-104003-01A1	609	-5,736		-5,736
Molecular Mechanisms of Protein Arginylation	93.859		4-R01-GM-104003-04		219,475		219,475
Molecular Regulation of Exocytosis	93.859		1-R01-GM-111128-01		483,209		483,209
Multifaceted roles of nonmuscle myosin II in cell adhesion and migration	93.859		2-R01-GM-095977-05		23,408		23,408
Neuron Specific Enolase and Outcomes in Severe Sepsis	93.859		1-F32-GM-116637-01		28,511		28,511
NEURONAL BASIS UNDERLYING VOLATILE ANESTHETIC INDUCED HYPNOSIS	93.859		1-R01-GM-088156-01A1		196		196
Neurophysiological Basis of General Anesthesia	93.859		7-K08-GM-106144-04		267,719		267,719
Non-Organometallic Partners as Radical Precursors for the Diversification of Dual Catalytic Cross-Coupling Processes	93.859		1-F32-GM-117634-01		54,937		54,937
Non-Parametric Bayesian Methods for Causal Inference	93.859		1-R01-GM-112327-01	61,671	236,253		236,253
Novel Borazines: Syntheses and Elaboration	93.859		1-R01-GM-111465-01A1		278,257		278,257
Novel Organoboron Chemistry Utilizing Tetrahydroxydiborane	93.859		2-R01-GM-081376-05		14,071		14,071
Novel Substrates of the TCR Kinase	93.859		4-R37-GM-053256-18	41,035	43,534		43,534
Optoanesthesia	93.859		1-R01-GM-107117-01A1		359,550		359,550
Oxygen-dependent bacterial signaling	93.859		2-R01-GM080279-09		84,603		84,603
Physician Postdoctoral Research Training in Perioperative Medicine (PPRTPM)	93.859		1-T32-GM-112596-01		135,240		135,240
Predoctoral Training at the Chemistry-Biology Interface	93.859		2-T32-GM-071339-11	7,756	269,828		269,828
Predoctoral Training Grant in Pharmacology	93.859		2-T32-GM-008076-30		463,083		463,083
PREDOCTORAL TRAINING PROGRAM IN GENETICS	93.859		2-T32-GM-008216-28		326,109		326,109
PREDOCTORAL TRAINING PROGRAM IN GENETICS	93.859		2-T32-GM-008216-23		-49		-49
Primordially conserved principles governing mucosal immune responses to pathogens and microbiota	93.859		2-R01-GM-085207-05	66,773	309,029		309,029
Protein structure and function by hydrogen exchange mass spectrometry analysis	93.859		2-R01-GM031847		254,383		254,383
Proton pumping mechanism in complex I	93.859		1-R01-GM-097409-01A1		104,039		104,039
Ras Signaling and Tubulogenesis in the C. elegans Excretory (renal) System	93.859		2-R01-GM-058540-14		391,379		391,379
Regulation and Function of Intermediate Filaments in Cell Mechanics	93.859	NORTHWESTERN UNIVERSITY	60029186UP			108,755	108,755
Regulation and functions of non-polyadenylated mRNAs and circular RNAs	93.859		1-R35-GM-119735-01		216,612		216,612
Regulation of actin during cell migration	93.859		1-R01-GM-108744-01		471,372		471,372
Regulation of Bacterial Two-Component Signaling by Small Membrane Proteins	93.859		2-R01-GM-080279-05A1		217,707		217,707
Regulation of Calcium-Activated Potassium Channels By Lipid Messengers	93.859		2-R01-GM-057654-14		-30,433		-30,433
Regulation of cell division by mitotic kinases	93.859		2-R01-GM-083988-06A1		459,645		459,645
Regulation of meiosis in mice	93.859		1-R35-GM-118052-01		581,370		581,370
Regulation of noncoding RNA biogenesis and function	93.859		4-R00-GM-104166-02		179,857		179,857
Respiratory Complex III: Supercomplexes and ROS, from Bacteria to Human	93.859		2-R01-GM-038237-27A1		401,196		401,196
Role of Mitochondria-Targeted CYP2D6 in Chemical Toxicity	93.859		2-R01-GM-034883-27A1	76,132	468,500		468,500
Semi-parametric joint models for longitudinal and time to event data	93.859		1-R01-GM-104470-01		33,069		33,069
Semi-parametric joint models for longitudinal and time to event data	93.859		4-R01-GM-104470-04		253,883		253,883
Sensitivity enhancement in solution NMR through dynamic nuclear polarization	93.859		1-R21-GM-07829-01		-5,223		-5,223
Sequences Controlling H19 Gene Imprinting	93.859		2-R37-GM-051279-18		52,070		52,070
Sequences Controlling H19 Gene Imprinting	93.859		4-R37-GM-051279-23		424,790		424,790
Signaling by growth factor receptors with intracellular pseudokinase domains	93.859		1-R01-GM-099891-01		3,650		3,650
Single Molecule Dynamics of mRNA Translation	93.859		2-R01-GM-080376-05A1		-124,443		-124,443
Single Molecule Dynamics of mRNA Translation	93.859		4-R01-GM-080376-08		247,931		247,931
Site-resolved hydration dynamics of PDZ domains	93.859		1-F31-GM-116520-01		26,798		26,798
Spatial control of actin assembly by phosphoinositides	93.859		1-R01-GM-111942-01A1		553,740		553,740
Spatiotemporal regulation of mechanical networks drives coordinated epithelial cell shape changes	93.859		1-F31-GM-117708-01A1		40,889		40,889
Spectroscopic Study of Protein Folding Dynamics	93.859		2-R01-GM-065978-10		84,455		84,455
Statistical Methods for Next-Generation Sequence Data	93.859		1-R01-GM-097505-01A1		19,303		19,303
Statistical Methods for Transcriptome Profiling Using RNA Sequencing	93.859		1-R01-GM-108600-01A1		338,845		338,845
Stem Cell Renewal and Differentiation in Spermatogenesis	93.859		2-R01-GM-060804-17		488,432		488,432
Structural Basis of Actin Cytoskeleton Dynamics	93.859		2-R01-GM-073791-10		402,177		402,177
Structural biology & molecular biophysics training program	93.859		2-T32-GM-008275-26		369,843		369,843
STRUCTURAL BIOLOGY TRAINING PROGRAM	93.859		2-T32-GM-008275-21		140		140
StructuralL Dynamics of Actomyosin Motility	93.859		4-R01-GM-086352-35	88,077	383,959		383,959
Structural Dynamics of Molecular Motors and the Ribosome	93.859		1-R35-GM-118139-01		137,715		137,715
Structure and Function of Biosynthetic Enzymes	93.859		2-R01-GM-056838-17		307,144		307,144
Structure and Function of Metalloenzymes	93.859		2-R01-GM-049758-20A1		330,091		330,091
Structure and Function of Protein Acetyltransferases	93.859		7-R01-GM-060293-15		115,798		115,798
Structure determination by Vibrational Spectroscopy	93.859		2-R01-GM-076201-08A1		374,678		374,678
Structure-based antagonism of HIV-1 envelope function in cell entry	93.859	DREXEL UNIVERSITY	2-P01-GM-056550-18A1			338,584	338,584
Structure-Based Design of Xe-129 NMR Biosensors for Multiplexed Cancer Detection	93.859		2-R01-GM-097478-05	45,108	315,694		315,694
Targeting Nucleic Acid Junctions with Small Molecules	93.859		1-R01-GM-118510-01		285,280		285,280
The dynamic association of Aurora B with centromeric chromatin	93.859		1-R01-GM-105654-01A1		372,616		372,616
The Impact Of Surgery-Induced Neuroinflammation On Tau Pathology And Function	93.859	COLUMBIA UNIVERSITY	1(GG011920)			23,318	23,318
The Impact of Vasopressin on Mitochondrial Dysfunction in Hemorrhagic Shock	93.859		1-K08-GM-097614-01		432		432
The Interaction of Cytoplasmic Dynein and Dynactin	93.859		2-R01-GM-048661-22		324,786		324,786
The mechanism and modulation of 5-methylcytosine oxidation by TET family enzymes	93.859		1-R01-GM-118501-01A1		5,875		5,875
The Population Genetics of Divergence	93.859	TEMPLE UNIVERSITY	360959-13120-02			14,573	14,573
The role of p53 family members in epithelial lineage establishment and maintenance	93.859		1-F31-GM-123744-01		7,792		7,792

University of Pennsylvania  
Schedule of Expenditures  
For the year ended June 30, 2017

Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub-Receiptients	Direct	Pass-Through	Expenditure Total
The Role of the Exocyst in Cell Migration	93.859		4-R01-GM-085146-09		176,539		176,539
The role of YY1 in constitutive and inducible DNA loop formation	93.859		1-R01-GM-111384-01		410,565		410,565
Training Program in Cell and Molecular Biology	93.859		2-T32-GM-007229-38A1		455,285		455,285
Trans-acting Factors Causing Cell Specific Gene Control	93.859		2-R01-GM-036477-33		771,706		771,706
Ultrafast Optical Processes Laboratory	93.859		9-P41-GM-104605-31		943,845		943,845
Uncovering the localization and mechanism of RNA editing	93.859		1-F32-GM-120929-01A1		17,565		17,565
Understanding protein radicals	93.859		2-R01-GM-079190-06A1		196,646		196,646
Understanding the Role of Combinatorial Histone PTM Patterns	93.859		1-R01-GM-110174-01		298,714		298,714
Understanding Wnt Signaling through Ror and Ryk Family Receptor Tyrosine Kinases	93.859	YALE UNIVERSITY	M16A12424 (A10630)			89,850	89,850
University of Pennsylvania Postdoctoral Opportunities in Research and Teaching	93.859		2-K12-GM-081259-06	24,000	956,457		956,457
UPenn Post Baccalaureate Research Education Program	93.859		2-R25-GM-071745-10		421,667		421,667
Using micropost arrays to measure traction forces during dendritic cell motility	93.859		1-R01-GM-104287-01A1	-57,559	-57,559		-57,559
Using micropost arrays to measure traction forces during dendritic cell motility	93.859		4-R01-GM-104287-04	179,376	415,894		415,894
Water soluble variants of the human mu opioid receptor	93.859		1-R01-GM-111421-01		274,872		274,872
SubTotal 93.859				2,226,020	40,607,108	1,585,334	42,192,442
NATIONAL INSTITUTE OF GENERAL MEDICAL SCIENCES/NIH/DHHS Total				2,252,426	42,083,058	1,593,021	43,676,079
NATIONAL INSTITUTE OF MENTAL HEALTH/NIH/DHHS							
1/2-Brain-Behavior and Genetic Studies of the 22q11DS	93.242		1-U01-MH-087626		204,428		204,428
1/3-A Neurobehavioral Family Study of Schizophrenia	93.242		2-R01-MH-042191-24A1		138,393		138,393
1/5 International Consortium on Brain and Behavior in 22q11.2 Deletion Syndrome	93.242		1-U01-MH-101719-01	401,470	586,931		586,931
1/9 - Predictors and Mechanisms of Conversion to Psychosis	93.242	YALE UNIVERSITY	C16A122293 (A10323)			197,745	197,745
2/2-- Attaining and Maintaining Wellness in OCD	93.242		2-R01-MH-045404-20		280,936		280,936
3/3- Pedigree-Based Whole Genome Sequencing of Affective and Psychotic Disorders	93.242		1-U01-MH-105634-01	36,048	232,655		232,655
3/3-Sequencing Autism Spectrum Disorder Extended Pedigrees	93.242		4-R01-MH-094382-05		136,087		136,087
3/5-The Autism Biomarkers Consortium DAAAC	93.242	DUKE UNIVERSITY	3838663			5,464	5,464
A Hybrid Effectiveness-Implementation Trial of Group CBT in Urban Schools	93.242	CHILDREN'S HOSPITAL OF PHILADELPHIA	3200290221			75,128	75,128
Aberrant Paranasal Sinus Development in Schizophrenia	93.242		1-R21-MH-108895-01		218,247		218,247
Actions of CRF on 5-HT Pathways in Mood Regulation	93.242		2-R01-MH-073030-06		-11,700		-11,700
Activity as an endophenotype for genetic studies	93.242		1-R21-MH-103963-01A1		154,957		154,957
Animal Model of Genetics and Social Behavior in Autism Spectrum Disorders	93.242		7-R01-MH-096875	131,706	610,026		610,026
Associative Processes in Episodic Memory	93.242		2-R01-MH-055687-21		403,822		403,822
BAR proteins linking membrane and cytoskeleton dynamics	93.242		1-R01-MH-087950-01A1		2,526		2,526
BAR proteins linking membrane and cytoskeleton dynamics	93.242		2-R01-MH-087950-06A1		404,496		404,496
BRAIN Initiative: Integrated Multimodal Analysis of Cell and Circuit-Specific Processes in Hippocampal Function	93.242	UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN	078288-16142			122,549	122,549
Brain Network Mechanisms of Instructed Learning	93.242	RUTGERS UNIVERSITY	SUB TO R01MH109520			21,195	21,195
Buprenorphine for Depression and Anxiety	93.242		1-R01-MH-092412-01A1		1,630		1,630
Buprenorphine for Depression and Anxiety	93.242		4-R01-MH-092412-05		1,686		1,686
Cell-type Specific Epigenomics in the Brain	93.242		1-R21-MH-102679-01		32,197		32,197
Cellular and molecular analysis of startle modulation	93.242		1-R01-MH-109498-01		506,504		506,504
Cis-Regulatory Epigenome Mappings in Schizophrenia	93.242	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	0255-7234-4609			31,011	31,011
Clinical algorithm for identifying adult autism	93.242		1-R34-MH-100356-01		27,159		27,159
Cognitive Therapy for Suicidal Older Men	93.242		1-R01-MH-086572-01A2		206,645		206,645
Corticotropin-Releasing factor-serotonergic interactions	93.242	CHILDREN'S HOSPITAL OF PHILADELPHIA	ACTIVITY #20493			-34	-34
Developing CBT-informed thesopian training curricula for CHR youths	93.242		1-R34-MH-105248-01		247,804		247,804
Developing Methods for Brain Stimulation Enhanced Fear Reversal in PTSD	93.242	PALO ALTO VETERANS INSTITUTE FOR RESEARCH	ETK0008-01			9,698	9,698
Developmental Trajectories of Negative Symptoms in Schizophrenia	93.242		1-P50-MH-096891-01	175,607	1,751,180		1,751,180
Dimensional connectomics of anxious misery	93.242		1-U01-MH-109991-01		654,499		654,499
Downmodulating Monocyte/Macrophage Activation for HAND	93.242		2-R01-MH-061139-11A1		241,408		241,408
ED-SAFE-2: Translating Safety Planning into Practice	93.242	UNIVERSITY OF MASSACHUSETTS	WA00320041/RFS2016010			31,969	31,969
Effects of extinction on cellular activity in the dorsal and ventral hippocampus	93.242		1-F31-MH-105161-01A1		18,558		18,558
Electrophysiology of Human Spatial Cognition	93.242		2-R01-MH-061975-12A1	66,898	216,783		216,783
Epigenetic Mechanisms of Memory Storage	93.242		2-R01-MH-087463-06	80,038	337,643		337,643
Evaluating the Effects of Autism Insurance Mandates	93.242		4-R01-MH-096848-04	92,161	508,128		508,128
Evolution of the Linked Architecture of Network Control and Executive Function in Adolescence	93.242		1-R21-MH-106799-01A1		253,796		253,796
Feasibility of a Behavioral Activation Trial in Community Mental Health	93.242		1-R34-MH-108818-01	32,484	237,163		237,163
Genomic Analysis of Bipolar Disorder in a Genetic Isolate	93.242		1-R01-MH-093415-01A1		73,313		73,313
Genomics of Schizophrenia in the South African Xhosa	93.242	COLUMBIA UNIVERSITY	1(GG008292)PO #G03931			84,711	84,711
Heme Oxygenase-1 as a novel therapeutic target in HIV-mediated neurodegeneration	93.242		1-F30-MH-102120-01A1		27,234		27,234
Higher Order Chromatin and Genetic Risk for Schizophrenia	93.242	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	0255-8051-4609			34,097	34,097
Implementation of Federal Mental Health Policy	93.242	JOHNS HOPKINS UNIVERSITY	R01-MH093414			52,213	52,213
Improving Community Mental Health Services for Adults with ASD and Co-Occurring Psychiatric Disorders	93.242		1-F32-MH-111166-01A1		8,871		8,871
Improving the Emergency Department Management of Deliberate Self-Harm	93.242		1-R01-MH-107452-01A1	264,904	575,525		575,525
Increasing accuracy and efficiency of fidelity measurement in CBT	93.242		1-R01-MH-108551-01	58,290	524,662		524,662
Individual, age-dependent differences in ACC-mediated adaptive decision making	93.242		1-R01-MH-098899-01		-28,081		-28,081
Integrating Organizational and Psychological Theories to Predict Implementation	93.242		1-R21-MH-106887-01A1		204,707		204,707
Integrative Training in the Neurocircuitry of Affective Disorders	93.242		1-T32-MH-106442-01A1		87,623		87,623
Inter-modal Coupling Image Analytics	93.242		1-R01-MH-112847-01		30,062		30,062
Intervention mapping to develop multi-level implementation strategies in partnership with stakeholders: Firearms means restriction for suicide prevention in pediatric primary care	93.242		1-R21-MH-109878-01	67,102	218,777		218,777
Intrauterine inflammation affects offspring cognitive function	93.242		1-R21-MH-100828-01		-1,381		-1,381
Investigating the Payer Role in the Implementation of EBP in the Public Sector	93.242		1-F32-MH-103960-01A1		54,605		54,605
Linking Synaptic and Cognitive Defects in a Model of Neuropsychiatric Disease	93.242		NIH		359,303		359,303
Longitudinal multi-modal neuroimaging of irritability in youth	93.242		1-R01-MH-107703-01		685,075		685,075
Maternal stress and the gut microbiome: impact on neurodevelopment	93.242		1-F32-MH-109298-01A1		51,357		51,357
Maternal stress and the vaginal microbiome: impacts on brain development	93.242		1-R21-MH-104184-01		421,065		421,065
Mechanisms of Comorbidity and Specificity for Generalized Anxiety and Depression	93.242		1-R01-MH-094425-01A1		192,600		192,600
Mechanisms of dendritic cargo trafficking and microtubule dynamic regulation by KIF21B	93.242		1-F32-MH-108187-01		32,706		32,706
Mechanisms of Neuroinflammation in HAND	93.242	JOHNS HOPKINS UNIVERSITY	2001680041			12,058	12,058
Mechanisms Regulating Complex Social Behavior	93.242		1-R01-MH-108627-01	290,268	669,293		669,293
Mental Health Biostatistics Training Grant	93.242		2-T32-MH-065218-11		92,677		92,677
Molecular Mechanisms of the Stress Response	93.242		1-R01-MH-100319-01A1		310,214		310,214

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Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub-Receiptients	Direct	Pass-Through	Expenditure Total
Molecular Profiling of Schizophrenia	93.242	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	0255-2001-4609			111,618	111,618
Molecular-genetic analysis of habituation learning	93.242		1-F32-MH-107139-01		56,049		56,049
Multimodal brain maturation indices modulating psychopathology and neurocognition	93.242		1-R01-MH-107235-01	76,214	544,236		544,236
Neural circuit mechanisms mediating TMS and oxytocin effects on social cognition	93.242		1-R37-MH-109728-01	52,811	594,126		594,126
Neural mechanisms underlying the antidepressant effects of sleep deprivation	93.242		1-R01-MH-107571-01A1		661,834		661,834
Neurocognitive variability in schizophrenia and youth at-risk for psychosis	93.242		1-K01-MH-102609-01A1		169,191		169,191
Neurodevelopment: Genes, Environment, and their Interactions	93.242	UNIVERSITY OF TEXAS RIO GRANDE VALLEY	7-R01-MH-107248 (1)			202,331	202,331
Neuronal Basis of Vicarious Reinforcement Dysfunction in Autism Spectrum Disorder	93.242		7-R01-MH-095894-		126,462		126,462
Neuronal ciRNA characterization and impact upon channel functioning	93.242		1-R01-MH-110180-01A1		479,977		479,977
Non- neuronal regulators of sleep	93.242	WASHINGTON STATE UNIVERSITY	123565 G003432			25,934	25,934
Non-invasive neuromodulation mechanisms and dose/response metrics	93.242		1-R01-MH-111886-01	19,941	357,510		357,510
Novel Computational Methods for Higher Order Diffusion MRI in Autism	93.242		1-R01-MH-092862-01		355,181		355,181
Novel neural circuit biomarkers of depression response to computer-augmented CBT	93.242		1-R01-MH-110939-01A1		11,376		11,376
Olfactory Evoked Potentials and Developmental Neuropathology in Schizophrenia	93.242		2-R01-MH-059852-11A1		101,434		101,434
Olfactory Neuroimaging Markers of Heightened Developmental Risk for Schizophrenia	93.242		4-R01-MH-099156-04		523,070		523,070
Oligodendrocyte damage and dysfunction in HIV associated neurocognitive disorder	93.242		1-R01-MH-098742-01		-14		-14
Oligodendrocyte damage and dysfunction in HIV associated neurocognitive disorder	93.242		4-R01-MH-098742-05	234,751	391,621		391,621
Oxidative Stress, Immune Activation, and Therapeutic Targeting in HIV/HAND	93.242		1-R01-MH-104134-01	251,248	583,478		583,478
Partners in Schools: A Program for Parents and Teachers of Children with Autism	93.242		4-F32-MH-101994-03		24,267		24,267
Paternal stress epigenetic programming of offspring neurodevelopment	93.242		1-R37-MH-108286-01		548,636		548,636
Pathways of HIV Neurodegeneration and Dimethyl Fumarate (DMF/MMF) Neuroprotection	93.242		1-R01-MH-095671-01	131,089	188,931		188,931
Patient Safety in Inpatient Psychiatry	93.242		1-R01-MH-086722-01A2		-18		-18
Penn mental health AIDS research center	93.242		1-P30-MH-097488-01A1	154,111	1,298,327		1,298,327
Perfusion MRI for Multi-Site Studies for Brain Function	93.242	BETH ISRAEL MEDICAL CENTER	01027167			285,958	285,958
Person Centered Care Planning & Service Engagement	93.242	NEW YORK UNIVERSITY	F7437-01			53,957	53,957
Policy to implementation: Evidence-based practice in community mental health	93.242		1-K23-MH-099179-01		279		279
Policy to implementation: Evidence-based practice in community mental health	93.242		4-K23-MH-099179-05		173,792		173,792
Prepubertal Stress, Windows of Risk & Sex Bias for Affective Disturbance	93.242		1-P50-MH-099910-01		1,217,966		1,217,966
Psychophysiology, Neurosteroids, and Stress in Premenstrual Dysphoric Disorder (PMDD)	93.242		1-K23-MH-107831-01A1		178,650		178,650
PTSD Monitoring System for Prolonged Exposure Therapy	93.242	ACLARIS MEDICAL, LLC	R43MH107089-S1			2,298	2,298
Quantitative Behavioral and Imaging Phenotypes of Amotivation in Schizophrenia	93.242		4-R01-MH-101111-04		257,355		257,355
RCT of TeachTown in Autism Support Classrooms: Innovation and Enovation	93.242		1-R01-MH-106175-01A1	3,064	651,607		651,607
Recovering from Serious Mental Illness: Learning and Utilizing WRAPs Framework	93.242		1-F31-MH-105190-01A1		30,672		30,672
Recovery-Oriented Practices in Community Mental Health Centers: A National Study of Adherence and Participation	93.242	YALE UNIVERSITY	M151A11969 (A10040)			40,721	40,721
Regulation of Heme Oxygenase in HIV/HAND Pathogenesis	93.242		1-R01-MH-111389-01	155,432	608,488		608,488
Remote supervision for implementing collaborative care for perinatal depression	93.242	UNIVERSITY OF WASHINGTON	UWSC9095			50,131	50,131
Research Training for Prevention of Suicide and Psychosis: A Public Health Model	93.242		1 T32 MH082745-01A2		-4,571		-4,571
Retrotransposons in Schizophrenia	93.242		1-R01-MH-109260-01A1		510,109		510,109
RNA:RNA binding protein complexes in neurons and SIV encephalitis	93.242		1-R21-MH-106441-01A1		136,895		136,895
Role of PERK haplotypes in HIV-Associated Neurocognitive Disorders	93.242		1-R01-MH-109382-01A1	70,074	579,747		579,747
Schizophrenia: A Neuropsychiatric Perspective	93.242		2-T32-MH-019112-24		245,752		245,752
Secoisolaricresinol diglucoside to mitigate inflammation and toxicity in HAND	93.242		1-R01-MH-106967-01A1	206,779	663,726		663,726
Services to enhance social functioning in adults with autism spectrum disorder	93.242		1-R34-MH-104407-01	8,885	191,912		191,912
Sex differences in opioid regulation of the rat locus coeruleus in rats	93.242		1-F31-MH105211-01		4,174		4,174
Social and Circadian Rhythms, Reward Sensitivity, and Risk for Bipolar Disorder	93.242	TEMPLE UNIVERSITY	5R01-MH102310			66,766	66,766
Src mediates molecular alterations leading to NMDAR hypofunction in schizophrenia	93.242		2-R01-MH-075916-05A1	187,282	520,998		520,998
SSRI Effects on Depression and Immunity in HIV/AIDS	93.242		1-R01-MH-107276-01A1	109,928	407,897		407,897
Staff and School Factors Affecting Implementation of ASD Interventions in Schools	93.242	UNIVERSITY OF WASHINGTON	UWSC8785			6,862	6,862
Stress and Inflammation in the Pathophysiology of Late-Life Depression	93.242		1-R01-MH-098260-01A1		5,375		5,375
Stress and Inflammation in the Pathophysiology of Late-Life Depression	93.242		4-R01-MH-098260-03	24,204	465,430		465,430
Studying epigenetic pathways in brain function and social behavior using ants	93.242		1-DP2-MH-107055-01		439,047		439,047
Suicide Risk Reduction in the Year Following Jail Release	93.242	MICHIGAN STATE UNIVERSITY	RC105383UoUPenn			10,974	10,974
Team Functioning in School Mental Health Teams Implementing CBT	93.242		1F32MH103955-01		47,562		47,562
The Depression/Hypertension COACH Study	93.242	UNIVERSITY OF ROCHESTER	PO #416223-G			38,241	38,241
The Effects of Medicaid Waivers on Autism Service Use and Expenditures	93.242	PENNSYLVANIA STATE UNIVERSITY COLLEGE OF MEDICINE	UPENNMMH108558			126,576	126,576
The Impact of Sleep Deprivation on Translation	93.242		1-R21-MH-102703-01A1	13,200	69,513		69,513
The influence of arousal state on coordinated neural dynamics	93.242		1-R21-MH-107001-01		214,555		214,555
The Molecular Mechanisms of Cortical Interneuron Fate Determination	93.242		1-F30-MH-105045-01A1		35,932		35,932
The Neural Basis of Social Knowledge	93.242	TEMPLE UNIVERSITY	255791-UPENN			13,588	13,588
The Role of Place and Grid Cells in Human Spatial Navigation and Memory	93.242	COLUMBIA UNIVERSITY	3 (GG009422			7,666	7,666
Training program in behavioral/cognitive neuroscience	93.242		2-T32-MH-017168-31		234,722		234,722
Training Program in Neuropsychopharmacology	93.242		2-T32-MH-014654-39		110,225		110,225
Understanding the Epigenetic Mechanisms Underlying Stress-Related Neuropsychiatric Disorders	93.242		1-R56-MH-111719-01		110,397		110,397
Weight History, Brain Activation to Food Cues and Eating Disorder Progression	93.242	DREXEL UNIVERSITY	232616			373,097	373,097
Zero Suicide Implementation and Evaluation in Outpatient Mental Health Clinics	93.242	COLUMBIA UNIVERSITY	1(GG011969-01)			100,595	100,595
				3,395,989	28,318,674	2,195,117	30,513,791
Multimodal Neuroimaging of Prosody in Schizophrenia and Developmental Disorders	93.281		1-K01-MH-094689-01	1,550	36,399		36,399
				1,550	36,399		36,399
Training Program in Neuropsychopharmacology	93.282		2-T32-MH-014654-34		1,415		1,415
					1,415		1,415
Engineering 3-D Epigenome Topology with Light	93.310		1-DP2-MH-110247-01		337,089		337,089
Identification and validation of cell specific eQTLs by Bayesian modeling	93.310		1-R01-MH-101822-01	211,357	358,876		358,876
Role of Single Cell mRNA Variation in Systems Associated Electrically Excitable Cells	93.310		1-U01-MH-098953-01	430,429	1,636,740		1,636,740
				641,786	2,332,705		2,332,705
Regulation of Neurogenesis and Behavior by GSK-3	93.424		1-R01-MH-100923-01A1		632,013		632,013
					632,013		632,013

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Magnetoencephalographic Studies of Lexical Processing and Abstraction in Autism	93.865		1-R01-HD-073258-01	112	429		429
Magnetoencephalographic Studies of Lexical Processing and Abstraction in Autism	93.865		4-R01-HD-073258-05	116,837	238,897		238,897
	SubTotal 93.865			116,949	239,326		239,326
Addressing stigma among Black MSM in a mobile phone and internet HIV intervention	93.RD	UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL	5105046			83,853	83,853
	SubTotal 93.RD					83,853	83,853
NATIONAL INSTITUTE OF MENTAL HEALTH/NIH/DHHS Total				4,156,274	31,560,532	2,278,970	33,839,502
NATIONAL INSTITUTE OF NEUROLOGICAL DISORDERS AND STROKE/NIH/DHHS							
Developing Cloud-based tools for Big Neural Data	93.113		1-K01-ES-025436-01		-9,662		-9,662
	SubTotal 93.113				-9,662		-9,662
A critical period of sleep required for normal brain development	93.853		1-K08-NS-090461-01		199,379		199,379
A Longitudinal Multi-Modal Neuroimaging Investigation of Functional Recovery After Diffuse Traumatic Brain Injury	93.853	MOSS REHABILITATION RESEARCH INSTITUTE	SUB TO 1-R01-NS065980-01A2			3,917	3,917
A New View of PAH Allostery - Correlation with Disease-Associated Alleles	93.853	FOX CHASE CANCER CENTER	FCCC 15099-01			6,361	6,361
A Novel Method for Glutamate Imaging	93.853		1-R01-NS-087516-01		254,296		254,296
A Phase 3 double-blind placebo-controlled parallel group study if isradipine as a disease modifying agent in patients with early Parkinson's disease. STEADY PD	93.853		60036745 UPA			48,108	48,108
Alpha synuclein oligomer toxicity and the pathogenic interaction with dopamine	93.853	NORTHWESTERN UNIVERSITY					
Alpha-synuclein biomarkers in Parkinson disease	93.853		1-F31-NS-087779-01A1		10,240		10,240
Antihypertensive Treatment of Acute Cerebral Hemorrhage (Atach II)	93.853		1-K08-NS-093127-01		163,739		163,739
Ataxin-2 as a genetic risk factor for ALS: New insights into neurodegeneration	93.853	UNIVERSITY OF MINNESOTA	N936909 subto 1-U01-NS-062091-01A1			-21,067	-21,067
Autoimmune Mechanisms in a Novel Aire-Deficient Model of Peripheral Neuropathy	93.853		1-R01-NS-073660-01A1	11,147	10,398		10,398
Axon initial segment made simple: Architecture of the cytoskeletal network	93.853	UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL	5-33303			19,264	19,264
Biological 'Living Electrodes' Using Tissue Engineered Axonal Tracts to Probe and Modulate the Nervous System	93.853		1-K22-NS-091189-01A1		98,671		98,671
Biomarkers for Lewy Body Dementia	93.853		1-U01-NS-094340-01	246,272	815,420		815,420
Brain Injury Training Grant	93.853	CLEVELAND CLINIC	718-SUB			15,911	15,911
Carotid Revascularization and Medical Management for Asymptomatic Carotid Stenosis Trial (CREST-2) Trial	93.853		2-T32-NS-043126-11		281,014		281,014
Cellular and molecular mechanisms of peripheral nerve regeneration	93.853	MAYO CLINIC JACKSONVILLE	SUB TO 5-U01NS080168-02			697	697
Cellular and molecular mechanisms of peripheral nerve regeneration	93.853		1-R56-NS-097914-01		429,604		429,604
Combination Therapy, Biomarkers, and Imaging in Canine Krabbe Disease	93.853		1-R01-NS-097914-01A1		61,121		61,121
Connectomics meets neuro-oncology: mapping the brain for treatment planning	93.853		1-R01-NS-096087-01	17,126	251,026		251,026
Cycling in a circadian circuit	93.853		1-R01-NS-096606-01	35,833	472,455		472,455
Defuse 3: Endovascular Therapy Following Imaging Evaluation for Ischemic Stroke 3	93.853		2-R37-NS-048471-10	17,647	480,213		480,213
Detection and Mechanisms of Mild Traumatic Brain Injury	93.853	UNIVERSITY OF CINCINNATI	135731			24,155	24,155
Detection of Cerebral Ischemia With a Noninvasive Neurometabolic Optical Monitor	93.853		1-R01-NS-092398-01		460,728		460,728
Developmental endothelial locus-1 (Del-1) is a hemostatic factor in thrombotic stroke	93.853		1-R01-NS-082309-01A1		642,909		642,909
Dicytostatin and related prodrgus as candidates for tauopathy treatment	93.853		1-R21-NS-091793-01		157,263		157,263
Diffuse Optics for Acute Stroke Management	93.853		1-R21-NS-087059-01A1		70,540		70,540
Dissecting the role of disease-associated variants in the regulation of TMEM106B	93.853		2-R01-NS-060653-06	55,283	346,661		346,661
Dissection of a new spinal cord circuit in pain sensation	93.853		1-F31-NS-090892-01		14,399		14,399
Disseminated AAV Vector Transport in the Brain Via Neuronal Pathways	93.853		1-R01-NS-094224-01A1		248,787		248,787
Distinct effects of frataxin missence point mutations on mitochondrial localization, protein processing, and cellular metabolism	93.853	CHILDREN'S HOSPITAL OF PHILADELPHIA	20479-10-01 / PO #951200RSUB			20,386	20,386
Dynamic regulation of autophagy in neurons during synaptic plasticity and aging	93.853		1-F31-NS-098768-01A1		15,792		15,792
Early Detection of Huntington's Disease: Longitudinal Analysis of Basal Ganglia and Cortical Thickness	93.853		1-F32-NS-100348-01		33,183		33,183
Early Life Seizures Disrupt Critical Period Plasticity	93.853		1-R01-NS-094456-01A1	65,129	198,533		198,533
Early Life Seizures Disrupt Critical Period Plasticity	93.853		1-R01-NS-080565-01A1	-1,867	-19,242		-19,242
Effects of Apparent Body Size on Motor Function	93.853		4-R01-NS-080565-04	206,903	409,973		409,973
Enabling widespread use of high resolution imaging of oxygen in the brain	93.853		1-R21-NS-089084-01A1	12,345	220,184		220,184
Endothelial plasticity in glioma vascularization and therapy resistance	93.853		1-R24-NS-092986-01	121,843	304,806		304,806
Epigenetic Changes associated with Neurodegenerative Diseases	93.853		1-R01-NS-094533-01		446,745		446,745
Epigenetic Changes associated with Neurodegenerative Diseases	93.853		1-R01-NS-078283-01		-5		-5
Epigenetic Editing of Mutant C9orf72	93.853		4-R01-NS-078283-05	32,219	356,617		356,617
Epigenetic mechanisms of TDP43-mediated neurodegeneration	93.853		1-R01-NS-095793-01		391,459		391,459
Exploring and enhancing Karyopherin beta-2 disaggregate activity	93.853		1-F32-NS-084667-01		12,147		12,147
Feasibility of Direct Quantitative Magnetic Resonance Imaging of Myelin	93.853		1-R21-NS-090205-01A1		205,280		205,280
Feeding state-dependent hormonal modulation of a well-defined microcircuit	93.853		1-R21-NS-082953-01A1	76,635	67,179		67,179
Functional Brain Networks: A Novel Approach to Address Clinical Challenges in Parkinson's Disease	93.853		2-R01-NS-029436-26A1		401,640		401,640
Futility Study of Deferoxamine Mesylate in Intracerebral Hemorrhage (HI-DEF)	93.853	THE FEINSTEIN INSTITUTE FOR MEDICAL RESEARCH	50506UPENN / PO #GRT286170			8,500	8,500
Greater Philadelphia Southern New Jersey NETT Network ATACH II Trial	93.853	BETH ISRAEL MEDICAL CENTER	Sub to U01-NS-074425-01			16,162	16,162
Greater Philadelphia Southern New Jersey NETT Network ESETT Trial	93.853	UNIVERSITY OF MICHIGAN	Sub to 5-U01-NS-062091-04			-87	-87
Greater Philadelphia Southern New Jersey NETT Network POINT	93.853	UNIVERSITY OF MICHIGAN	SUBK00004105-ESETT	23,070	35,277		35,277
Greater Philadelphia-Southern New Jersey NETT Network	93.853	UNIVERSITY OF MICHIGAN	3001413184-PNT/Sub to U01-NS-062835	140,900	184,148		184,148
Greater Philadelphia-Southern New Jersey NETT: ISPO	93.853		2-U10-NS-058960-06		236,876		236,876
Identification neurons controlling sleep/wake in the nematode C. elegans	93.853	UNIVERSITY OF MICHIGAN	sub to 1-U01-NS-079077-01A1			2,040	2,040
Identification of Endophenotypes in the Behavioral-Variant of Frontotemporal Deme	93.853		1-R21-NS-091500-01		173,439		173,439
Identification, Development and Function of Rapidly Adapting Mechanoreceptors	93.853		1-K23-NS-088341-01		173,717		173,717
Inherited Neuropathies Consortium	93.853		4-R00-NS-069799-02		165		165
Integration of sleep-regulating signals by the Drosophila Pars Intercebralis	93.853	UNIVERSITY OF IOWA	W000750292			124,131	124,131
Interplay of the microbiome and the brain in neurodegenerative disease	93.853		1-F32-NS-090811-01A1		20,201		20,201
Intrathecal cyclodextrin therapy of feline Niemann-Pick type C disease	93.853		1-R21-NS-088370-01		-2,069		-2,069
Investigating excitatory neuronal function across development in CDKL5 disorder	93.853		1-R01-NS-073661-01		136,854		136,854
Localizing epileptic networks using novel 7T MRI glutamate imaging	93.853		1-F30-NS-100433-01		30,295		30,295
Low-Frequency Sine-Wave Neurostimulation Therapy for Epilepsy	93.853	RESEARCH FOUNDATION FOR MENTAL HYGIENE, INC.	1-K23-NS-092973-01A1		174,750		174,750
LRKK2, KIF5A and Parkinson's Disease	93.853		24811			4,000	4,000
Mechanisms and modifiers of hnRNPA1 and hnRNPA2 misfolding and toxicity	93.853	JOHNS HOPKINS UNIVERSITY	2003127266			27,285	27,285
Mechanisms linking insulin resistance to brain structure, pathology, and function	93.853		1-F31-NS-087676-01A1		12,869		12,869
Mechanisms of autophagosome biogenesis and maturation in primary neurons	93.853	RUSH UNIVERSITY	sub to 1-R01-NS-084965-01A1			936	936
Mechanisms of Caspr2 antibodies	93.853		4-R00-NS-082619-03		218,285		218,285
Mechanisms of Caspr2 antibodies	93.853		1-K08-NS-075142-01A1		407		407
Mechanisms of remodeling circuit connectivity after traumatic brain injury	93.853		4-K08-NS-075142-05		208,821		208,821
Mechanistic analysis of axonal transport defects in neurodegenerative disease	93.853		1-R01-NS-088176-01A1		429,289		429,289
	93.853		2-R01-NS-060698-06A1		303,432		303,432

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MEKK3-ERK5-KLF signaling in CCM pathogenesis	93.853	DUKE UNIVERSITY	2034906			451,030	451,030
Midline Radial Glial-like Cells Promote Longitudinal Growth and Guidance of Spinal Cord Dorsal Column Axons During Development	93.853		1-F31-NS-100325-01A1		7,833		7,833
MILD TRAUMATIC BRAIN INJURY AND DIFFUSE AXONAL INJURY	93.853		1-P01-NS-056202-01A2 REVISED		-32		-32
Mitochondrial dynamics in astrocytic processes after transient ischemia	93.853		1-F31-NS-086255-01A1		11,305		11,305
Modeling synaptic vesicles: how does α-Synuclein inhibit fusion	93.853	UNIVERSITY OF MINNESOTA	A003585702			22,012	22,012
Molecular Genetic Insight into Neurodegenerative Disease from Drosophila	93.853		1-R35-NS-097275-01		494,522		494,522
Molecular Mechanisms Controlling Somatosensory Neuron Development	93.853		1-F31-NS-086168-01A1		-32		-32
Molecular mechanisms in controlling development of touch-sensing neurons	93.853		1-R01-NS-083702-01	-2,492	-33,145		-33,145
Molecular mechanisms in controlling development of touch-sensing neurons	93.853		4-R01-NS-083702-04		394,024		394,024
Molecular mechanisms of axon guidance receptor regulation and signaling	93.853		1-R35-NS-097340-01		340,408		340,408
Molecular neuropathology of TDP-43 proteinopathies	93.853		1-R21-NS-087749-01		212,844		212,844
Molecular, cellular and physiological mechanisms of the mammalian circadian clock	93.853		2-R01-NS-054794-06		-6,883		-6,883
MOTOR CIRCUIT MODULATION AND ITS REGULATION	93.853		2-R37-NS-029436-19		8,944		8,944
Murine coronavirus neurovirulence: role of type I interferon response	93.853		1-R01-NS-081008-01		270		270
Murine coronavirus neurovirulence: role of type I interferon response	93.853		4-R01-NS-081008-05		129,227		129,227
Network Dysfunction and Neuromodulation following TBI	93.853		1-R01-NS-101108-01		38,573		38,573
Neural Basis of Generalized Quantifiers	93.853		2-R01-NS-044266-06A1		-3,709		-3,709
Neural mechanisms underlying circadian rhythms in behavior	93.853		1-F31-NS-100395-01		7,424		7,424
Neurologic Clinical Epidemiology Training Grant	93.853		2-T32-NS-061779-06		321,252		321,252
Neuronal Circuit Mechanisms	93.853	CHILDREN'S HOSPITAL OF PHILADELPHIA	20459 / PO #960209RSUB			112,258	112,258
Neuropathological Characterization of 'CTE'	93.853		1-R01-NS-094003-01A1	125,608	530,180		530,180
Neuropeptidergic regulation of sleep in C. elegans	93.853		1-R01-NS-088432-01A1		338,400		338,400
Neurophysiologically Based Responsive Brain Modulation	93.853	MAYO CLINIC ROCHESTER	THE-214838	53,580		154,794	154,794
Neuroscience Neuroimaging Center	93.853		2-P30-NS-045839-11A1		576,158		576,158
NeuSTART II Study	93.853	COLUMBIA UNIVERSITY	6 (GG006906-11)			-1,441	-1,441
Nicotinic & dopaminergic mechanisms regulating in vivo plasticity	93.853		7-R01-NS-021229-29		554,893		554,893
Objective Translational Multi-domain Early Concussion Assessment	93.853		1-R01-NS-097549-01A1		20,640		20,640
Optical study of secretion in mammalian nerve terminals	93.853		2-R01-NS-040966-08A1		-6,461		-6,461
Optical study of secretion in mammalian nerve terminals	93.853		4-R01-NS-040966-12	10,887	321,422		321,422
Oxidative lipid stress in the brain	93.853		1-R01-NS-074178-01A1		22,888		22,888
Paraneoplastic Disorders of the CNS: Autoantigen Profiling	93.853		9-R01-NS-077851-05A2	124,722	291,106		291,106
Parkinson Disease Disparities and Outcomes	93.853		7-K23-NS-081087-02		25,019		25,019
Parkinson's Disease and Dementia	93.853		2-P50-NS-053488-06		1,998,541		1,998,541
Pathogenic Mechanisms of Reduced Transport Initiation in Perry Syndrome	93.853		1-F30-NS-092227-01		36,296		36,296
Persistent measles virus in the brain after resolution of acute infection	93.853		1-F31-NS-092307-01		41,640		41,640
Pharmacotherapy to Counteract Parathion-Induced NMJ Dysfunction	93.853	UNIVERSITY OF MASSACHUSETTS	1-U01-NS083452-01			205,834	205,834
Phase 3 trial of inosine for Parkinson's disease CCC	93.853	MASSACHUSETTS GENERAL HOSPITAL	SUB TO 1U01NS090259			35,784	35,784
Preclinical Cyclosporin A Therapy Trials for Pediatric TBI	93.853		1-U01-NS-069545-01A1		28,414		28,414
Predicting brain tumor progression via multiparametric image analysis and modelin	93.853		2-R01-NS-042645-11A1	58,286	565,543		565,543
Pressor Choice Influences Protection Of Autoregulation in Brain Injury	93.853		1-R01-NS-090998-01A1	32,729	377,985		377,985
Proof of Principle for a Diagnostic Blood Test of Recurrent Seizures	93.853	COGNIZANCE BIOMARKERS	1-R43-NS-079029-01A1			7,426	7,426
Propagation of Lewy pathology in Parkinsons disease	93.853		1-R01-NS-088322-01A1		388,677		388,677
Rational Design of TMS for Neuromodulation	93.853	DUKE UNIVERSITY	203-5257			19,914	19,914
Regulation of Neuronal Excitability by Extracellular Calcium	93.853		1-R01-NS-074257-01		310,099		310,099
Reliable Seizure Prediction Using Physiological Signals and Machine Learning	93.853	MAYO CLINIC ROCHESTER	THE-213453			57,585	57,585
Remapping neurology through translation and innovation	93.853		1-T32-NS-091008-01		135,518		135,518
Research Training Program in Disease-Oriented Neuroscience	93.853		2-R25-NS-065745-06		39,587		39,587
RNAi therapy for Spinocerebellar Ataxia Type 1	93.853	CHILDREN'S HOSPITAL OF PHILADELPHIA	3200071216			116,282	116,282
Robo receptor signaling and regulation during axon guidance in Drosophila	93.853		2-R01-NS-046333-10A1		348,375		348,375
Role of brain mechanosensors on outcome after traumatic brain injury	93.853		1-R21-NS-093293-01		228,843		228,843
ROLE OF CELL CYCLE PROTEINS IN HIV ENCEPHALITIS	93.853		2-R01-NS-041202-09A1		11,772		11,772
Role of type I interferon signaling in Zika virus infection of the brain	93.853		1-R21-NS-100182-01		96,658		96,658
Safety and Efficacy of Systemic Gene Therapy in Informative Models for DMD	93.853		1-R01-NS-094705-01		360,791		360,791
Schwann cell morphology and function in peripheral nerve regeneration	93.853		1-F31-NS-089250-01		28,002		28,002
Self-association and membrane binding of alpha-synuclein	93.853		7-R01-NS079955-04		410,441		410,441
Semi-synthetic α-Synuclein for Tracking Aggregation and Cell-to-Cell Transmission	93.853		1-R01-NS-081033-01		32,367		32,367
Semi-synthetic α-Synuclein for Tracking Aggregation and Cell-to-Cell Transmission	93.853		2-R56-NS-081033-05A1		829		829
Single-molecule resolution of RNA editing of mRNAs: visualizing GRIA2 editing in situ in ALS	93.853		1-F30-NS-100595-01		1,948		1,948
Sodium Leak Channels and Regulation by Neurotransmitters	93.853		2-R01-NS-055293-06A1		13,776		13,776
Sodium Leak Channels and Regulation by Neurotransmitters	93.853		4-R01-NS-055293-09		123,385		123,385
Spatiotemporal Modeling of MRI Grain Lesion Trajectories of Biomarker Discovery	93.853		1-R21-NS-093349-01A1	103,621	202,995		202,995
Spinal Fiber Optic Monitoring	93.853	STONY BROOK	76068			57,621	57,621
Statistical Methods for Causal Inference in Observational Studies	93.853		7-R21-NS-091630-03		68,925		68,925
Statistical Methods for Large and Complex Databases of Ultra-High-Dimensional	93.853		1-R01-NS-085211-01	84,645	113,397		113,397
Statistical Methods for Large and Complex Databases of Ultra-High-Dimensional	93.853		4-R01-NS-085211-04	45,712	264,006		264,006
Stroke Hyperglycemia Insulin Network Effort (SHINE) Trial	93.853	UNIVERSITY OF MICHIGAN	3002111996-SHN	42,500		92,374	92,374
SYSTEMIC MOLECULAR THERAPY FOR MUSCULAR DYSTROPHY	93.853		2-R01-NS-042874-06A2		-30,661		-30,661
Targeted Modulation of the Death Receptor as a Therapeutic Strategy for Glioma	93.853		1-K08-NS-076548-01		78,494		78,494
Targeting tumors with NF1 loss	93.853	DARTMOUTH COLLEGE	R837			99,965	99,965
TBI and Amyloid-Beta Pathologies	93.853		2-R01-NS-038104-15A1		429,428		429,428
TBI: Uncovering Mechanisms of AD-like pathology	93.853		2-R01-NS-038104-10A1		-5,204		-5,204
TDP43 mRNA complex transport in physiologic and pathologic states	93.853		1-K08-NS-094744-01		181,452		181,452
Temporal Lobe Epilepsy and Retrotransposons	93.853		1-R21-NS-095756-01	41,107	189,085		189,085
The Epilepsy Bioinformatics Study (EpiBioS)	93.853	UNIVERSITY OF CALIFORNIA, LOS ANGELES	1580 G QE281			68,312	68,312
The Epileptogenic Effect of Perinatal Hypoxia	93.853		2-R56-NS-031718-02A1		-30,119		-30,119
The Frontotemporal lobar degeneration clinical research consortium	93.853	UNIVERSITY OF CALIFORNIA, SAN FRANCISCO	8567			23,537	23,537
The Genetic Regulation and Disease Function of the Frontotemporal Dementia Protein TMEM106B	93.853		1-R01-NS-082265-01		410		410
The Genetic Regulation and Disease Function of the Frontotemporal Dementia Protein TMEM106B	93.853		4-R01-NS-082265-04		294,328		294,328
The impact of hedgehog signaling during neuroinflammation	93.853		1-K01-NS-097519-01		180,106		180,106
The molecular pathogenesis of cerebral cavernous malformations	93.853		1-F30-NS-100252-01		27,510		27,510
The Philadelphia Regional Stroke Trials Network Coordinating Center (PRSTNCC)	93.853		1-U10-NS-086474-01	18,738	445,302		445,302

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Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub-Receiptients	Direct	Pass-Through	Expenditure Total
The Role of Connexin32 in the Pathogenesis of CMTX	93.853		4-R01-NS-055284-9		120,931		120,931
The role of RBM3 in Huntingtons disease: pathogenesis and protection	93.853		1-F31-NS-098739-01		40,826		40,826
Towards a blood-based diagnostic panel for confirmation of Parkinson's disease	93.853		1-U01-NS-097056-01A1		28,043		28,043
TRAINING IN NEUROVIROLOGY	93.853		2-T32-NS-007180-32		192,222		192,222
TRAINING IN NEUROVIROLOGY	93.853		2-T32-NS-007180-07A1		-6,706		-6,706
Training Program in Neuroengineering and Medicine	93.853		1-T32-NS-091006-01		296,436		296,436
Transcriptional Control of Glioma Development	93.853		1-R01-NS-093120-01		203,192		203,192
Transcriptional control of sonic Hedgehog signaling	93.853		2-R01-NS-039421-15		376,175		376,175
Transcriptional mechanisms coordinating midline and motor axon guidance	93.853		2-R01-NS-054739-05A1		46,912		46,912
Transcriptional mechanisms coordinating midline and motor axon guidance	93.853		4-R01-NS-054739-08		109,321		109,321
Transforming Research and Clinical Knowledge in Traumatic Brain Injury	93.853	UNIVERSITY OF CALIFORNIA, SAN FRANCISCO	9819sc			235,332	235,332
Two-Photon Microscopy of Oxygen Consumption in the Brain	93.853	MASSACHUSETTS GENERAL HOSPITAL	226626			87,567	87,567
Ultrafast Genetically Encoded Voltage Indicators Designed from First Principles	93.853		1-R01-NS-101106-01		6,811		6,811
Unbiased Approaches to Novel Biomarker Discovery in Parkinson's Disease	93.853		1-U01-NS-082134-01		392,159		392,159
Understanding Action Selection in the Tool Use Network	93.853	MOSS REHABILITATION RESEARCH INSTITUTE	491401			35,191	35,191
Understanding the Conceptual-Motor Interface	93.853	MOSS REHABILITATION RESEARCH INSTITUTE	SUB TO 1-R01-NS065049-01A2			988	988
Understanding the Pathogenic Mechanisms of Rett Syndrome	93.853		1-R01-NS-081054-01A1		3,456		3,456
Understanding the Pathogenic Mechanisms of Rett Syndrome	93.853		4-R01-NS-081054-04		410,043		410,043
Vasoactive Agents and Cerebral Outcomes in Brain Injury	93.853	UNIVERSITY OF WASHINGTON	UWSC8805			35,836	35,836
Virtual Resection to Treat Epilepsy	93.853		1-R01-NS-099348-01	25,430	374,949		374,949
WARFARIN VERSUS ASPIRIN IN REDUCED CARDIAC EJECTION FRACTION	93.853	COLUMBIA UNIVERSITY	WARCEF - SITE 156			1	1
Waxholm Space for Rodent Neuroinformatics	93.853		1-R01-NS-096720-01A1	116,192	294,713		294,713
Whole transcriptome studies of patients with Transient Ischemic Attacks (TIAs)	93.853	UNIVERSITY OF CALIFORNIA, DAVIS	201600371-02			31,297	31,297
SubTotal 93.853				1,941,750	26,105,979	2,469,623	28,575,602
NATIONAL INSTITUTE OF NEUROLOGICAL DISORDERS AND STROKE/NIH/DHHS Total				1,941,750	26,096,317	2,469,623	28,565,940
NATIONAL INSTITUTE OF NURSING RESEARCH/NIH/DHHS							
A Longitudinal Study of Adherence to Medication in Black Men with Hypertension	93.361		1-R01-NR-013491-01A1	5,041	293,510		293,510
A mixed methods observational study of persistent vocalizations in nursing home residents with moderate to severe dementia	93.361		1-F31-NR-015693-01		17,678		17,678
A Personalized Behavioral Intervention to Improve Physical Activity, Sleep and Cognition in Sedentary Older Adults	93.361		1-K99-NR-016484-01A1		5,904		5,904
Advanced Training in Nursing Outcomes Research	93.361		2-T32-NR-007104-16		444,599		444,599
Advanced Training in Nursing Outcomes Research	93.361		3-T32-NR-007104-14S1		97		97
An Objective Snoring Index and Its Association with Carotid Atherosclerosis	93.361		1-K99-NR-013177-01	45,738	64,228		64,228
Atrial fibrillation symptom perception	93.361		1F31NR015687-01A1		11,476		11,476
Comparing Quality and Cost of Care across Nursing Environments	93.361	CHILDREN'S HOSPITAL OF PHILADELPHIA	3200390519			120,639	120,639
Decision Support: Optimizing Post Acute Referrals and Effect on Patient Outcomes	93.361		2-R01-NR-007674-04A2		5,540		5,540
Decoding the microbial bioburden of diabetic foot ulcers: A metagenomic approach	93.361		1-R01-NR-015639-01	50,157	504,920		504,920
Enhanced ultrasound treatment of chronic wounds with monitoring of healing and quality of life outcomes	93.361	DREXEL UNIVERSITY	800066			27,369	27,369
Exploring Surrogates' Experiences of POLST Discussions for Nursing Home Residents with Advanced Dementia	93.361		1-F31-NR-015702-01A1		32,422		32,422
Individualized Care for at Risk Older Adults	93.361		2-T32-NR-009356-06A1		501,820		501,820
Mechanisms of a Symptom Cluster: Dyspnea, Fatigue and Sleep Disturbance in Chronic Illness	93.361		1-K23-NR-014885-01		120,771		120,771
Negotiated Decision-Making: Feasibility of the BREATHE Asthma Intervention Trial	93.361	COLUMBIA UNIVERSITY	1(GG011577-01)			37,837	37,837
Neurobehavioral effects of partial sleep deprivation	93.361		2-R01-NR-004281-14		-174		-174
Panel Study of Effects of Changes in Nursing on Patient Outcomes	93.361		1-R01-NR-014855-01		369,984		369,984
Promoting Teen Health: A Web-based Intervention to Prevent Risky Driving	93.361		4-R00-NR-013548-03	55,267	223,447		223,447
Psychological Effects of Injuries in Urban Black Men: A Disparate Health Issue	93.361		1-R01-NR-013503-01	59,717	398,099		398,099
Research on Vulnerable Women, Children and Families	93.361		2-T32-NR-007100-16		471,895		471,895
Revealing the Role of the Cervico-Vaginal Microbiome in Spontaneous Preterm Birth	93.361		1-R01-NR-014784-01		67,059		67,059
Revealing the Role of the Cervico-Vaginal Microbiome in Spontaneous Preterm Birth	93.361		4-R01-NR-014784-04		504,239		504,239
Sepsis Survivors' Post-Acute Outcomes: Impact of Early Home Health and MD Visits	93.361	VISITING NURSE SERVICE OF NEW YORK	4598p			138,252	138,252
Severe Pain During Wound Care Procedures: Model and Mechanisms	93.361	UNIVERSITY OF IOWA	W000711747			90,318	90,318
Sodium-restricted diets and symptoms in end stage renal disease: An RCT	93.361		1-K23-NR-015058-01		108,977		108,977
Technology Application to Enhance Discharge Referral Decision Support	93.361	RIGHTCARE SOLUTIONS	SUB TO 2R44NR013609			7,768	7,768
Testing a Latino web-based parent-adolescent sexual communication intervention	93.361		7-R01-NR-013505-04	191,868	309,861		309,861
The Impact of Hospice Preferred Practices on Patient Outcomes and Hospice Costs	93.361	MOUNT SINAI MEDICAL CENTER	0255-5681-4609			4,667	4,667
The Impact of Nursing on In-Hospital Cardiac Arrest Patient Outcomes	93.361		1-R01-NR-016002-01	18,254	221,998		221,998
The Role of Palliative Care Interventions to Reduce Circadian Rhythm Disorders in Persons with Dementia	93.361		1-R01-NR-015226-01A1		324,757		324,757
Transitional Telehealth Home Care: REACH	93.361	CHILDREN'S HOSPITAL OF PHILADELPHIA	951260RSUB			101,233	101,233
Translating Unique Learning for Incontinence Prevention: The TULIP Project	93.361	UNIVERSITY OF MICHIGAN	3001740447			3,246	3,246
SubTotal 93.361				611,057	5,020,916	531,329	5,552,245
NATIONAL INSTITUTE OF NURSING RESEARCH/NIH/DHHS Total				611,057	5,020,916	531,329	5,552,245
NATIONAL INSTITUTE ON AGING/NIH/DHHS							
A Randomized Controlled Trial of Incentives for Habit Formation	93.310		1-R01-AG-043844-01		18,677		18,677
Alzheimer's Prevention Initiative APOE4 Trial	93.310	BANNER HEALTH	0435-02-48535		15,990		15,990
SubTotal 93.310				34,667	407,688	675,327	1,083,015
A Model-Based Approach to Understanding Memory Impairments in Normal Aging	93.866		1-R21-AG-048233-01A1		179,054		179,054
A novel and tractable model to address telomere dysfunction in a human tissue	93.866		1-R21-AG-054209-01		198,741		198,741
A Randomized Trial of Financial Incentives for Maintenance of Weight Loss	93.866		4-R01-AG-045045-04	20,732	229,532		229,532
AD-specific changes in the MTL: Novel biomarkers using in vivo / ex vivo imaging	93.866		1-R01-AG-056014-01		11,700		11,700
Age, Hearing Loss, and Sentence Comprehension: Neural Correlates	93.866		1-R01-AG-038490-01A1		24		24
Age, Hearing Loss, and Sentence Comprehension: Neural Correlates	93.866		4-R01-AG-038490-05	115,561	478,692		478,692
Aging, gender and arterial stiffness in atherosclerosis	93.866		1-R01-AG-047373-01		427,147		427,147
Alzheimer's Disease Core Center	93.866		2-P30-AG-010124-26		1,756,276		1,756,276
Alzheimer's Disease Genetics Consortium	93.866		5-U01-AG-032984-07	1,468,255	4,457,344		4,457,344
Alzheimer's Disease Neuroimaging Initiative 2 (ADNI2)	93.866	UNIVERSITY OF SOUTHERN CALIFORNIA	65937958			1,124	1,124
Alzheimer's Disease Neuroimaging Initiative 3 (ADNI3)	93.866	UNIVERSITY OF SOUTHERN CALIFORNIA	79634962			33,166	33,166
Alzheimer's Prevention Initiative APOE4 Trial	93.866	BANNER HEALTH	0435-02-42372			73,798	73,798
Alzheimer's Disease Core Center	93.866		2-P30-AG-010124-21		35,484		35,484
Anemia Trial of the T-Trial	93.866	DUKE CLINICAL RESEARCH INSTITUTE	2039905			36,460	36,460



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Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub- Recipients	Direct	Pass-Through	Expenditure Total
Anti-Amyloid in Asymptomatic Alzheimers Disease, Ethics Sub Study	93.866	UNIVERSITY OF CALIFORNIA, SAN DIEGO	39177054			89,636	89,636
Anti-Amyloid Treatment in Asymptomatic Alzheimer's Disease (A4 Study)-NIH	93.866	UNIVERSITY OF CALIFORNIA, SAN DIEGO	2-U19-AG-010483-22			-93,550	-93,550
Anti-Amyloid Treatment in Asymptomatic Alzheimer's Disease (A4 Study)-NIH	93.866	UNIVERSITY OF SOUTHERN CALIFORNIA	NIH-022 A4 75697387			76,645	76,645
Autophagy-mediated chromatin degeneration in aging and age-related diseases	93.866		1-K99-AG-053406-01A1		22,663		22,663
Brain-Penetrant Thromboxane Receptor Antagonists for Alzheimer's Disease Therapy	93.866		1-R01-AG-034140-01A2		-9,823		-9,823
Causal role of PFC in perceptual and cognitive auditory processing and age-related plasticity	93.866	UNIVERSITY OF CALIFORNIA, DAVIS	201402652-01			66,413	66,413
Cell-Intrinsic and Extrinsic Factors in Stem Cell Aging	93.866		4-F31-AG-044995-03		11,608		11,608
Center on the Demography of Aging	93.866		2P30AG012836-21	21,334	338,392		338,392
Citalopram Decreases CSF Aβ: A Randomized Dose Finding Trial	93.866		7-R01-AG-041502-03	143,430	635,542		635,542
Clinical Importance of Drug-Drug Interactions	93.866		2-R01-AG-025152-06	4,630	-34,090		-34,090
Clinical Importance of Drug-Drug Interactions	93.866		4-R01-AG-025152-10		340,227		340,227
Clinical Importance of Drug-Drug Interactions	93.866		2-R01-AG-025152-11		72,525		72,525
Clinical, Imaging, and Pathological studies in the Oldest Old: The 90+ Study	93.866	UNIVERSITY OF CALIFORNIA, IRVINE	Sub to 2-R01-AG-021055-11 REVISED			138,394	138,394
Communicating with African Americans at the End of Life: a Church-based Model	93.866		1-R21-AG-044677-01A1		96,654		96,654
Computational neuroanatomy of aging and AD via pattern analysis	93.866		2-R01-AG-014971-10A1		62,715		62,715
Connectomic imaging in familial and sporadic frontotemporal degeneration	93.866		1-U01-AG-052943-01	395,273	756,286		756,286
Consortium for Alzheimers Sequence Analysis (CASA)	93.866		1-Uf1-AG-047133-01	2,040,723	3,151,967		3,151,967
Coordinating Center for Genetics and Genomics of Alzheimer's Disease (CGAD)	93.866		1-U54-AG-052427-01	665,547	1,302,333		1,302,333
Data and Safety Monitoring Board	93.866	UNIVERSITY OF CALIFORNIA, SAN DIEGO	47180199			33,464	33,464
Deciding Now to Save More Later	93.866	NATIONAL BUREAU OF ECONOMIC RESEARCH, INC.	33-4121-06-1			39,586	39,586
Default palliative care consultation for seriously ill hospitalized patients	93.866		1-UH2-AG-050311-01	429,179	830,541		830,541
Determining if Reduced Insulin Response in the Brain is Linked to Cognitive Loss	93.866		1-R43-AG-052097-01A1		251,235		251,235
Development of R-Spondin 1 as an Anabolic Agent for the Treatment of Estrogen Deficiency-Induced Bone Loss	93.866	VIBE PHARMACEUTICALS	1R43AG050332-01A1			25,503	25,503
Diet and fecal incontinence in older women	93.866		1-R03-AG-053277-01		109,339		109,339
Do Executive Skills and Musical Sophistication Preserve Function in Older Adults with Mild Cognitive Impairment?	93.866		1-F31-AG-055148-01A1		30,322		30,322
Early Markers of Alzheimer's Disease (AD) in BLSA Participants - Structural and Functional Brain Changes: Quantitative Analysis of Longitudinal MR Images	93.866		HHSN271201500049C		33,485		33,485
Early, detection of Alzheimer's (MCI Stage): Analysis of plasma cell-free miRNAi	93.866	DIAMIR, LLC	Sub to 2-R44-AG-044860-02			19,428	19,428
Effects of tryptophan depletion and adverse childhood experiences on neural markers of executive function in menopausal women	93.866		1-F30-AG-055256-01		43,187		43,187
EFFICACY OF AN SSRI FOR MENOPAUSAL SYMPTOMS IN PERIMENOPAUSAL WOMEN	93.866		1-U01-AG-032656-01		17,402		17,402
Elucidating AD genotype-phenotype relationships using genetics of human IPS cells	93.866	UNIVERSITY OF CALIFORNIA, SAN DIEGO	55748937			3,886	3,886
Epigenetics of Aging and Age-associated Diseases	93.866		2-P01-AG-031862-06A1	40,056	49,439		49,439
Epigenetics of Aging and Age-associated Diseases	93.866		4-P01-AG-031862-09	71,823	1,415,232		1,415,232
Ethical Issues in Dementia Research Involving Surrogates and Study Partners	93.866	JOHNS HOPKINS UNIVERSITY	2001440333			-109	-109
Evaluating Pay for Performance and its Design: Evidence from Nursing Homes	93.866		1-R01-AG-034182-01A1		2,800		2,800
Four repeat tauopathy neuroimaging initiative	93.866	UNIVERSITY OF CALIFORNIA, SAN FRANCISCO	9409sc			50,628	50,628
Frontotemporal Dementias: Genotypes and Phenotypes	93.866		2-P01-AG-017586-16	76,195	2,276,930		2,276,930
Function of Regulator of G protein signaling in aging skeleton	93.866		7-R01-AG-48388-03	33,302	310,148		310,148
Genetic Architecture of Memory and Executive Functioning in Alzheimer's Disease	93.866	UNIVERSITY OF WASHINGTON	763366			18,148	18,148
Genome Wide Analysis of LXR Binding-Metabolic and Epigenetic Regulation in AD	93.866	UNIVERSITY OF PITTSBURGH	0017484 (122314-1)		-43,261		-43,261
Group Learning Achieves Decrease Incidents of Lower Urinary Symptoms (GLADIOLUS)	93.866	BEAUMONT HOSPITAL, ROYAL OAK CAMPUS	PO #100-2940836			112,609	112,609
Health and Retirement Study (Years 23-28)	93.866	UNIVERSITY OF MICHIGAN	3002222932			104,354	104,354
Heterogeneity of Multi-modal Imaging Signatures of Aging, MCI, Alzheimer's disease via Pattern Analysis	93.866		1-RF1-AG-054409-01		14,159		14,159
High Priority Research Network on the Determinants of Life Course Outcome	93.866	UNIVERSITY OF CHICAGO	FP056559			11,876	11,876
Immediate Fit Using Innovative Technology Transibial Prosthesis	93.866	IFIT PROSTHETICS	SUB TO 2R42AG050430-04			116,693	116,693
Impact of Disclosing Amyloid Imaging Results to Cognitively Normal Individuals	93.866	BRIGHAM AND WOMEN'S HOSPITAL	113049			145,780	145,780
Internal Ethics Committee	93.866	UNIVERSITY OF CALIFORNIA, SAN DIEGO	37458739			27,113	27,113
Long Life Family Study	93.866	BOSTON MEDICAL CENTER	5-U01-AG-023755-08			54,394	54,394
Longitudinal Evaluation of Familial Frontotemporal Dementia Subjects (LEFFTDS)	93.866	MAYO CLINIC ROCHESTER	PO #63788299			208,379	208,379
Metabolic Networks and Pathways in Alzheimers Disease	93.866	DUKE UNIVERSITY MEDICAL CENTER	2034217			63,329	63,329
Metabolic Signatures Underlying Vascular Risk Factors for Alzheimer-type Dementias	93.866	DUKE UNIVERSITY	2034990			266,169	266,169
Metabolic Signatures Underlying Vascular Risk Factors for Alzheimer-type Dementias	93.866		2035330			57,378	57,378
Midcareer Investigator Award in Patient-Oriented Research in Aging	93.866		4-K24-AG-042765-03		219,265		219,265
Midcareer Mentoring Award for Patient-Oriented Research in Aging	93.866		1-K24-AG-047908-01		221,313		221,313
Modeling Splicing in normal tissues and neurodegenerative disease	93.866		1-R01-AG-046544-01A1		356,265		356,265
Modulators of Medial Temporal Lobe Subregion Structure and Function in Normal and Pathological Aging	93.866		1-R01-AG-055005-01		83,429		83,429
Molecular mechanisms and cellular implications of tau dysfunction	93.866		1-RF1-AG-053951	216,100	419,327		419,327
Molecular Mechanisms of Rapamycin's effects on Health and longevity	93.866		4-R01-AG-043483-04		482,653		482,653
Molecular Mechanisms of Rapamycin's effects on Health and longevity.	93.866		1-R01-AG-043483-01		-489		-489
Monitored Breathing Awareness Therapy for Insomnia Disorder in Older Adults	93.866	ADVANCED MEDICAL ELECTRONICS	SUB TO 1R32AG049524			60,004	60,004
MRI-Based Assessment of Structural and Mechanical Implications of Osteoporosis	93.866		1-R01-AG-038693-01A1		276,409		276,409
Multimodal Biomarkers in Frontotemporal Lobar Degeneration	93.866		4-K01-AG-043503-04		143,315		143,315
National Alzheimer's Coordinating Center (NACC)	93.866	UNIVERSITY OF WASHINGTON	762205			27,262	27,262
NBER Roybal Center for Behavior Change in Health and Savings: Reminders through Association	93.866	NATIONAL BUREAU OF ECONOMIC RESEARCH, INC.	33-4121-07-01			28,985	28,985
Nighttime Agitation and Restless Legs Syndrome in People with Alzheimer's Disease	93.866	UNIVERSITY OF TEXAS AT AUSTIN	UTA17-000231			61,204	61,204
Novel Imaging Biomarkers for Treatment Evaluation in Neurodegenerative Disorders	93.866		1-R01-AG-037376-01		50,082		50,082
Optimized Arterial Spin Labeling MRI in Mild Cognitive Impairment	93.866		1-R01-AG-040271-01A1		-1,109		-1,109
Optimized Arterial Spin Labeling MRI in Mild Cognitive Impairment	93.866		4-R01-AG-040271-05		315,766		315,766
Orally-absorbed, small molecule microtubule-stabilizers for tauopathy treatment	93.866		1-R01-AG-044332-01		1,523		1,523
Orally-absorbed, small molecule microtubule-stabilizers for tauopathy treatment	93.866		4-R01-AG-044332-04		268,825		268,825
ORCATECH Collaborative Aging (in Place) Research Using Technology (CART)	93.866	OREGON HEALTH & SCIENCE UNIVERSITY	1009166 UPA			7,879	7,879
Pathological tau strains and transmission in Alzheimer's disease and other tauopathies	93.866		1-F32-AG-053036-01A1		18,921		18,921
Penn Roybal Center in Behavioral Economics and Health	93.866		2-P30-AG-034546-06	54,168	558,991		558,991
Physical Activity & Cognitive Health Among Older Latinas	93.866	UNIVERSITY OF CALIFORNIA, DAVIS	201121619-04			32,854	32,854
Pleiotropy GWAS of Alzheimer's Disease	93.866		1-R01-AG-054060-01		68,487		68,487
Probing TRAP150/GSK3-mediated regulation of the aging-related protein PSF	93.866		1-F31-AG-047022-01A1		5,885		5,885
Processing Speed Training to Preserve Driving and Function Competencies in MCI	93.866	UNIVERSITY OF ALABAMA AT BIRMINGHAM	000504619-001			55,077	55,077
Prospective Assessment of The Etiology of Insomnia in Middle Aged & Elder Adults	93.866		4-R01-AG-041783-04		580,152		580,152
Reversing Impact of Childhood Adversity on MDD & Cognitive Decline in Menopause	93.866		1-R01-AG-048839-01		81,138		81,138
Short Sleep: Locus Coeruleus Metabolites and the Temporal Progression of Alzheimers	93.866		1-RF1-AG-054104-01		312,785		312,785
Sirtuin regulation of aging human primary adipose tissue	93.866		4-K08-AG-042496-04		123,112		123,112
Sleep/Wake Fragmentation with Age: Molecular Mechanisms	93.866		4-P01-AG-017628-14	69,199	1,261,886		1,261,886

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Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub-Receiptients	Direct	Pass-Through	Expenditure Total
Staging Activity Limitation	93.866		1-R01-AG-040105-01A1	3,948	3,948		3,948
Staging Activity Limitation	93.866		4-R01-AG-040105-04		177,553		177,553
Statistical methods for vitamin D targets for functional outcomes in older adults	93.866	UNIVERSITY OF MARYLAND	1600268			32,380	32,380
Stem cell aging and the control of abscission	93.866		1-R21-AG-047915-01A1		280,472		280,472
TDP-43 Proteinopathies in ALS-Dementia	93.866		1-P01-AG-032953-01A1		-322		-322
Testosterone Trial	93.866		1-U01-AG-030644-01A1	201,774	4,704		4,704
The Alzheimer's Disease Neuroimaging Initiative 2 Biomarker Core	93.866	NORTHERN CALIFORNIA INSTITUTE FOR RESEARCH AND EDUCATION	1576 sub to U01AG024904-07			103,070	103,070
The Alzheimer's Disease Neuroimaging Initiative 3 Biomarker Core	93.866	NORTHERN CALIFORNIA INSTITUTE FOR RESEARCH AND EDUCATION	WEI2015-14			357,966	357,966
The Benefits of Knowledge: Mortality Risks, Mental health and Life-Cycle Behaviors	93.866		1-R21-AG-053763-01		97,668		97,668
The Bone Trial of the Testosterone Trial	93.866		1-R01-AG-037679-01A1		317,420		317,420
The Contribution of Diabetes to Mortality in the United States	93.866		1-R03-AG-055724-01		4,186		4,186
The Contribution of Obesity to International Differences in Longevity	93.866		1-R01-AG-040212-01	19,488	117,836		117,836
The Economics of Health, Wealth, and Well-Being Pilot: Save More Later and Particularly after Your Next Birthday: The Effect of Procrastination on Retirement Savings	93.866		P01-AG-005842			-179	-179
The Macrovascular and Microvascular Contributions to Alzheimer's Disease	93.866	NATIONAL BUREAU OF ECONOMIC RESEARCH, INC.	WAKE FOREST UNIVERSITY			76,067	76,067
The NIA Genetics of Alzheimer's Disease Data Storage Site	93.866		1-U24-AG-041689-01		1,413,415		1,413,415
The NIA Genetics of Alzheimer's Disease Data Storage Site	93.866		2-U24-AG-041689-06		317,276		317,276
The role of ATR in preventing age-related diseases	93.866		2-R01-AG-027376-06		1,163		1,163
Three Approaches to Maintenance Therapy for Chronic Insomnia in Older Adults	93.866		1-R56-AG-050620-01A1	3,961	233,829		233,829
Training in age related neurodegenerative diseases	93.866		4-T32-AG-000255-19		495,925		495,925
Training in Healthcare Financing, Organization and Delivery for Aging Populations	93.866		1-T32-AG-051090-01		82,214		82,214
Understanding Multimorbidity through Multivariate Template Matching	93.866	CHILDREN'S HOSPITAL OF PHILADELPHIA	321095			37,517	37,517
Understanding the Benefit of Trauma Center Triage for Injured Older Adults	93.866		1-R03-AG-052117-01A1	30,128	82,522		82,522
UNDERSTANDING THE ROLE OF PHYSICIAN INTEGRATION WITHIN NURSING HOMES IN POST-ACUTE CARE OUTCOMES	93.866		1-K08-AG-052572-01		166,645		166,645
Understanding Variations in Hip Fracture Outcomes across the Continuum of Care	93.866		1-K08-AG-043548-01	-2,517	-2,517		-2,517
Understanding Variations in Hip Fracture Outcomes across the Continuum of Care	93.866		4-K08-AG-043548-05	3,302	145,563		145,563
Using Patient Outcomes to Inform Surgical Education	93.866		1-R01-AG-049757-01A1	628,758	742,920		742,920
Young-Onset Dementia in Colombia	93.866		1-R21-AG-046499-01	77,222	94,280		94,280
	SubTotal 93.866			6,831,571	30,529,843	2,617,519	33,147,362
Early Markers of Alzheimer's disease (AD) in BLSA Participants - Structural and Functional Brain Changes: Quantitative Analysis of Longitudinal MR Images	93.RD		HHSN271201600059C		220,732		220,732
	SubTotal 93.RD				220,732		220,732
NATIONAL INSTITUTE ON AGING/NIH/DHHS Total				6,866,238	31,158,263	3,292,846	34,451,109
NATIONAL INSTITUTE ON ALCOHOL ABUSE AND ALCOHOLISM/NIH/DHHS							
2/2 Pharmacogenetic Treatment for Alcoholism	93.273		4-R01-AA-021164-05		314,521		314,521
A randomized trial of abandoned housing remediation, substance abuse and violence	93.273		1-R01-AA-024941-01	7,089	182,567		182,567
A randomized trial of urban vacant lot stabilization and substance abuse outcomes	93.273		1-R01-AA-020331-01A1		48,383		48,383
An RCT of Brief Intervention for Problem Drinking and Partner Violence	93.273		1-R01-AA-018705-01A1		216,266		216,266
Community Policing and Alcohol-Involved Crime	93.273		7-R03-AA-022776-02		6,692		6,692
CYP2E1 Mediated Mitochondrial Injury and Cell Damage in Alcohol Liver Disease	93.273		1-R01-AA-022986-01A1	138,971	462,131		462,131
Effectiveness of Topiramate: Characterizing Individual Differences	93.273		1-K23-AA-023894-01		143,578		143,578
Epigenomics of Human Health and Disease	93.273	UNIVERSITY OF CALIFORNIA, LOS ANGELES	1350G SC715			-2,629	-2,629
Impact of enhancements to smartphone-based continuing care for alcohol dependence	93.273		1-R01-AA-022595-01A1	67,971	760,491		760,491
Pharmacogenetic Analysis of Topiramate Treatment of AUD	93.273		1-R01-AA-023192-01		610,203		610,203
Social Media Interventions to Reduce Alcohol Use among Youth	93.273	UNIVERSITY OF MICHIGAN	303940750			26,396	26,396
The pathogenesis of insulin resistance in alcoholic liver disease	93.273		1-K08-AA-021424-01A1		-24,882		-24,882
The pathogenesis of insulin resistance in alcoholic liver disease	93.273		4-K08-AA-021424-04		182,318		182,318
The Regulation of Lipid Droplet Biogenesis in Alcoholic Liver Disease	93.273		1-F32-AA-024347-01A1		56,989		56,989
	SubTotal 93.273			214,031	2,959,257	23,767	2,983,024
NATIONAL INSTITUTE ON ALCOHOL ABUSE AND ALCOHOLISM/NIH/DHHS Total				214,031	2,959,257	23,767	2,983,024
NATIONAL INSTITUTE ON DEAFNESS & OTHER COMMUNICATION DISORDERS/NIH/DHHS							
Contribution of G0-like Cells to Maintenance of the Oral Cancer Stem Cell Pool	93.121		1-F32-DE-024685-01		69,685		69,685
	SubTotal 93.121				69,685		69,685
A Novel Regulated Nanohydrogel Delivery System for Targeted Inner Ear Application	93.173		1-R01-DC-014464-01		402,013		402,013
Allele specific expression of TAS2R38 in human taste and nasal tissue	93.173		1-R21-DC-013886-01A1	78,895	124,558		124,558
Chronic Rhinosinusitis and genetics of bitter taste receptors	93.173		1-R01-DC-013588-01A1	127,036	595,600		595,600
Circuit mechanisms of sound processing and detection in the auditory pathway	93.173		1-R01-DC-014479-01		381,460		381,460
Conceptual Combination	93.173		1-R01-DC-015359-01A1	36,604	431,443		431,443
Conferences for Advances and Perspectives in Auditory Neurophysiology (APAN)	93.173		2-R13-DC-010549-06		10,980		10,980
Contribution of the parietal cortex to auditory-stream perception	93.173		1-F32-DC-015709-01		44,749		44,749
Cortical Mechanisms of Auditory-Vocal Interaction	93.173		1-K08-DC-014299-01		203,425		203,425
Figurative Language in Aphasic and Health Participants	93.173		4-R01-DC-012511-04		233,329		233,329
Genomic architecture of Shh dependent cochlear morphogenesis	93.173		2-R01-DC-006254-11A1		412,564		412,564
Identifying the molecular determinants of selective axonal fasciculation in the olfactory nerve	93.173		1-R21-DC-015885-01		126,604		126,604
Investigating the Roles of Epithelial Splice Regulatory Proteins in Inner Ear Development	93.173		1-F31-DC-014647-01		34,446		34,446
Linguistic and Nonlinguistic Functions of Frontal Cortex	93.173		2-R01-DC-009209-11		362,604		362,604
Modulation of Odorant Receptor Function	93.173	DUKE UNIVERSITY	2032340			69,753	69,753
Modulation of Olfactory Cilia	93.173		1-R01-DC-011554-01A1	-1,068	-15,000		-15,000
Multi-scale study of auditory scene analysis in the ventral auditory pathway	93.173		1-R01-DC-013961-01A1	134,187	491,333		491,333
Neural representations of spatial directions in language, schemas, and images	93.173		1-F32-DC-015203-01		54,214		54,214
Neuronal circuits supporting learning-driven changes in auditory perception	93.173		1-R01-DC-015527-01A1		28,937		28,937
Objective evaluation of conductive otitis media and nasal obstruction symptoms	93.173	OHIO STATE UNIVERSITY	60051959			48,086	48,086
Olfactory coding in mammals	93.173		2-R01-DC-006213-11A1	97,517	494,917		494,917
Psycholinguistic Analysis of Aphasic Syndromes	93.173	MOSS REHABILITATION RESEARCH INSTITUTE	SUB TO 2-R01-DC000191-30			44,241	44,241
Representations of communication signals in the auditory cortex	93.173		7-R01-DC-009224-03		-52		-52
Representations of sound processing in the auditory cortex	93.173		2-R01-DC-009224-07A1		302,460		302,460

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Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub- Receiptients	Direct	Pass-Through	Expenditure Total
Role of CALHM1 ion channel in taste transduction	93.173	TEMPLE UNIVERSITY	4-R01-DC-012538-04		323,409		323,409
Role of CALHM3 in ATP-release channel gating and taste perception	93.173		1-R03-DC-014328-01		10,254		10,254
Semantic Memory and Language Learning in Alzheimer's Disease and Semantic Dementia	93.173		254692-UPENN			98,505	98,505
Sweet receptor (T1R2/3) signaling in the upper airway and regulation of immunity	93.173		1-R03-DC-013862-01A1		169,539		169,539
Targeting of Sensory Axons in the Olfactory Bulb	93.173		1-R01-DC-012854-01A1		992		992
Targeting of Sensory Axons in the Olfactory Bulb	93.173	TEMPLE UNIVERSITY	4-R01-DC-012854-04		359,986		359,986
The role of cortical interneurons in auditory processing and learning	93.173		1-R03-DC-013660-01		57,185		57,185
Theory-driven treatment of language and cognitive processes in aphasia	93.173		253763-UPENN			33,219	33,219
TMS as a Biomarker of Plasticity in Aphasia Recovery	93.173		1-R01-DC-012780-01A1	9,288	8,154		8,154
TMS as a Biomarker of Plasticity in Aphasia Recovery	93.173		4-R01-DC-012780-04	75,970	299,234		299,234
SubTotal 93.173				558,429	5,949,337	293,804	6,243,141
Osteoporosis treatment response assessed by micromechanical modeling of MRI data	93.846		4-R01-AR-055647-09	30,484	251,365		251,365
Osteoporosis treatment response assessed by micromechanical modeling of MRI data.	93.846		2-R01-AR-055647-05	10,663	78,350		78,350
SubTotal 93.846				41,147	329,715		329,715
NATIONAL INSTITUTE ON DEAFNESS & OTHER COMMUNICATION DISORDERS/NIH/DHHS Total				599,576	6,348,737	293,804	6,642,541
NATIONAL INSTITUTE ON DRUG ABUSE/NIH/DHHS							
Brain and behavioral effects of graphic cigarette warning labels	93.077		1-R01-DA-036028-01		500,854		500,854
SubTotal 93.077					500,854		500,854
PTSD and Pregnancy: Psychophysiology, Response to Treatment & Pregnancy Outcome	93.242	WASHINGTON UNIVERSITY IN ST. LOUIS	WU-16-217			15,159	15,159
SubTotal 93.242						15,159	15,159
2/2 Multicenter trial of combined pharmacotherapy to treat cocaine dependence	93.279		1-U01-DA-033368-01A1		-26,908		-26,908
A Pilot Implementation Project of Methadone and Suboxone for Injecting Drug Users	93.279		1-R01-DA-033671-01	94,983	110,185		110,185
A Pilot Implementation Project of Methadone and Suboxone for Injecting Drug Users	93.279		4-R01-DA-033671-05	197,976	514,084		514,084
A Placebo Controlled Trial of Varenicline for Smoking among those with HIV/AIDS	93.279		1-R01-DA-033681-01		-120		-120
A Placebo Controlled Trial of Varenicline for Smoking among those with HIV/AIDS	93.279		4-R01-DA-033681-05		419,254		419,254
Acute nicotine decreases alcohol-induced dopamine response & increases drinking	93.279		2-R01-DA-009411-16A1		564,446		564,446
ADAR2 editing of GluA2 and cocaine reinstatement	93.279	MASSACHUSETTS GENERAL HOSPITAL	226055			71,846	71,846
Alpha 5 nAChR is a risk factor within the dopamine system for nicotine addiction	93.279		1-R01-DA-036572-01		410,801		410,801
AMP-activated protein kinase (AMPK) and nicotine dependence	93.279		1-R01-DA-041180-01A1	34,274	315,333		315,333
Anhedonia as a Risk Factor and Consequence of Substance Use	93.279	UNIVERSITY OF SOUTHERN CALIFORNIA	35609807			38,956	38,956
Behavioral Treatment of Adolescent Marijuana Use	93.279	DARTMOUTH COLLEGE	1347			13,891	13,891
Causal Inferences for treatment moderators on Zero-Inflated outcomes of HIV risk	93.279		1-R01-DA-036557-01A1		110,659		110,659
Center for the Development of Novel Medications for Cocaine Dependence	93.279		1-U54-DA-039002-01	128,298	810,744		810,744
Characterizing a cue-vulnerable pharmaco-responsive endophenotype in smokers	93.279		1-R01-DA-029845-01A1		-123		-123
Clinical and Genetic Characteristics of Opioid Addiction in Chronic Pain	93.279		1-R01-DA-032776-01	1,460	1,460		1,460
Clinical and Genetic Characteristics of Opioid Addiction in Chronic Pain	93.279		4-R01-DA-032776-04	245,368	609,105		609,105
Clinical Trials Network Mid-Atlantic Integrated Care Research Collaborative	93.279	JOHNS HOPKINS UNIVERSITY	2002753634			14,685	14,685
Cocaine-induced histone post-translational modifications	93.279		1-R21-DA-040837-01A1		241,813		241,813
Cognitive Training for Nicotine Dependence	93.279		1-R01-DA-030819-01		-9,994		-9,994
Deep Sequencing Studies for Cannabis and Stimulant Dependence	93.279	UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL	5-30997			-1	-1
Delaware Valley Node of the Clinical Trials Network	93.279		2-U10-DA-013043-11		-1,375		-1,375
Development of a Point-of-Care Volumetric Bar-Chart Chip for Drug Quantitation	93.279	HOUSTON METHODIST CANCER CENTER	18090008-153			59,403	59,403
Development of a5* nAChR positive allosteric modulators for tobacco dependence	93.279	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	0255-6811-4609			-1,728	-1,728
Development of a5*nAChR Positive Allosteric Modulators for Tobacco Dependence	93.279	SCRIPPS RESEARCH INSTITUTE	PO #5-20250			-70,128	-70,128
Development of Novel Dopamine D3 Receptor Selective Antipsychotics	93.279	UNIVERSITY OF NORTH TEXAS HEALTH SCIENCE CENTER AT FORT WORTH	RN0127-2015-0148			137,368	137,368
Dissection of the Organizational Differences Between Paw and Trunk Pain Circuits	93.279		1-F31-NS-092297-01		32,928		32,928
Early onset vs. pre-existing vulnerabilities in adolescent drug use	93.279		1-R01-DA-033996-01	6,452	8,282		8,282
Economic Evaluation of Medication-Assisted Substance Abuse Treatment	93.279	CORNELL UNIVERSITY	R01-DA035808			60,783	60,783
Effects of Repetitive Smoking Imagery on Cue-Induced Craving and Smoking Behavior	93.279		1-R21-DA-035360-01A1		22,504		22,504
Evaluating New Nicotine Standards for Cigarettes - Project 2	93.279	UNIVERSITY OF MINNESOTA	P004140307			341,612	341,612
Florida Node Alliance of Drug Abuse Clinical Trials Network	93.279	UNIVERSITY OF MIAMI	665615	274,581		346,623	346,623
GaAs Photomultiplier Chips for TOF-PET	93.279	LIGHTSPIN TECHNOLOGIES	SUB TO 2R44DA028813			22,086	22,086
GABA B agonists revisited: Brain, behavioral and genetic effects in smokers	93.279		1-R01-DA-030394-01A1		-47,409		-47,409
GABA B agonists revisited: Brain, behavioral and genetic effects in smokers	93.279		4-R01-DA-030394-05		265,508		265,508
Genetics of Opioid Dependence	93.279	YALE UNIVERSITY	M14A11735 (A09415)			40,174	40,174
Health economics of substance abuse and HCV/HIV treatment in the era of integrated health care	93.279	CORNELL UNIVERSITY	15070983-02			254,290	254,290
High Specificity HIV-1 Markers Predictive of Neuro-AIDS	93.279	DREXEL UNIVERSITY	220529			-4	-4
Imaging data re-analysis for cocaine addiction	93.279		1-R56-DA-036556-01A1		-5,769		-5,769
Influence of the natural hormonal milieu on perfusion fMRI smoking cue responses	93.279		1-R01-DA-040670-01A1		419,845		419,845
Inhibitory synaptic transmission, stress, and drugs of abuse	93.279	BROWN UNIVERSITY	00000759			22,939	22,939
Mechanisms of Resistance in HESN-IDU Subjects: Induction of IFN-mediated Factors and S100 Proteins as Determinants of NK Cell-Mediated Clearance and Low CD4 T Cell Infectivity	93.279	WISTAR INSTITUTE	25251-03-324			47,610	47,610
Mechanisms Underlying Learning Deficits Caused by Paternal Cocaine Taking	93.279		1-K01-DA-039308-01A1		101,317		101,317
Methodology for PET Imaging of Role of Dopamine D3 Receptor in Addiction	93.279		1-K01-DA-040023-01A1		151,742		151,742
Mobile DNA in Drug Abuse	93.279		1-R01-DA-040972-01A1	42,985	303,191		303,191
mPFC, n, accumbens and reinstatement of cocaine seeking	93.279		2-R01-DA-015214-12A1		398,743		398,743
Multimodal Imaging of Progesterone/Neurosteroid Effects in Nicotine Addiction	93.279		1-R01-DA-037289-01A1		740,083		740,083
Naltrexone Treatment	93.279	RESEARCH TRIANGLE INSTITUTE	52591L			23,851	23,851
Neural basis of smoking relapse	93.279		1-R01-DA-041402-01		719,940		719,940
Neuroimaging study of HIV-prevention public service announcements	93.279		1-R03-DA-035683-01		10,166		10,166
Opioid Relaps & HIV Risk: 48 vs. 24 weeks of ER injectable Naltrexone	93.279		1-R01-DA-033670-01	27,032	59,425		59,425
Opioid Relaps & HIV Risk: 48 vs. 24 weeks of ER injectable Naltrexone	93.279		4-R01-DA-033670-05	66,520	268,303		268,303
Optimizing HIV counseling testing and referral through an adaptive drug use intervention	93.279	UNIVERSITY OF MICHIGAN	3003985347			304,444	304,444
Optogenetic Toolbox for Studying Regulators of G-Protein Signaling in Addiction	93.279		1-R21-DA-040434-01		271,608		271,608
Parents' Translational Research Center	93.279	TREATMENT RESEARCH INSTITUTE	027841_MCKAY			-352	-352
Parents' Translational Research Center	93.279		02741_CURTIS2			-3,611	-3,611
PET Radiotracers for Imaging the Dopamine D3 Receptor	93.279		7-R01-DA-029840-04		15,000		15,000

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PET Radiotracers for Imaging the Dopamine D3 Receptor	93.279		2-R01-DA-029840-06A1	172,324	677,474		677,474
Pharmacogenetics of Nicotine Addiction and Treatment	93.279		2-U01-DA-020830-06	215,715	215,655		215,655
Pharmacogenetics of Opioid Agonist Therapy	93.279		-1R21-DA-036808-01		19,242		19,242
PHARMACOTHERAPY IMPACT ON COCAINE AND ALCOHOL-DERIVED REINFORCEMENT	93.279		1-K01-DA-025073-01A1		19		19
Predicting AOD Relapse and Treatment Completion from Social Media Use	93.279		7-R01-DA-039457-02		374,917		374,917
Quantitative Methods to Subtype Drug Dependence and Detect Novel Gene Variants	93.279	UNIVERSITY OF CONNECTICUT	81436			8,615	8,615
Repurposing cholinesterase inhibitors for smoking cessation	93.279		4-K23-DA-035295-04		154,150		154,150
Repurposing Melatonin Receptor Agonists as Adjunct Treatments for Smoking Cessation	93.279		1-R21-DA-040902-01		154,200		154,200
State-level Outpatient Physician-Group Variation in Discharge Opioid Analgesic Prescribing Practices	93.279	WEILL CORNELL MEDICAL COLLEGE	16091540			19,999	19,999
T32 Translational Addiction Research Fellowship Program	93.279		2-T32-DA-028874-03A1		315,832		315,832
Targeting dopamine D3 receptors in cocaine addiction	93.279		1-R01-DA-039215-01A1		304,943		304,943
The influence of nicotinic hepatic metabolism on neuroreceptor substrates of nicotine addiction	93.279		1-K23-DA-038726-01A1		117,400		117,400
The Logics for HIV Risk among Street-Based Heroin Injectors	93.279		2-R01-DA-010164-13	296,118	323,706		323,706
The PFT Intervention: Linking triply-diagnosed inpatients to community care	93.279		1-R01-DA-036503-01A1		112,552		112,552
The PFT Intervention: Linking triply-diagnosed inpatients to community care	93.279		4-R01-DA-036503-04		465,536		465,536
The Role of AKAP 150 in the Nucleus Accumbens Shell in Cocaine Reinstatement	93.279		1-F31-DA-037748-01A1		17,430		17,430
The role of central GLP-1 receptors in animal models of cocaine addiction	93.279		1-R01-DA-037897-01A1		272,533		272,533
The role of the delta-opioid receptor gene, OPRD1, in opioid addiction treatment	93.279		1-K01-DA-036751-01A1		141,304		141,304
Transgenerational effects of drug-exposure: epigenetic and behavioral impact	93.279		4-R01-DA-033646-05		264,387		264,387
Trans-generational effects of nicotine self-administration	93.279		1-R21-DA-039393-01A1		242,503		242,503
Transgenerational inheritance of a cocaine resistance phenotype	93.279		1-R01-DA-033641-01		-2,682		-2,682
Transgenerational inheritance of a cocaine resistance phenotype	93.279		4-R01-DA-033641-05	162,885	428,233		428,233
Transgenerational inheritance of a cocaine resistance phenotype	93.279		2-R01-DA-033641-06		282,070		282,070
Understanding the Role of Cognitive Dysfunction in the Treatment of Nicotine Dependence among HIV-Infected Smokers	93.279		1-R01-DA-042682-01		477,426		477,426
Varenicline for the treatment of cocaine dependence: Phase II	93.279		1-U01-DA-032629-01A1		526,062		526,062
Yoga Intervention for Substance Use and ART Adherence in Community Recentry	93.279		1-F31-DA-038429-01		31,758		31,758
	SubTotal 93.279			1,966,971	13,721,421	1,753,351	15,474,772
Can neuroscience dramatically improve our ability to design health communications	93.310		7-DP2-DA-035156-02		943,909		943,909
	SubTotal 93.310				943,909		943,909
Centers of Excellence for Pain Education (CoEPE)	93.RD		HHSN271201500067C	3,778	117,537		117,537
CSF Biomarkers; HHSN271201600006P	93.RD		HHSN27120160000P		6,892		6,892
Effectiveness of the Psychosocial Treatment for Brazilian Synthetic Drugs Users	93.RD		CTN RESEARCH FELLOWSHIP		21,931		21,931
PHASE 2, MULTI-CENTER TRIAL OF AZD8529 FOR SMOKING CESSATION IN FEMALE SMOKERS	93.RD		AZD8529		145,178		145,178
	SubTotal 93.RD			3,778	291,538		291,538
NATIONAL INSTITUTE ON DRUG ABUSE/NIH/DHHS Total				1,970,749	15,457,722	1,768,510	17,226,232
NATIONAL INSTITUTE ON MINORITY HEALTH AND HEALTH DISPARITIES/NIH/DHHS							
Comprehensive Center of Excellence in Health Disparities	93.307		1-P60-MD-006900-01	149,858	170,302		170,302
Comprehensive Center of Excellence in Health Disparities	93.307		4-P60-MD-006900-05	353,937	624,149		624,149
Health Promotion for Positives: A Randomized Trial with HIV Positive Black Men	93.307		1-R01-MD-006232-01A1	-4,739	-5,996		-5,996
Health Promotion for Positives: A Randomized Trial with HIV Positive Black Men	93.307		4-R01-MD-006232-05	9,156	408,333		408,333
MUSC Transdisciplinary Collaborative Center in Precision Medicine and Minority Men's Health	93.307	MEDICAL UNIVERSITY OF SOUTH CAROLINA	MUSC16-081-8C186			22,957	22,957
Prospective study of racial and ethnic disparities in chronic pain and pain burden	93.307	RAND CORPORATION	9920170019			10,623	10,623
Reducing Functional Health Disparities Among Older Breast Cancer Survivors	93.307	CASE WESTERN RESERVE UNIVERSITY	RES510118			7,875	7,875
Reducing HIV vulnerability through a multilevel life skills intervention for adolescent men	93.307		1-U01-MD-011274-01	265,163	614,508		614,508
Studying Socioeconomic Disparities in Cancer Survival with Tapered Matching	93.307	CHILDREN'S HOSPITAL OF PHILADELPHIA	ACTIVITY #321042			43,988	43,988
West Philadelphia Consortium to Address Disparities - Phase 3	93.307		2-R24-MD-001594-09	104,317	195,124		195,124
	SubTotal 93.307			877,692	2,006,420	85,443	2,091,863
NATIONAL INSTITUTE ON MINORITY HEALTH AND HEALTH DISPARITIES/NIH/DHHS Total				877,692	2,006,420	85,443	2,091,863
NATIONAL INSTITUTES OF HEALTH							
Epigenetic regulation of Epstein-Barr virus	93.121	WISTAR INSTITUTE	23675-02-319; WON			35,697	35,697
	SubTotal 93.121					35,697	35,697
Development of a Tailored HIV Prevention Intervention for Young Men	93.242		7-R34-MH-101997-03	63,023	180,579		180,579
THE GENERAL PHYSICIAN'S ROLE IN TREATING MENTAL DISORDERS - FIRST AWARD	93.242		1-R29-MH-050036-01A1		-1,064		-1,064
	SubTotal 93.242			63,023	179,515		179,515
A Randomized Recruitment Intervention	93.307	UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER AT HOUSTON	0008663AR			22,500	22,500
	SubTotal 93.307					22,500	22,500
A 129Xe Polarizer for Pulmonary Imaging	93.351		1-S10-OD-018203-01		300,000		300,000
	SubTotal 93.351				300,000		300,000
Weight Management Counseling in Medical Schools: A Randomized Controlled Trial	93.394	UNIVERSITY OF MASSACHUSETTS	WA00397956/OSP2016156			41,122	41,122
	SubTotal 93.394					41,122	41,122
Oncogenic Disruption of the Circadian Metabolic Cycle in Cancer	93.398		1-K99-CA-204593-01		74,918		74,918
	SubTotal 93.398				74,918		74,918
SURGERY TO PREVENT POSTINFARCTION VENTRICULAR REMODELING	93.837		2-R01-HL-063954-05		-28		-28
	SubTotal 93.837				-28		-28
Clinical Risk Factors for Primary Graft Dysfunction	93.838		1-R01-HL-087115-01A1		-1		-1
	SubTotal 93.838				-1		-1
97-629: PLECKSTRIN LOCALIZATION AND PLATELET SIGNALING	93.839		1-K08-HL-003505-01		-3,040		-3,040
	SubTotal 93.839				-3,040		-3,040

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95-1488: TRAINING IN BONE AND CARTILAGE RESEARCH Mechanical Regulation of Vascular Growth and Remodeling	93.846 93.846	GEORGIA INSTITUTE OF TECHNOLOGY	2-T32-AR-007132-22 RG760-G2		-2,220 -2,220	28,830 28,830	-2,220 28,830
	SubTotal 93.846					28,830	26,610
93-1543: STRUCTURE/FUNCTION OF 3a-HYDROXYSTEROID DEHYDROGENASE Gene Transfer and NMR Studies in Alpha Man B MECHANISMS OF HORMONAL CONTROL OF GLUCONEOGENESIS IN SEPSIS	93.847 93.847 93.847	CHILDREN'S HOSPITAL OF PHILADELPHIA	1-R01-DK-047015-01A1 FP21401_A1 SUB02_01 7-K08-DK-002179-02		1,151 781 1,932	148,075 78 148,075	1,151 148,075 150,007
	SubTotal 93.847					148,075	150,007
A RANDOMIZED, CONTROLLED TRIAL OF ROSIGLITAZONE FOR ULCERATIVE COLITIS CENTER FOR DIGESTIVE AND LIVER DISEASES	93.848 93.848		1-R01-DK-059961-01 2-P30-DK-050306-13		-6,533 34,980 28,447		-6,533 34,980 28,447
	SubTotal 93.848						28,447
PHYSICIAN AND SCIENTIST TRAINING IN UROLOGICAL RESEARCH	93.849		2-T32-DK-007708-11		-19,651 -19,651		-19,651 -19,651
	SubTotal 93.849						-19,651
Lentiviral-mediated Hematopoietic Stem Cell Gene Therapy for Canine Globoid Cell Leukodystrophy Preventing Epilepsy using Vigabatrin in Infants with Tuberous Sclerosis Complex	93.853 93.853	UNIVERSITY OF ALABAMA AT BIRMINGHAM	1-F32-NS-093898-01A1 000510297-006		59,245 59,245	26,745 26,745	59,245 85,990
	SubTotal 93.853					26,745	85,990
BEAT-HIV: Delaney Collaborative to Cure HIV-1 Infection by Combination Immunotherapy Behavioral Acceptability Protocol for MTN033 Calcium Regulation of NF-kB Activation in Lymphocytes Dynamic Learning for Post-Vaccine Event Prediction Using Temporal Information in VAERS FUNCTION AND PHARMACOLOGY OF SCHISTOSOME MULTIDRUG RESISTANCE PROTEINS HIV Prevention Trials Network (HPTN) Tracking Evolution and Spread of Viral Genomes by Geospatial Observation Error Utility of Deep Sequencing for Detecting Heteroresistant Mycobacterium tuberculosis Infections among HIV-infected Persons	93.855 93.855 93.855 93.855 93.855 93.855 93.855 93.855	WISTAR INSTITUTE MAGEE-WOMENS RESEARCH INSTITUTE & FOUNDATION 1-R56-A1125415-01 UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER AT HOUSTON 0012501A 7-R01-AI-073660-02 DREXEL UNIVERSITY ARIZONA STATE UNIVERSITY Sub to R01AI117011 UNIVERSITY OF CALIFORNIA, LOS ANGELES 1935 G TA238	252841-16-324 9440 1-R56-A1125415-01 0012501A 7-R01-AI-073660-02 239643 Sub to R01AI117011 1935 G TA238			220,435 26,470 338,294 74,373 -262 2,298 48,819 31,152	220,435 26,470 338,294 74,373 -262 2,298 48,819 31,152
	SubTotal 93.855				338,032	403,547	741,579
IDDRC POPULATION RESEARCH CENTER GRANT	93.865 93.865	CHILDREN'S HOSPITAL OF PHILADELPHIA	ACTIVITY 321098 (PO#961915RSUB 1-R24-HD-044964-01			67,916 -31 -31	67,916 -31 67,885
	SubTotal 93.865					67,916	67,885
Central Processing of Visual Information COMPLICATIONS OF IMMUNOSUPPRESSION FOR EYE DISEASES Vision, eye growth rhythms and retinal signals in refractive development	93.867 93.867 93.867	CORNELL UNIVERSITY NEW ENGLAND COLLEGE OF OPTOMETRY	15050678 7-R01-EY-014943-03 3708-01-01-16UP			43,831 2,089 112,311	43,831 2,089 112,311
	SubTotal 93.867				2,089	156,142	158,231
Core Function Activities Task Order Evaluating New Nicotine Standards for Cigarettes Pediatric Trials Network Database	93.RD 93.RD 93.RD	UNIVERSITY OF PITTSBURGH AMERICAN ACADEMY OF PEDIATRICS	HHSN275201100068U TASK ORDER 8 Sub to U54-DA031659 ADV ACCT SUB TO HHSN275201000031		-140 -140	164,596 4,665 169,261	164,596 4,665 169,121
	SubTotal 93.RD					169,261	169,121
NATIONAL INSTITUTES OF HEALTH Total NATIONAL LIBRARY OF MEDICINE				63,023	959,067	1,099,835	2,058,902
Bioinformatics Strategies for Genome-Wide Association Studies Bioinformatics Strategies for Multidimensional Brain Imaging Genetics Machine Learning Prediction of Cancer Susceptibility Mining Social Network Postings for Mentions of Potential Adverse Drug Reactions Signaling Sepsis: Developing A Framework to Optimize Alert Design Statistical Methods and Software for Multivariate Meta-Analysis	93.879 93.879 93.879 93.879 93.879 93.879	INDIANA UNIVERSITY CHRISTIANA CARE HEALTH SERVICES, INC. UNIVERSITY OF MINNESOTA	7-R01-LM-010098-06 IN4687237UP 7-R01-LM-009012-10 7-R01-LM-011176-05 603039 P004683901		49,649 38,276 41,440 6,245 137,690	247,983 28,308 38,276 41,440 6,245 137,690	247,983 28,308 38,276 41,440 6,245 137,690
	SubTotal 93.879				49,649	327,699	499,942
NATIONAL LIBRARY OF MEDICINE Total OFFICE OF RESEARCH INFRASTRUCTURE PROGRAMS/NIH/DHHS				49,649	327,699	172,243	499,942
Building Enhanced Capability for the PennVet Multiphoton Core	93.351		1-S10-OD-021633-01		600,000		600,000
	SubTotal 93.351				600,000		600,000
OFFICE OF RESEARCH INFRASTRUCTURE PROGRAMS/NIH/DHHS Total OFFICE OF RESEARCH ON WOMEN'S HEALTH/NIH/DHHS					600,000		600,000
Training in Sex and Gender Differences Research to Improve Women's Health	93.865		1-K12-HD-085848-01		196,278 196,278	426,271 426,271	426,271 426,271
	SubTotal 93.865				196,278	426,271	426,271
OFFICE OF RESEARCH ON WOMEN'S HEALTH/NIH/DHHS Total OFFICE OF THE DIRECTOR, NATIONAL INSTITUTES OF HEALTH/NIH/DHHS				196,278	426,271		426,271
Image-Based Phenotyping of Hepatocellular Carcinoma Cell Survival Under Ischemic Stress: Toward Metabolic Imaging of Cancer Dormancy Using Hyperpolarized Carbon-13 Technology	93.310		1-DP5-OD-021391-01		455,013		455,013
Impact of Racially Targeted Food and Beverage Ads on Adolescent Behavior	93.310	NEW YORK UNIVERSITY	15-A0-00-004321-01			30,298	30,298
	SubTotal 93.310				455,013	30,298	485,311
A Diamond system for real-time metabolic imaging Referral Ctr-Animal models of human genetic disease	93.351 93.351		1-S10-OD-018478-01 2-P40-OD-010939-29		17,637 17,637	1,500,000 1,987,332	1,500,000 1,987,332
	SubTotal 93.351				17,637	1,987,332	1,987,332
Mouse models for esophageal Cox-2 oxidative stress and DNA damage Mouse models for esophageal Cox-2 oxidative stress and DNA damage	93.357 93.357		1-K26-OD-012097-01A1 4-K26-OD-012097-04		-869 126,491 125,622	-869 126,491	-869 126,491 125,622
	SubTotal 93.357						125,622
Humanized mice to study mast cell function	93.389		1-R21-OD-017843-01A1		85,460 85,460		85,460 85,460
	SubTotal 93.389						85,460
OFFICE OF THE DIRECTOR, NATIONAL INSTITUTES OF HEALTH/NIH/DHHS Total				17,637	2,653,427	30,298	2,683,725

Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub- Receiptients	Direct	Pass-Through	Expenditure Total
SUBSTANCE ABUSE & MENTAL HEALTH SERVICES ADMINISTRATION (SAMHSA)							
Pennsylvania First Episode Psychosis Treatment Initiative: Program Evaluation Research	93.958	ADAMS COUNTY, PENNSYLVANIA	N/A			139,502	139,502
SubTotal 93.958						139,502	139,502
Pennsylvania First Episode Psychosis Treatment Initiative: Program Evaluation Research PERC-SAMHSA Project							
	93.RD	CITY OF PHILADELPHIA	1720597			123,715	123,715
	93.RD	CITY OF PHILADELPHIA	1720597			145,107	145,107
SubTotal 93.RD						268,822	268,822
SUBSTANCE ABUSE & MENTAL HEALTH SERVICES ADMINISTRATION (SAMHSA) Total						408,324	408,324
DEPARTMENT OF HEALTH AND HUMAN SERVICES Total				58,443,136	480,198,710	58,703,723	538,902,433
SOCIAL SECURITY ADMINISTRATION							
SOCIAL SECURITY ADMINISTRATION							
(MRRC18-A) Time Discounting and Economic Decisionmaking Among the Elderly							
	96.007	UNIVERSITY OF MICHIGAN	SUB TO 5 RRC08098401-08-00			14,844	14,844
(MRRC18-b) Older Peoples' Willingness to Delay Social Security Claiming							
	96.007	UNIVERSITY OF MICHIGAN	SUB TO 5 RRC08098401-08-00			70,022	70,022
Americans' Willingness to Voluntarily Delay Retirement (MRRC16)							
	96.007	UNIVERSITY OF MICHIGAN	PO #3002853151UM14-02			-2,357	-2,357
SubTotal 96.007						82,509	82,509
SOCIAL SECURITY ADMINISTRATION Total						82,509	82,509
SOCIAL SECURITY ADMINISTRATION Total						82,509	82,509
DEPARTMENT OF HOMELAND SECURITY							
DEPARTMENT OF HOMELAND SECURITY							
IAI CAMEL Phase II							
	97.005	INTELLIGENT AUTOMATION, INC.	2209-1			3,821	3,821
SubTotal 97.005						3,821	3,821
Critical Infrastructures Resilience Center (CIRC)							
	97.061	NORTHEASTERN UNIV	500001-78050			131,875	131,875
Identifying and Reducing Barriers to Infrastructure Insurance							
	97.061	UNIVERSITY OF ILLINOIS	077083-16402			15,307	15,307
SubTotal 97.061						147,182	147,182
Validation Protocol For PetPace Collar							
	97.RD	PETPACE, LLC	SUB TO HSHQDC-17-9-00016	12,060		55,120	55,120
SubTotal 97.RD				12,060		55,120	55,120
DEPARTMENT OF HOMELAND SECURITY Total						206,123	206,123
DEPARTMENT OF HOMELAND SECURITY Total				12,060		206,123	206,123
Research and Development Cluster Total				77,568,118	584,267,915	77,445,607	661,713,522
SNAP CLUSTER							
DEPARTMENT OF AGRICULTURE							
DEPARTMENT OF AGRICULTURE							
PA Nutrition Education TRACKS Program							
	10.561	PENNSYLVANIA STATE UNIVERSITY	5315-TUP-COP-9151			248,271	248,271
SNAP-Ed/DPW PANEP 17							
	10.561	PENNSYLVANIA STATE UNIVERSITY	5541-TUP-COP-9151			785,284	785,284
SubTotal 10.561						1,033,555	1,033,555
DEPARTMENT OF AGRICULTURE Total						1,033,555	1,033,555
DEPARTMENT OF AGRICULTURE Total						1,033,555	1,033,555
SNAP CLUSTER Total						1,033,555	1,033,555

Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub- Receiptients	Direct	Pass-Through	Expenditure Total
<i>Student Financial Aid Cluster</i>							
<b>DEPARTMENT OF EDUCATION</b>							
<i>DEPARTMENT OF EDUCATION</i>							
SEOG - Supplemental Educational Opportunity Grant	84.007		P007A153720		12,000		12,000
SEOG - Supplemental Educational Opportunity Grant	84.007		P007A163720		3,122,195		3,122,195
	<b>SubTotal 84.007</b>				<b>3,134,195</b>		<b>3,134,195</b>
FY16 CWSP - Federal Work Study	84.033		P033A153720		73,569		73,569
FY17 CWSP - Federal Work Study	84.033		P033A153720		3,254,859		3,254,859
	<b>SubTotal 84.033</b>				<b>3,328,428</b>		<b>3,328,428</b>
Perkins Loan New loans issued during 2017	84.038				6,801,674		6,801,674
Perkins Loan Outstanding loans issued as July 1, 2016	84.038				64,424,932		64,424,932
Perkins Loan Administrative cost allowance	84.038				689,284		689,284
	<b>SubTotal 84.038</b>				<b>71,915,890</b>		<b>71,915,890</b>
Pell Grant	84.063		P063P20152158		102,608		102,608
Pell Grant	84.063		P063P20162158		6,541,704		6,541,704
	<b>SubTotal 84.063</b>				<b>6,644,312</b>		<b>6,644,312</b>
Federal Direct loans	84.268				184,357,973		184,357,973
	<b>SubTotal 84.268</b>				<b>184,357,973</b>		<b>184,357,973</b>
Teach Grant	84.379		P379T172158		26,068		26,068
	<b>SubTotal 84.379</b>				<b>26,068</b>		<b>26,068</b>
DEPARTMENT OF EDUCATION Total					269,406,866		269,406,866
<b>DEPARTMENT OF EDUCATION Total</b>					<b>269,406,866</b>		<b>269,406,866</b>
<b>DEPARTMENT OF HEALTH AND HUMAN SERVICES</b>							
<i>DEPARTMENT OF HEALTH AND HUMAN SERVICES</i>							
Nurse Faculty Loan Issued during FY17	93.264				335,271		335,271
Nurse Faculty Loan Outstanding as of 07/01/16	93.264				999,211		999,211
	<b>SubTotal 93.264</b>				<b>1,334,482</b>		<b>1,334,482</b>
HPL Dental issued after 07/01/2016	93.342				620,320		620,320
HPL Dental Outstanding as 07/01/16	93.342				9,133,931		9,133,931
HPL Medical Outstanding as 07/01/16	93.342				207,180		207,180
HPL Vet issued after 07/01/16	93.342				401,430		401,430
HPL Vet Outstanding as 07/01/16	93.342				2,844,750		2,844,750
LDS Dental Outstanding as 07/01/16	93.342				2,201		2,201
LDS Medical issued after 07/01/16	93.342				833,333		833,333
LDS Medical Outstanding as 07/01/16	93.342				534,196		534,196
	<b>SubTotal 93.342</b>				<b>14,577,341</b>		<b>14,577,341</b>
Graduate Outstanding loans issued as July 1, 2016	93.364				407,527		407,527
Graduate Outstanding New loans issued during 2017	93.364				119,600		119,600
Undergraduate New loans issued during 2017	93.364				488,700		488,700
Undergraduate Outstanding loans issued as July 1, 2016	93.364				2,420,765		2,420,765
	<b>SubTotal 93.364</b>				<b>3,436,592</b>		<b>3,436,592</b>
Scholarships for Disadvantaged Students (SDS)	93.925		5 T08HP25250-02-00		-2,853		-2,853
	<b>SubTotal 93.925</b>				<b>-2,853</b>		<b>-2,853</b>
DEPARTMENT OF HEALTH AND HUMAN SERVICES Total					19,345,562		19,345,562
<b>DEPARTMENT OF HEALTH AND HUMAN SERVICES Total</b>					<b>19,345,562</b>		<b>19,345,562</b>
<b>Student Financial Aid Cluster Total</b>					<b>288,752,428</b>		<b>288,752,428</b>
<b>CCDF CLUSTER</b>							
<b>DEPARTMENT OF HEALTH AND HUMAN SERVICES</b>							
<i>DEPARTMENT OF HEALTH &amp; HUMAN SERVICES</i>							
Child-Centered Assessment of Approaches to Learning: Development and Validation of a Measure for Use in Preschool Child Care Classrooms	93.575		90YE0162-01-00		35,907		35,907
	<b>SubTotal 93.575</b>				<b>35,907</b>		<b>35,907</b>
DEPARTMENT OF HEALTH & HUMAN SERVICES Total					35,907		35,907
<b>DEPARTMENT OF HEALTH AND HUMAN SERVICES Total</b>					<b>35,907</b>		<b>35,907</b>
<b>CCDF CLUSTER Total</b>					<b>35,907</b>		<b>35,907</b>
<b>ECONOMIC DEVELOPMENT CLUSTER</b>							
<b>DEPARTMENT OF COMMERCE</b>							
<i>DEPARTMENT OF COMMERCE</i>							
Economic Development Administration:Preparing a Plan to Sustain Small Pennsylvania Businesses in the Coal Economy	11.307		01-69-14738		40,306		40,306
	<b>SubTotal 11.307</b>				<b>40,306</b>		<b>40,306</b>
DEPARTMENT OF COMMERCE Total					40,306		40,306
<b>DEPARTMENT OF COMMERCE Total</b>					<b>40,306</b>		<b>40,306</b>
<b>ECONOMIC DEVELOPMENT CLUSTER Total</b>					<b>40,306</b>		<b>40,306</b>

Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub- Receiptients	Direct	Pass-Through	Expenditure Total
<i>Maternal, Infant, and Early Childhood Home Visiting Cluster</i>							
<b>DEPARTMENT OF HEALTH AND HUMAN SERVICES</b>							
<i>HEALTH RESOURCES &amp; SERVICES ADMINISTRATION (HRSA)</i>							
Affordable Care Act (ACA) Maternal, Infant and Early Childhood Home Visiting Program	93.505	United Way of Lancaster County	X10MC29500			401,608	401,608
	<b>SubTotal 93.505</b>					<b>401,608</b>	<b>401,608</b>
HEALTH RESOURCES & SERVICES ADMINISTRATION (HRSA) Total							
<b>DEPARTMENT OF HEALTH AND HUMAN SERVICES Total</b>							
<i>Maternal, Infant, and Early Childhood Home Visiting Cluster Total</i>							
<i>Medicaid Cluster</i>							
<b>DEPARTMENT OF HEALTH AND HUMAN SERVICES</b>							
<i>DEPARTMENT OF HEALTH &amp; HUMAN SERVICES</i>							
IDS Base Unitary	93.778	CITY OF PHILADELPHIA	1720074			147,628	147,628
	<b>SubTotal 93.778</b>					<b>147,628</b>	<b>147,628</b>
DEPARTMENT OF HEALTH & HUMAN SERVICES Total							
<b>DEPARTMENT OF HEALTH AND HUMAN SERVICES Total</b>							
<i>Medicaid Cluster Total</i>							
<i>TANF Cluster</i>							
<b>DEPARTMENT OF HEALTH AND HUMAN SERVICES</b>							
<i>ADMINISTRATION FOR CHILDREN AND FAMILIES/DHHS</i>							
Career Exposure-Rising 8th graders	93.558	PHILADELPHIA YOUTH NETWORK	10573/C113			43,622	43,622
	<b>SubTotal 93.558</b>					<b>43,622</b>	<b>43,622</b>
ADMINISTRATION FOR CHILDREN AND FAMILIES/DHHS Total							
<b>DEPARTMENT OF HEALTH AND HUMAN SERVICES Total</b>							
<i>TANF Cluster Total</i>							
<i>TRIO Cluster</i>							
<b>DEPARTMENT OF EDUCATION</b>							
<i>DEPARTMENT OF EDUCATION</i>							
Talent Search Program	84.044		P044A110225 ACTION 1		35,580		35,580
University of Pennsylvania Talent Search Program	84.044		9044A160227		221,295		221,295
	<b>SubTotal 84.044</b>				<b>256,875</b>		<b>256,875</b>
Educational Opportunity Center							
	84.066		P066A120055		190,793		190,793
	<b>SubTotal 84.066</b>				<b>190,793</b>		<b>190,793</b>
DEPARTMENT OF EDUCATION Total							
<i>OFFICE OF POSTSECONDARY EDUCATION/DEPARTMENT OF EDUCATION</i>							
Office of Postsecondary Education (OPE): Student Support Services Program CFDA Number 84.042	84.042		P042A150394		307,925		307,925
	<b>SubTotal 84.042</b>				<b>307,925</b>		<b>307,925</b>
Upward Bound							
Upward Bound Math and Science Program	84.047		P047A131651 ACTION 1		492,177		492,177
Veterans Upward Bound Program	84.047		P047M130476		238,432		238,432
	84.047		P047V120006		402,084		402,084
	<b>SubTotal 84.047</b>				<b>1,132,693</b>		<b>1,132,693</b>
OFFICE OF POSTSECONDARY EDUCATION/DEPARTMENT OF EDUCATION Total							
<b>DEPARTMENT OF EDUCATION Total</b>							
<i>TRIO Cluster Total</i>							
<i>Other Programs</i>							
<b>DEPARTMENT OF DEFENSE</b>							
<i>DEFENSE LOGISTICS AGENCY</i>							
Southeast Pennsylvania Procurement Technical Assistance Program (PTAP)	12.002		SP4800-15-2-1536	52,314	58,775		58,775
Southeast Pennsylvania Procurement Technical Assistance Program (PTAP)	12.002		SP4800-16-2-1636	123,661	182,793		182,793
	<b>SubTotal 12.002</b>			<b>175,975</b>	<b>241,568</b>		<b>241,568</b>
DEFENSE LOGISTICS AGENCY Total							
<i>DEPARTMENT OF THE ARMY</i>							
Master Resilience Training Courses Levels 3 & 4	12.U13		W9124D-14-D-0027		21,961		21,961
	<b>SubTotal 12.U13</b>				<b>21,961</b>		<b>21,961</b>
Master Resilience Training for the Army: Option Year 2 beginning April 1, 2012							
	12.U03		W91WAW-10-D-0018 TASK ORDER #0013		-62,830		-62,830
	<b>SubTotal 12.U02</b>				<b>-62,830</b>		<b>-62,830</b>
Master Resilience Training for the Army: Option Year 2 beginning April 1, 2012							
	12.U04		W91WAW-10-D-0018 TASK ORDER #0013		-34,389		-34,389
	<b>SubTotal 12.U03</b>				<b>-34,389</b>		<b>-34,389</b>
Master Resilience Training Courses Levels 3 & 4							
	12.U08		W9124D-14-D-0027		-113,661		-113,661
	<b>SubTotal 12.U07</b>				<b>-113,661</b>		<b>-113,661</b>
Master Resilience Training Courses Levels 3 & 4							
	12.U11		W9124D-14-D-0027		340,002		340,002



Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub-Receiptients	Direct	Pass-Through	Expenditure Total
	SubTotal 12.U11				340,002		340,002
DEPARTMENT OF THE ARMY Total					151,083		151,083
NATIONAL SECURITY AGENCY							
UPenn 2016 Hindi-Urdu StarTalk Program	12.900	NATIONAL FOREIGN LANGUAGE CENTER UNIVERSITY OF MARYLAND	H98230-16-0209			68,082	68,082
UPenn 2017 Hindi-Urdu StarTalk Program	12.900	NATIONAL FOREIGN LANGUAGE CENTER UNIVERSITY OF MARYLAND	H98230-17-1-0049			12,342	12,342
	SubTotal 12.900					80,424	80,424
NATIONAL SECURITY AGENCY Total						80,424	80,424
DEPARTMENT OF DEFENSE Total				175,975	392,651	80,424	473,075
DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT							
DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT							
Continuum of Care Program	14.267				386,227		386,227
	SubTotal 14.267				386,227		386,227
DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT Total					386,227		386,227
DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT Total					386,227		386,227
DEPARTMENT OF INTERIOR							
NATIONAL PARK SERVICE							
NWP/NPS Collaboration Grant	15.954	NATIONAL WRITING PROJECT	92-PA06-B-NPS2016			4,795	4,795
	SubTotal 15.954					4,795	4,795
Independence National Historical Park	15.U25		N/A		1,470		1,470
	SubTotal 15.U25				1,470		1,470
NATIONAL PARK SERVICE Total					1,470	4,795	6,265
DEPARTMENT OF INTERIOR Total					1,470	4,795	6,265
DEPARTMENT OF JUSTICE							
NATIONAL INSTITUTE OF JUSTICE/DEPARTMENT OF JUSTICE							
Improving the Investigation and Prosecution of Child Abuse Program	16.758	National Children's Alliance	8-LANC-PA-SA16			9,000	9,000
	SubTotal 16.758					9,000	9,000
NATIONAL INSTITUTE OF JUSTICE/DEPARTMENT OF JUSTICE Total						9,000	9,000
OFFICE OF JUVENILE JUSTICE AND DELINQUENCY PREVENTION/DEPARTMENT OF JUSTICE							
OJDP FY 2015 Design Study of Dual System Youth Project	16.U24	CALIFORNIA STATE UNIVERSITY	UPENN231236			19,005	19,005
	SubTotal 16.U24					19,005	19,005
OFFICE OF JUVENILE JUSTICE AND DELINQUENCY PREVENTION/DEPARTMENT OF JUSTICE Total						19,005	19,005
DEPARTMENT OF JUSTICE Total						28,005	28,005
U.S. DEPARTMENT OF STATE							
U.S. DEPARTMENT OF STATE							
Proposal for Massive Open Online Courses (MOOCs) for English Language Learners under the English Access Microscholarship Program	19.U15	FHI 360	PO16000435			360,185	360,185
	SubTotal 19.U15					360,185	360,185
Fulbright Foreign Language Teaching Assistants Summer Orientation 2016	19.U19	INSTITUTE OF INTERNATIONAL EDUCATION	SUB TO S-ECAGD-16-CA-1004			61,553	61,553
	SubTotal 19.U19					61,553	61,553
U.S. DEPARTMENT OF STATE Total						421,738	421,738
U.S. DEPARTMENT OF STATE Total						421,738	421,738
DEPARTMENT OF TREASURY							
FEDERAL RESERVE BANK OF PHILADELPHIA							
Reinventing Older Communities	21.U17		CONFERENCE ORGANIZATION AGREEMENT		19,531		19,531
	SubTotal 21.U17				19,531		19,531
FEDERAL RESERVE BANK OF PHILADELPHIA Total					19,531		19,531
DEPARTMENT OF TREASURY Total					19,531		19,531
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION							
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION							
Cognition training and support	43.002	NATIONAL SPACE BIOMEDICAL RESEARCH INSTITUTE	NCC9-58- 159			15,713	15,713
	SubTotal 43.002					15,713	15,713
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION Total						15,713	15,713
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION Total						15,713	15,713
NATIONAL ENDOWMENT							
INSTITUTE OF MUSEUM AND LIBRARY SERVICES							
Unpacking the Past: A Penn Museum Learning Program Serving Seventh Grade Students and Teachers of the School District of Philadelphia, KIPP and Mastery Charter Schools	45.301		MA-10-15-0299-15		89,476		89,476
	SubTotal 45.301				89,476		89,476
INSTITUTE OF MUSEUM AND LIBRARY SERVICES Total					89,476		89,476
NATIONAL ENDOWMENT FOR THE ARTS							

Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub-Receiptients	Direct	Pass-Through	Expenditure Total
T-VOICE Project	45.024		15-3600-7067		-1,281		-1,281
Unpacking the Past: An Educational Outreach Program of the Penn Museum	45.024		15-4400-7089		-12,000		-12,000
	SubTotal 45.024				-13,281		-13,281
NATIONAL ENDOWMENT FOR THE ARTS Total					-13,281		-13,281
NATIONAL ENDOWMENT FOR THE HUMANITIES							
Providing Global Access to Penn's Indic Manuscripts, circa 1527-1930 (bulk 1700-1850)	45.149		PW-51547-14		72,387		72,387
The New Schoenberg Database of Manuscripts: A Research Tool for Tracking the Current and Historic Locations of Manuscripts	45.149		PW-51580-14		143,910		143,910
	SubTotal 45.149				216,297		216,297
NOVEL IN ARABIC: LITERARY GENRE AND SOCIETAL TRANSFORMATION	45.U02		FV-22097-96		-1,829		-1,829
	SubTotal 45.U01				-1,829		-1,829
VETERANS UPWARD BOUND AT THE UNIVERSITY OF PENNSYLVANIA: STANDING TOGETHER AND GROWING TOGETHER THROUGH THE HUMANITIES	45.U37	PA HUMANITIES COUNCIL	SPS-17-02			2,800	2,800
	SubTotal 45.U37					2,800	2,800
NATIONAL ENDOWMENT FOR THE HUMANITIES Total					214,468	2,800	217,268
NATIONAL ENDOWMENT Total					290,663	2,800	293,463
SMALL BUSINESS ADMINISTRATION							
SMALL BUSINESS ADMINISTRATION							
Pennsylvania FAST 2016 Innovation Partnership Proposal	56.U31	BEN FRANKLIN TECHNOLOGY PARTNERS CORPORATION	SBA-FAST PROGRAM			1,412	1,412
	SubTotal 56.U31					1,412	1,412
SMALL BUSINESS ADMINISTRATION Total						1,412	1,412
SMALL BUSINESS ADMINISTRATION Total						1,412	1,412
SMALL BUSINESS ADMINISTRATION							
SMALL BUSINESS ADMINISTRATION							
EmpPOWERing Pennsylvania Small Businesses	59.037		SBAHQ-16-B-0077		47,822		47,822
Pennsylvania Portable Assistance Project: A Silver Lining Playbook: Catalyzing a Delaware Valley Innovation Corridor in the wake of the DuPont Downsizing - A Bi-State Partnership	59.037		SBAHQ-16-B-0076		59,215		59,215
Pennsylvania Small Business Development Centers	59.037		SBAHQ-16-B-0043	3,221,704	3,988,525		3,988,525
PENNSYLVANIA SMALL BUSINESS DEVELOPMENT CENTERS 2017 SBA PROPOSAL	59.037		SBAHQ-17-B-0057		478,202		478,202
Revitalizing Small Businesses Impacted by Job Losses in the Coal Industry	59.037		SBAHQ-15-B-0078	62,959	81,064		81,064
Transitioning from Work to Business Ownership: Entrepreneurship-A Path to Success	59.037		SBAHQ-15-B-0079	68,190	82,122		82,122
	SubTotal 59.037				3,352,853	4,736,950	4,736,950
SMALL BUSINESS ADMINISTRATION Total					3,352,853	4,736,950	4,736,950
SMALL BUSINESS ADMINISTRATION Total					3,352,853	4,736,950	4,736,950
DEPARTMENT OF VETERAN AFFAIRS							
DEPARTMENT OF VETERANS AFFAIRS							
IPA - JENNIFER GREENE	64.U22		IPA JENNIFER GREENE		3,726		3,726
	SubTotal 64.U22				3,726		3,726
IPA - Ruben Gur	64.U23		IPA RUBEN GUR		19,523		19,523
	SubTotal 64.U23				19,523		19,523
IPA - KELLY ALLISON	64.U29		IPA KELLY ALLISON		20,613		20,613
	SubTotal 64.U29				20,613		20,613
IPA Agreement - Lynch	64.U35		IPA KEVIN LYNCH		5,500		5,500
	SubTotal 64.U35				5,500		5,500
IPA - KELLY ALLISON	64.U06		IPA		2,577		2,577
	SubTotal 64.U05				2,577		2,577
Remote Veteran Apnea Management Portal (REVAMP)	64.U07		Kuna IPA REVAMP		46,921		46,921
	SubTotal 64.U06				46,921		46,921
DMU IPA - Integrated Cognitive Behavior Therapy to Improve Work Outcomes in Schizophrenia	64.U10		IPA CHRISTOPHER PETRO		114		114
	SubTotal 64.U10				114		114
VA IPA for JASON A. BLAKE	64.U14		IPA - Jason Blake		6,863		6,863
	SubTotal 64.U14				6,863		6,863
IPA - Ming Li	64.U20		IPA MING LI		3,988		3,988
	SubTotal 64.U20				3,988		3,988
VA IPA for Allison M Port	64.U21		IPA AGREEMENT		10,007		10,007
	SubTotal 64.U21				10,007		10,007
VA IPA for JASON A. BLAKE - CPPF	64.U27		IPA - Jason Blake		3,457		3,457
	SubTotal 64.U27				3,457		3,457
VA IPA for JASON A. BLAKE - Rosen TMS	64.U28		IPA - Jason Blake		4,680		4,680
	SubTotal 64.U28				4,680		4,680
IPA - Laurie Downing	64.U33		IPA LAURIE DOWNING		16,821		16,821
	SubTotal 64.U33				16,821		16,821

Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub-Receiptients	Direct	Pass-Through	Expenditure Total
IPA - Ming Li	64.U34		IPA MING LI		850		850
	SubTotal 64.U34				850		850
DEPARTMENT OF VETERANS AFFAIRS Total					145,640		145,640
MINNEAPOLIS VA HEALTH CARE SYSTEM							
IPA - Kehle-Forbes PI (Minneapolis VA)	64.U09		IIR 14-030		42,692		42,692
	SubTotal 64.U09				42,692		42,692
MINNEAPOLIS VA HEALTH CARE SYSTEM Total					42,692		42,692
DEPARTMENT OF VETERAN AFFAIRS Total					188,332		188,332
DEPARTMENT OF ENERGY							
ADVANCED RESEARCH PROJECTS AGENCY-ENERGY							
Investor Relations Advisory Planning/DOE ARPA-E Consulting Services	81.135		DE-AR0000841		49,569		49,569
	SubTotal 81.135				49,569		49,569
ADVANCED RESEARCH PROJECTS AGENCY-ENERGY Total							
DEPARTMENT OF ENERGY					49,569		49,569
Determination of Strategies to Achieve Quad Energy Savings through Tribology	81.U01	VON BRAUN CENTER FOR SCIENCE AND INNOVATION, INC.	2300-004	33,931		76,403	76,403
	SubTotal 81.U08			33,931		76,403	76,403
DEPARTMENT OF ENERGY Total				33,931		76,403	76,403
DEPARTMENT OF ENERGY Total				33,931	49,569	76,403	125,972
DEPARTMENT OF EDUCATION							
DEPARTMENT OF EDUCATION							
National Resource Center	84.015		P015A100129-01		4,628		4,628
Title VI FLAS Fellowship Funding 2014-2018	84.015		P015B140143		278,940		278,940
Title VI FLAS Fellowship Funding 2014-2018	84.015		P015B140137		304,865		304,865
Title VI National Resource Center Funding 2014-2018	84.015		P015A140137	6,313	153,936		153,936
Title VI National Resource Center Funding 2014-2018	84.015		P015A140143	2,241	229,575		229,575
	SubTotal 84.015			8,554	971,944		971,944
GAANN Mechanical Engineering Program in Micro and Nano Manufacturing (MNM)	84.200		P200A120237		10,666		10,666
Quantitative Cellular Engineering	84.200		P200A120246		5,333		5,333
	SubTotal 84.200				15,999		15,999
21st Century Community Learning Center	84.287	COMMONWEALTH OF PENNSYLVANIA	4100058757			-132	-132
21st Century Community Learning Center (21CCLC) Cohort 8	84.287	PENNSYLVANIA DEPARTMENT OF EDUCATION	FC #4100071658	28,500		375,588	375,588
21st Century Learning Community Centers -- Cohort 7	84.287	PENNSYLVANIA DEPARTMENT OF EDUCATION	4100068078	19,000		316,366	316,366
	SubTotal 84.287			47,500		691,822	691,822
Gear Up CCRCs	84.334	SCHOOL DISTRICT OF PHILADELPHIA	005/F16	97,750		212,807	212,807
Gear Up/AVID Sustainability	84.334	SCHOOL DISTRICT OF PHILADELPHIA	571198			44	44
	SubTotal 84.334			97,750		212,851	212,851
Professional Development for Teachers and Administrators to Improve Instruction	84.358	GLOUCESTER CITY PUBLIC SCHOOLS	42815A			-1,185	-1,185
	SubTotal 84.358					-1,185	-1,185
2017-2018 NWP CRWP-SEED High-Need School Grant	84.367	NATIONAL WRITING PROJECT	92-PA06-B-SEED2017-CRWPPD			1,217	1,217
Investing in the National Writing Project's College-Ready Writers Program: Expanding the Reach of Effective Teacher-Leaders to Support all Students	84.367	NATIONAL WRITING PROJECT	92-PA06-B-SEED2016			16,187	16,187
Invitational Leadership Institute	84.367	NATIONAL WRITING PROJECT	92-PA06-B-SEED2016-ILI			14,661	14,661
Summer Invitational Institute for Advanced Teacher Leadership Development	84.367	NATIONAL WRITING PROJECT	92-PA06-B-SEED2012 AMEND 2A			-3	-3
	SubTotal 84.367					32,062	32,062
WWC: Reviews, Reporting, Dissemination, and Development	84.U12	DEVELOPMENT SERVICES GROUP, INC.	2015-1			43,831	43,831
	SubTotal 84.U12					43,831	43,831
WWC: Reviews, Reporting, Dissemination, and Development	84.U36	DEVELOPMENT SERVICES GROUP, INC.	2015-1			923	923
	SubTotal 84.U36					923	923
DEPARTMENT OF EDUCATION Total				153,804	987,943	980,304	1,968,247
OFFICE OF POSTSECONDARY EDUCATION/DEPARTMENT OF EDUCATION							
Intensive Advanced Program for Zulu in South Africa	84.021		P021A160057		108,685		108,685
	SubTotal 84.021				108,685		108,685
GAANN Mechanical Engineering Program in Fundamentals of Advanced Manufacturing (FAM)	84.200		P200A160282		221,357		221,357
	SubTotal 84.200				221,357		221,357
OFFICE OF POSTSECONDARY EDUCATION/DEPARTMENT OF EDUCATION Total					330,042		330,042
SCHOOL DISTRICT OF PHILADELPHIA							
Philadelphia Bilingual Education Institute, 2016	84.000		576869		16,817		16,817
	SubTotal 84.000				16,817		16,817
SCHOOL DISTRICT OF PHILADELPHIA Total					16,817		16,817
DEPARTMENT OF EDUCATION Total				153,804	1,334,802	980,304	2,315,106
DEPARTMENT OF HEALTH AND HUMAN SERVICES							
BUREAU OF HEALTH PROFESSIONS/HRSA/DHHS							
Keystone Geriatrics Center for Enhancing Primary Care and Community Education	93.969		1 U1QHP282720-01-00	174,501	841,956		841,956

University of Pennsylvania  
Schedule of Expenditures  
For the year ended June 30, 2017

Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub- Receiptients	Direct	Pass-Through	Expenditure Total
	SubTotal 93.969			174,501	841,956		841,956
BUREAU OF HEALTH PROFESSIONS/HRSA/DHHS Total CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC)				174,501	841,956		841,956
Improving Clinical Care	93.757	CITY OF PHILADELPHIA	1620129-01			40,000	40,000
Improving Clinical Care	93.757		1620129-02			40,000	40,000
	SubTotal 93.757					80,000	80,000
Cooperative Agreements for State-Based Comprehensive Breast and Cervical Cancer Early Detection Programs	93.919	Family Health Council of Central PA	4100066441			60,859	60,859
	SubTotal 93.919					60,859	60,859
NHBS-MSM Formative Ethnographic Research	93.940	PUBLIC HEALTH MANAGEMENT CORPORATION	8310051701			13,802	13,802
	SubTotal 93.940					13,802	13,802
CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC) Total CENTERS FOR MEDICARE AND MEDICAID SERVICES/DHHS						154,661	154,661
The OPTIMISTIC PROJECT - Optimizing Patient Transfer, Impacting Medical Quality, and Improving Symptoms: Transforming Institutional Care	93.621	INDIANA UNIVERSITY	PO #1244917			15,637	15,637
	SubTotal 93.621					15,637	15,637
Resource Development and Dissemination for PA's Certified Older Adult Peer Specialists Initiative	93.829	COMMONWEALTH OF PENNSYLVANIA	Sub to 1LICMS030173-01-11 ADV ACCT			45,238	45,238
	SubTotal 93.829					45,238	45,238
CENTERS FOR MEDICARE AND MEDICAID SERVICES/DHHS Total DEPARTMENT OF HEALTH & HUMAN SERVICES						60,875	60,875
MINORITY OUTREACH ORAL HEALTH INITIATIVE PROGRAM	93.137		D52MP01100-01-MOD 1/28/03		-2,642		-2,642
	SubTotal 93.137				-2,642		-2,642
MH Base Unitary	93.243	CITY OF PHILADELPHIA	1720075			82,013	82,013
Recovery-Oriented Cognitive Therapy for Individuals with Severe and Persistent Mental Illness in Georgia	93.243	GEORGIA STATE UNIVERSITY	SP00011772-01			24,948	24,948
	SubTotal 93.243					106,961	106,961
MH Base Unitary	93.667	CITY OF PHILADELPHIA	1720075			240,690	240,690
	SubTotal 93.667					240,690	240,690
DEPARTMENT OF HEALTH & HUMAN SERVICES Total FOGARTY INTERNATIONAL CENTER/NIH/DHHS					-2,642	347,651	345,009
Dartmouth/MUHAS Research Ethics Training and Program Development for Tanzania (DMRET)	93.989	DARTMOUTH COLLEGE	R865			68,016	68,016
Dartmouth/Penn Research Ethics Training and Program Development for Tanzania	93.989	DARTMOUTH COLLEGE	885			43	43
	SubTotal 93.989					68,059	68,059
FOGARTY INTERNATIONAL CENTER/NIH/DHHS Total HEALTH RESOURCES & SERVICES ADMINISTRATION (HRSA)						68,059	68,059
Multidisciplinary Intervention Navigation Team to Improve Access to Care for Children and Youth with Epilepsy in Eastern Pennsylvania and Transition Services (MINT-I-ACCE	93.110	CHILDREN'S HOSPITAL OF PHILADELPHIA	3200410817			36,981	36,981
	SubTotal 93.110					36,981	36,981
Ryan White Title IV	93.153	AccessMatters	166307			28,824	28,824
	SubTotal 93.153					28,824	28,824
Care Services Case Management	93.914	CITY OF PHILADELPHIA	1720668			5,300	5,300
Care Services Case Management	93.914		1320709-05			32,537	32,537
Care Services Case Management	93.914		1720666			19,692	19,692
HIV Emergency Relief Projects Grants	93.914	CITY OF PHILADELPHIA	1320715-04			242,811	242,811
HIV Emergency Relief Projects Grants	93.914		1720668			92,105	92,105
Mental Health Services	93.914	CITY OF PHILADELPHIA	1320709-05			100,000	100,000
Mental Health Services	93.914	CITY OF PHILADELPHIA	1720666			30,292	30,292
Part A RW HIV/AIDS Minority Aids Initiative	93.914	CITY OF PHILADELPHIA	1720666			78,585	78,585
Part A RW HIV/AIDS Minority Aids Initiative	93.914		1320709-04			227,171	227,171
Ryan White Grant	93.914	CITY OF PHILADELPHIA	1320703-04			45,434	45,434
Ryan White Grant	93.914		1720665			22,596	22,596
Ryan White HIV/AIDS Treatment Extension Act of 2009 - Part A for FY2011	93.914	CITY OF PHILADELPHIA	R6731 / 1320714-03 / AACO			216,909	216,909
	SubTotal 93.914					1,113,432	1,113,432
Grants to provide Outpatient Early Intervention Services with respect to HIV Disease	93.918		N/A		388,809		388,809
Outpatient Early Intervention Services with Respect to HIV Disease - Part C	93.918	DREXEL UNIVERSITY	228084-6101			36,972	36,972
RW Part C HIV Early Prevention	93.918	CITY OF PHILADELPHIA	1420093-03			100,000	100,000
	SubTotal 93.918				388,809	136,972	525,781
Ryan White HIV/AIDS Program Part F Dental Reimbursement Program (DRP)	93.924		1 T22HA304410100		2,981		2,981
	SubTotal 93.924				2,981		2,981
HIV Emergency Relief Projects Grants	93.940	CITY OF PHILADELPHIA	1620357-01			30,168	30,168
HIV Emergency Relief Projects Grants	93.940		1620357			33,396	33,396
	SubTotal 93.940					63,564	63,564
Maternal and Child Health Service Block Grant	93.994	Shadyside Hospital Foundation	4100071256			80,017	80,017
Maternal and Child Health Services Block Grant to the States	93.994	COMMONWEALTH OF PENNSYLVANIA	4100065681			125,000	125,000
	SubTotal 93.994					205,017	205,017
HEALTH RESOURCES & SERVICES ADMINISTRATION (HRSA) Total					391,790	1,584,790	1,976,580

Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub- Receiptients	Direct	Pass-Through	Expenditure Total
A National Curriculum in Cancer Genomics for Pathology Residents Supplement	93.398	BETH ISRAEL DEACONESS MEDICAL CENTER	01028566			1,824	1,824
<b>SubTotal 93.398</b>						<b>1,824</b>	<b>1,824</b>
NATIONAL CANCER INSTITUTE/NIH/DHHS Total NATIONAL INSTITUTE OF ALLERGY AND INFECTIOUS DISEASES/NIH/DHHS						1,824	1,824
Part A Formula Ryan White HIV/AIDS Treatment Modernization Act	93.914	CITY OF PHILADELPHIA	1720667/R7731			97,278	97,278
<b>SubTotal 93.914</b>						<b>97,278</b>	<b>97,278</b>
NATIONAL INSTITUTE OF ALLERGY AND INFECTIOUS DISEASES/NIH/DHHS Total NATIONAL INSTITUTE OF CHILD HEALTH AND HUMAN DEVELOPMENT/NIH/DHHS						97,278	97,278
Role of heme oxygenase-1 microsatellite polymorphisms in HIV-associated neurocognitive disorders: utilizing Secoisolariciresinol diglucose as a targeted therapeutic approach in African American patients	93.242	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	0253-6142-4609			15,852	15,852
<b>SubTotal 93.242</b>						<b>15,852</b>	<b>15,852</b>
#sexmessages: Social Media, sexual risk, & substance use behaviors among African American and Latino youth Organization for the Study of Sex Differences Annual Meeting	93.865 93.865	UNIVERSITY OF CALIFORNIA, SAN FRANCISCO UNIVERSITY OF MINNESOTA	8879SC N003905302			4,912 17,486	4,912 17,486
<b>SubTotal 93.865</b>						<b>22,398</b>	<b>22,398</b>
NATIONAL INSTITUTE OF CHILD HEALTH AND HUMAN DEVELOPMENT/NIH/DHHS Total NATIONAL INSTITUTE OF DIABETES AND DIGESTIVE AND KIDNEY DISEASES/NIH/DHHS						38,250	38,250
Identification - Validation of Prognostic Biomarkers in Chronic Kidney Disease	93.847	UNIVERSITY OF MICHIGAN	3003823855			7,883	7,883
<b>SubTotal 93.847</b>						<b>7,883</b>	<b>7,883</b>
Chair Person for Steering Committee	93.U05		HHSN276201200534P		1,530		1,530
<b>SubTotal 93.U04</b>					<b>1,530</b>		<b>1,530</b>
NATIONAL INSTITUTE OF DIABETES AND DIGESTIVE AND KIDNEY DISEASES/NIH/DHHS Total NATIONAL INSTITUTE OF MENTAL HEALTH/NIH/DHHS					1,530	7,883	9,413
Training behavioral pediatricians: the MCHB/PA	93.110	CHILDREN'S HOSPITAL OF PHILADELPHIA	# 20009/PO# 060953RSUB			5,246	5,246
<b>SubTotal 93.110</b>						<b>5,246</b>	<b>5,246</b>
IPA (Intergovernmental Personnel Act)	93.U18		IPA AGREEMENT		41,821		41,821
<b>SubTotal 93.U18</b>					<b>41,821</b>		<b>41,821</b>
NATIONAL INSTITUTE OF MENTAL HEALTH/NIH/DHHS Total NATIONAL INSTITUTE OF NEUROLOGICAL DISORDERS AND STROKE/NIH/DHHS					41,821	5,246	47,067
Neuroscience in Your World: A Partnership for Neuroscience Across the K-12 Spectrum	93.273	FRANKLIN INSTITUTE	SUB TO 5R25DA033023			1,336	1,336
<b>SubTotal 93.273</b>						<b>1,336</b>	<b>1,336</b>
Development of an information-rich assay for C9ORF72 as a test for ALS and FTD	93.853	ASURAGEN, INC.	C9ORF72			47,064	47,064
<b>SubTotal 93.853</b>						<b>47,064</b>	<b>47,064</b>
NATIONAL INSTITUTE OF NEUROLOGICAL DISORDERS AND STROKE/NIH/DHHS Total NATIONAL LIBRARY OF MEDICINE						48,400	48,400
Harnessing the Power of Public Library and Other Staff to Improve Population Health	93.879	UNIVERSITY OF PITTSBURGH	0050256 (127316-9)			14,492	14,492
<b>SubTotal 93.879</b>						<b>14,492</b>	<b>14,492</b>
NATIONAL LIBRARY OF MEDICINE Total OFFICE OF MINORITY HEALTH						14,492	14,492
Partnerships to Increase Coverage in Communities - Insuring Shared Prosperity	93.004	BENEFITS DATA TRUST	benefits data trust			3,141	3,141
<b>SubTotal 93.004</b>						<b>3,141</b>	<b>3,141</b>
OFFICE OF MINORITY HEALTH Total OFFICE OF POPULAION AFFAIRS						3,141	3,141
Family Planning Service	93.217	Family Health Council of Central PA	5 FPHPA03160-02-00			47,300	47,300
<b>SubTotal 93.217</b>						<b>47,300</b>	<b>47,300</b>
OFFICE OF POPULAION AFFAIRS Total OFFICE OF THE ASSISTANT SECRETARY FOR HEALTH/DHHS						47,300	47,300
National Bioterrorism Hospital Preparedness Program National Bioterrorism Hospital Preparedness Program National Bioterrorism Hospital Preparedness Program	93.889 93.889 93.889	COMMONWEALTH OF PENNSYLVANIA	4100062641 4100062597 4100062670			23,308 2,467 4,610	23,308 2,467 4,610
<b>SubTotal 93.889</b>						<b>30,385</b>	<b>30,385</b>
Growing Together: University Assisted Community School Partnerships using Community Food Systems as a Context for Youth Empowerment.	93.910		YEPMP120066-01-00		231,189		231,189
<b>SubTotal 93.910</b>					<b>231,189</b>		<b>231,189</b>
Hispanic Nurses Educating Multicultural Communities on the Patient Protection & Affordable Care Act	93.U16	NATIONAL ASSOCIATION OF HISPANIC NURSES	SUB TO 1 CPIMP141072-01-00			5,810	5,810
<b>SubTotal 93.U16</b>						<b>5,810</b>	<b>5,810</b>
OFFICE OF THE ASSISTANT SECRETARY FOR HEALTH/DHHS Total OFFICE OF THE DIRECTOR, NATIONAL INSTITUTES OF HEALTH/NIH/DHHS					231,189	36,195	267,384
Short-term Training: students in health professional schools	93.351		2-T35-OD-010919-16		115,666		115,666
<b>SubTotal 93.351</b>					<b>115,666</b>		<b>115,666</b>
OFFICE OF THE DIRECTOR, NATIONAL INSTITUTES OF HEALTH/NIH/DHHS Total SUBSTANCE ABUSE & MENTAL HEALTH SERVICES ADMINISTRATION (SAMHSA)					115,666		115,666
Philadelphia Integrated System of Care Expansion (PISCE)	93.104	COMMUNITY BEHAVIORAL HEALTH	SUB TO 1U79SM062463			251,416	251,416
<b>SubTotal 93.104</b>						<b>251,416</b>	<b>251,416</b>

Federal Grantor/Program or Cluster Title	CFDA Number	Pass-Through Grantor	Award/Pass-Through Entity Identification Number	Passed To Sub- Receiptients	Direct	Pass-Through	Expenditure Total
Philadelphia Alliance for Child Trauma Services (PACTS)	93.243	CITY OF PHILADELPHIA	1320657			21,525	21,525
	SubTotal 93.243					21,525	21,525
PERC-SAMHSA Project	93.958	ADAMS COUNTY, PENNSYLVANIA	PERC			101,643	101,643
	SubTotal 93.958					101,643	101,643
Expand substance abuse treatment capacity in adult treatment drug courts & adult tribal healing wellness courts	93.U32	STATE OF DELAWARE	Sub to SAMHSA ADV ACCT			23,732	23,732
	SubTotal 93.U32					23,732	23,732
Reaching the Most Vulnerable: PACTS II	93.U26	CITY OF PHILADELPHIA	1720535			54,260	54,260
	SubTotal 93.U26					54,260	54,260
Evaluation of Cooperative Agreements to Benefit Homeless Individuals for States and Communities (CABH-States and Communities)	93.U30	RESEARCH TRIANGLE INSTITUTE	Sub 29-312-0213405-52639L ADV ACCT			66,990	66,990
	SubTotal 93.U30					66,990	66,990
SUBSTANCE ABUSE & MENTAL HEALTH SERVICES ADMINISTRATION (SAMHSA) Total						519,566	519,566
DEPARTMENT OF HEALTH AND HUMAN SERVICES Total				174,501	1,621,310	3,035,611	4,656,921
CORPORATION FOR NATIONAL AND COMMUNITY SERVICE							
CORPORATION FOR NATIONAL AND COMMUNITY SERVICE							
Next Steps AmeriCorps FY15/16	94.006	COMMONWEALTH OF PENNSYLVANIA	4100070812	14,706		42,499	42,499
Next Steps AmeriCorps FY16/17	94.006	COMMONWEALTH OF PENNSYLVANIA	4100074210	10,223		106,294	106,294
VISTA Admin (2016/2017)	94.006		2685		32,206		32,206
	SubTotal 94.006			24,929	32,206	148,793	180,999
VISTA Admin	94.013		12VSAPA008		5,789		5,789
	SubTotal 94.013				5,789		5,789
CORPORATION FOR NATIONAL AND COMMUNITY SERVICE Total				24,929	37,995	148,793	186,788
CORPORATION FOR NATIONAL AND COMMUNITY SERVICE Total				24,929	37,995	148,793	186,788
UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT							
UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT							
South Sudan Media Educational Development Project: Strengthening Free and Independent Media in South Sudan	98.002	INTERNEWS NETWORK, INC.	SG-R-SS1301-4			13,907	13,907
	SubTotal 98.002					13,907	13,907
UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT Total						13,907	13,907
UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT Total						13,907	13,907
Other Programs Total				3,915,993	9,059,500	4,809,905	13,869,405
Total Expenditures on Federal Awards for Fiscal Year Ended FY2017				81,484,111	884,044,342	83,881,925	967,926,267

## 1. Basis of Presentation

The Schedule of Expenditures of Federal Awards (the "Schedule") has been prepared to present a summary of those activities of the University of Pennsylvania for the year ended June 30, 2017, which have been financed by the U.S. Government ("Federal awards") and is presented on the accrual basis of accounting. The information in this schedule is presented in accordance with the 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).

For purposes of the Schedule, Federal awards include all Federal assistance entered into directly between the University of Pennsylvania and the Federal government and sub-awards from non-Federal organizations made under federally sponsored agreements. Because the Schedule presents only a selected portion of the activities of the University of Pennsylvania, it is not intended to and does not present the financial position or the revenues, expenses or changes in net assets of the University of Pennsylvania.

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.

Negative amounts on the schedule represent adjustments in the normal course of business to amounts reported in previous years. Catalog of Federal Domestic Assistance ("CFDA") and pass-through award numbers are present where available.

## 2. Federal Student Financial Assistance

The federal student loan programs included within the Student Financial Aid Cluster on the Schedule of Expenditures of Federal Awards above, with the exception of Federal Direct Loans, are administered directly by the University and balances and transactions relating to these programs are included in the University's consolidated financial statements. Loans outstanding at the beginning of the year and loans made during the year are included in the federal expenditures presented in the Schedule. Also included is the amount recovered for the year ended June 30, 2017, for administrative cost allowance from the Perkins Loan program of \$689,284. The amounts of Federal Loans outstanding at June 30, 2017 are shown on below.

<b>Federal Grantor/Program</b>	<b>CFDA Number</b>	<b>Outstanding Balance as of 6/30/2017</b>
<b>Department of Education</b>		
Perkins Loan	84.038	57,894,798
<b>Department of Health and Human Services</b>		
Health Professions Student Loans - Dental	93.342	8,246,529
Health Professions Student Loans - Medical	93.342	201,100
Health Professions Student Loans - Vet	93.342	2,799,979
Loans for Disadvantaged Students - Medical	93.342	1,367,529
Loans for Disadvantaged Students - Dental	93.342	2,201
Nursing Student Loan - Graduate	93.364	401,628
Nursing Student Loan - Undergraduate	93.364	2,537,049
Nurse Faculty Loan Program	93.264	1,244,718

## **II. Internal Control and Compliance**





**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 the University of Pennsylvania:

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 University of Pennsylvania ("the University"), which comprise the consolidated statement of financial position as of June 30, 2017, and the related statements of activities and of cash flows for the year then ended, and the related notes to the consolidated financial statements, and have issued our report thereon dated September 29, 2017.

**Internal Control over Financial Reporting**

In planning and performing our audit of the financial statements, we considered the University's internal control over financial reporting ("internal control") to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the 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 may exist that have not been identified.

**Compliance and Other Matters**

As part of obtaining reasonable assurance about whether the University's 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 determination of financial statement amounts. 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 entity'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 entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

*PricewaterhouseCoopers LLP*

Philadelphia, Pennsylvania  
September 29, 2017



**Report of Independent Auditors on Compliance with Requirements  
That Could Have a Direct and Material Effect on Each Major Program and on  
Internal Control over Compliance in Accordance with the OMB Uniform Guidance**

To the Trustees of the University of Pennsylvania:

**Report on Compliance for Each Major Federal Program**

We have audited the University of Pennsylvania's (the "University") compliance with the types of compliance requirements described 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, 2017. 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.

***Management's Responsibility***

Management is responsible for compliance with the federal statutes, regulations and the terms and conditions of its federal awards applicable to its federal programs.

***Auditors' Responsibility***

Our responsibility is to express an opinion on compliance for each of the University's major federal programs based on our audit of the types of compliance requirements referred to above. We conducted our audit of compliance in accordance with auditing standards generally accepted in the United States of America; 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). Those standards and the Uniform Guidance require that we plan and perform the audit to obtain reasonable assurance about whether noncompliance with the types of compliance requirements referred to above that could have a direct and material effect on a major federal program occurred. An audit includes examining, on a test basis, evidence about the University's compliance with those requirements and performing such other procedures as we considered necessary in the circumstances.

We believe that our audit provides a reasonable basis for our opinion on compliance for each major federal program. However, our audit does not provide a legal determination of the University's compliance.

***Opinion on Each Major Federal Program***

In our opinion, the University complied, in all material respects, with the types of 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, 2017.

***Other Matters***

The results of our auditing procedures disclosed instances of noncompliance, which are required to be reported in accordance with the Uniform Guidance and which are described in the accompanying schedule



of findings and questioned costs as items 2017-002 through 2017-008. Our opinion on each major federal program is not modified with respect to these matters.

The University's response to the noncompliance findings identified in our audit is described in the accompanying Management's View and Corrective Action Plan. The University's response was not subjected to the auditing procedures applied in the audit of compliance and, accordingly, we express no opinion on the response.

### **Report on Internal Control over Compliance**

Management of the University is responsible for establishing and maintaining effective internal control over compliance with the types of compliance requirements referred to above. In planning and performing our audit of compliance, we considered the University's internal control over compliance with the types of requirements that could have a direct and material effect on each major federal program to determine the auditing procedures that are appropriate in the circumstances for the purpose of expressing an opinion on compliance for each major federal program 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 internal control over compliance. Accordingly we do not express an opinion on the effectiveness of the University's 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 first paragraph of this section and was not designed to identify all deficiencies in internal control over compliance that might be material weaknesses or significant deficiencies and therefore, material weaknesses or significant deficiencies may exist that were not identified. We did not identify any deficiencies in internal control over compliance that we consider to be material weaknesses. However, we identified a deficiency in internal control over compliance, as described in the accompanying schedule of findings and questioned costs as item 2017-001, that we consider to be a significant deficiency.

The University's response to the internal control over compliance finding identified in our audit is described in the accompanying Management's View and Corrective Action Plan. The University's response was not subjected to the auditing procedures applied in the audit of compliance and, accordingly, we express no opinion on the response.



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*

Philadelphia, Pennsylvania  
January 24, 2018

### **III. Schedule of Findings and Questioned Costs**

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**Section I – Summary of Auditor’s Results**

***Consolidated Financial Statements***

- (i) Type of auditor’s report issued: Unmodified
- (ii) Internal control over financial reporting:  
Material weakness(es) identified?     yes   X   no  
Significant deficiency(ies) identified that are  
not considered to be material weaknesses?     yes   X   none reported
- (iii) Noncompliance material to financial statements  
noted?     yes   X   no

***Federal Awards***

- (iv) Internal control over major programs:  
Material weakness(es) identified?     yes   X   no  
Significant deficiency(ies) identified that are  
not considered to be material weaknesses?   X   yes     none reported
- (v) Type of auditor’s report issued on compliance  
for major programs: Unmodified
- (vi) Any audit findings disclosed that are required  
to be reported in accordance with  
2 CFR 200.516(a)?   X   yes     no
- (vii) Identification of major programs:

<b>CFDA Number(s)</b>	<b>Name of Federal Program or Cluster</b>
Various 10.561	Research and Development Cluster Supplemental Nutrition Assistance Program

- (viii) Dollar threshold used to distinguish between  
Type A and Type B programs: \$3,000,000
- (ix) Auditee qualified as low-risk auditee?   X   yes     no

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**Section II – Financial Statement Findings**

None noted.

**Section III – Federal Awards Findings and Questioned Costs**

**Finding 2017-001 Cost Transfers**

**Grantor:** Various  
**Program:** Research and Development Cluster  
**CFDA#:** Various  
**Title:** Various  
**Award Year:** 07/2016 – 06/2017  
**Award Number:** Various

**Criteria**

Section 200.333 of the Uniform Guidance states that – “Financial records, supporting documents, statistical records, and all other non-Federal entity records pertinent to a Federal award must be retained for a period of three years from the date of submission of the final expenditure report or, for Federal awards that are renewed quarterly or annually, from the date of the submission of the quarterly or annual financial report, respectively, as reported to the Federal awarding agency or pass-through entity in the case of a subrecipient.”

Section 200.403 of the Uniform Guidance, Factors affecting allowability of costs says, “Except where otherwise authorized by statute, costs must meet the following general criteria in order to be allowable under Federal awards... (g) Be adequately documented.”

DHHS Grants Policy Statement – “Permissible cost transfers should be made promptly after the error occurs but no later than 90 days following occurrence unless a longer period is approved in advance by the GMO. The transfer must be supported by documentation that fully explains how the error occurred and a certification of the correctness of the new charge by a responsible official of the recipient, subrecipient, or contractor. An explanation merely stating that the transfer was made “to correct error” or “to transfer to correct project” is not sufficient.”

University Policy 2113 Cost Transfers and Payroll Reallocations states “The Principle Investigator (PI) is responsible for ensuring that transfers of cost to sponsored projects, which may represent corrections of errors, are made promptly. Transfers must be supported by documentation which contains a full explanation of the need for the transfer and a correlation of the charge to the project to which the transfer is being made. Explanations such as “to correct an error” or “to transfer to correct project” are unacceptable. Documentation of the cost transfer should be provided at the time the transfer is prepared, using the Cost Transfer Justification Form. Cost transfers must be prepared and submitted within 90 days from month end in which the transaction appears on the fund. Cost transfers made after this period require ORS approval and will only be allowed under extenuating circumstances. Cost Transfers may be made, provided the following conditions are met: a) the cost is an allowable, allocable, and reasonable charge to the project; and b) the transfer is supported by adequate documentation fully explaining the need for the transfer and certified by the principal investigator and business administrator. The documentation to support the cost transfer is detailed on the Cost Transfer Justification Form and includes, but is not limited to: a) explanation for the transfer; b) explanation of the direct benefit to the funding source; c) original source documentation (invoice, PDA form, receipt, etc.); d) PI approval.”

**Condition**

In testing the University’s conformity with the compliance requirements for cost transfers, 60 individual cost transfer entries were selected to ensure the transfers were allowable, approved, and had all required documentation at the time of transfer. The support requested for each selection included the original



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invoice, journal entry detail, cost transfer justification form, and documentation at the time of transfer of Principal Investigator approval of the cost transfer, a descriptive explanation of the reason for the transfer and a correlation of the charge to the project to which the transfer was made. Of the 60 cost transfer entries tested, 12 instances were noted in which one or more of the required components of the cost transfer documentation was documented after the transfer or in which the date of PI certification could not be determined based on the supporting documentation provided.

This is a repeat of finding 2016-001 in the prior year audit report. Refer to table below for additional information on each exception noted.

**Table Legend**

- A Cost Transfer Justification Form was not fully completed at time of transfer, including documentation of the explanation of how the error occurred, correlation of the charge to the project to which the transfer is being made, and certification of the transfer by the Principal Investigator.
- B Certification of the transfer by the Principal Investigator on the Cost Transfer Justification Form was not dated, and therefore the timeliness of the certification could not be determined.

CFDA #	Award Number	Transfer Amount (\$)	Exception(s) Noted
93.855	1-R01-AI-122749-01	10,390	A
93.855	24971-04-324	34,685	B
93.847	4-R01-DK-095803-04	450	A
93.242	1-R37-MH-108286-01	2,315	A
12.910	W911NF-13-2-0036	224,840	A
93.242	1-P50-MH-096891-01	255	A
93.242	1-R01-MH-109382-01A1	797	A
93.866	1-R01-AG-037679-01A1	6,030	B
93.847	1-R01-DK-106309-01A1	8,986	A
93.837	1-R01-HL-133080-01	2,806	A
93.859	2-R01-GM-055560-14A1	350	B
47.049	CHE-1150351	742	A

Management was able to provide some level of appropriate documentation for each cost transfer selection, although not necessarily documented at the time of transfer. The documentation received supports the allowability and appropriateness of the cost transfer for all selections.

**Cause**

In several instances, grant administrators were not diligent in adhering to the University's policy on maintaining complete and adequate documentation for cost transfers at the time of occurrence. The University has educated their research community on the need to complete the required cost transfer form. Additionally, while management worked to improve the cost transfer policy and documentation requirements throughout the fiscal year, the formal implementation of these improvements did not take effect until after the completion of the fiscal year under audit.

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**Effect**

For the cost transfers identified above, there was not a clearly documented audit trail at the time of the transfer to evidence various required components of the cost transfer policy, thereby increasing the risk that costs could be transferred inappropriately to federal awards and remain undetected.

**Questioned Costs**

None as all cost transfers selected for testing were allowable.

**Recommendation**

The University should further enhance their current control process, including a formally documented review control to ensure that cost transfers are submitted with all required documentation and explanation of the transfer. The review control documentation should include a manual or electronic signature from the reviewer and date of review, evidencing the review of the submitted cost transfer documentation as in compliance with University policy and compliance requirements.

**Management's View and Corrective Action Plan**

Following these findings are management's view and corrective action plan.

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**Finding 2017-002 Cash Management**

**Grantor:** Department of Health and Human Services, National Institute of Health  
**Program:** Research and Development Cluster  
**CFDA#:** 93.847; 93.397; 93.866  
**Title:** Continuation of the Chronic Renal Insufficiency Cohort (CRIC) Study;  
Abramson Cancer Center Support Grant;  
Alzheimer's Disease Genetics Consortium;  
Consortium for Alzheimers Sequence Analysis (CASA)  
Penn Integrated Human Pancreas Procurement and Analysis Program  
**Award Year:** 07/2016 – 06/2017  
**Award Number:** 2-U01-DK-060990-13; 2-P30-CA-016520-40; 5-U01-AG-032984-07; 1-UF1-AG-047133-01; 1-UC4-DK-112217-01

**Criteria**

2. CFR 200.305 (b3):

Reimbursement is the preferred method when the requirements in paragraph (b) cannot be met, when the Federal awarding agency sets a specific condition per §200.207 Specific conditions, or when the non-Federal entity requests payment by reimbursement.

Per the OMB Compliance Supplement, the non-Federal entity must disburse funds for program purposes before requesting payment from the Federal awarding agency or pass-through entity.

**Condition**

In testing the University's conformity with the compliance requirements for cash management, 25 individual expenditures were selected to compare the date of vendor payment from the University to the date of reimbursement from the government to the University. Of the 25 expenditures tested, eight instances were noted in which the University paid the vendor after requesting and receiving reimbursement from the government. Refer to the table below for further details.

<b>CFDA Number</b>	<b>Award Number</b>	<b>Expenditure Amount</b>	<b>Date of Payment to Vendor</b>	<b>Date of Reimbursement from Government</b>	<b>Days Variance</b>
93.847	2-U01-DK-060990-13	\$880	3/3/2017	2/8/2017	23
93.847	2-U01-DK-060990-13	\$4,017	11/28/2016	11/22/2016	6
93.397	2-P30-CA-016520-40	\$653	10/28/2016	10/12/2016	16
93.866	5-U01-AG-032984-07	\$1,159	11/10/2016	10/28/2016	13
93.866	1-UF1-AG-047133-01	\$174	2/24/2017	2/2/2017	22
93.866	1-UF1-AG-047133-01	\$1,458	12/23/2016	12/12/2016	11
93.847	1-UC4-DK-112217-01	\$5,985	6/29/2017	6/13/2017	16
93.847	1-UC4-DK-112217-01	\$8,845	6/29/2017	6/27/2017	2

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**Cause**

Management's current process to ensure that the reimbursement of expenditures occurs only after paying the vendor utilizes the assumption that vendors will be paid within 30 days, on average, of incurring the expense. The reliance of the 30 day average time-frame allowed certain expenditures to be included in requests for reimbursement prior to being liquidated.

**Effect**

The University received Federal reimbursement prior to paying the vendors for the selected expenses.

**Questioned Costs**

None.

**Recommendation**

The University should revisit existing internal control procedures to ensure expenditures are paid in compliance with the Federal reimbursement requirements. We also recommend management discuss current cash management requirements with the OMB and the University's cognizant agency to determine a solution that meets the needs of both parties.

**Management's View and Corrective Action Plan**

Following these findings are management's view and corrective action plan.

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**Finding 2017-003 Period of Availability**

**Grantor:** Department of Defense, Advanced Research Projects Agency;  
Department of Agriculture  
**Program:** Research and Development Cluster; SNAP Cluster  
**CFDA#:** 12.910; 10.561  
**Title:** Rapid Ab Isolation and Delivery by Recombinant AAV Technology (RAID-RAT)  
PA Nutrition Education TRACKS Program  
**Award Year:** 07/2016 – 06/2017  
**Award Number:** W911NF-13-2-0036; 5315-TUP-COP-9151; 5541-TUP-COP-9151

**Criteria**

2 CFR section 200.343(b) – “Unless the Federal awarding agency or pass-through entity authorizes an extension, a non-Federal entity must liquidate all obligations incurred under the Federal award not later than 90 calendar days after the end date of the period of performance as specified in the terms and conditions of the Federal award.”

**Condition**

In testing the University’s conformity with the compliance requirements for period of availability, 25 individual expenditures within the Research and Development cluster and 5 expenditures within the SNAP Cluster were selected to ensure that the University liquidated the expenditures within 90 days after award period end. Of the 25 Research and Development Cluster expenditures tested, one instance was noted in which the University paid the vendor after 90 days after award period end. Of the five SNAP Cluster expenditures tested, one instance was noted in which the University paid the vendor after 90 days after award period end. Refer to the table below for further details.

<b>CFDA Number</b>	<b>Award Number</b>	<b>Payment Amount</b>	<b>Date of Payment to Vendor</b>	<b>Award End Date</b>	<b>Days Between Award End and Payment</b>	<b>Days Payment Exceeded 90 Day Threshold</b>
12.910	W911NF-13-2-0036	\$67	4/7/2017	12/31/2016	97	7
10.561	5315-TUP-COP-9151	\$7,078	2/21/2017	9/30/2016	144	54

**Cause**

In both instances, management was awaiting additional invoice supporting documentation from the vendor prior to making payment.

**Effect**

The University was not timely in liquidating the obligations noted above.

**Questioned Costs**

None as all costs were allowable.

**Recommendation**

The University should further enhance their current award close-out process, including a detailed review of un-liquidated obligations prior to the completion of the 90-day close-out period to ensure payments have been made to the vendors in compliance with the criteria cited above. The control documentation should include a manual or electronic signature from the reviewer and date of review, specifically indicating the review that all expenditures have been liquidated as of 90 days after the award period end.

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**Management's View and Corrective Action Plan**

Following these findings are management's view and corrective action plan.

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**Finding 2017-004 Procurement**

**Grantor:** Department of Health and Human Services, National Institutes of Health;  
Department of Agriculture  
**Program:** Research and Development Cluster; SNAP Cluster  
**CFDA#:** 93.855; 10.561  
**Title:** A Phase 2b/3 Double Blind Safety and Efficacy Study of Injectable Cabotegravir  
Compared to Daily Oral Tenofovir Disoproxil Fumarate/Emtricitabine (TDF/FTC),  
For Pre-Exposure Prophylaxis in HIV-Uninfected Cisgender Men and Transgender  
Women who have Sex with Men;  
PA Nutrition Education TRACKS Program  
**Award Year:** 06/2016 - 07/2017  
**Award Number:** SUB TO UM1 AI068619; 5315-TUP-COP-9151; 5541-TUP-COP-9151

**Criteria**

University Policy 2308 Competitive Bidding states that, "All purchases with an aggregate value of \$5,000 or more must be competitively bid. Regardless of the dollar amount, competitive bids are not required for purchases from University Contract Suppliers and Penn Marketplace Suppliers designated as such. Normally, a minimum of three bids from qualified sources of supply will be required. However, circumstances may exist when fewer than three bids or more than three bids may be appropriate:

- a. Purchasing Services will accept fewer than three bids only in cases where the normal competitive bidding process cannot be conducted. Purchase orders for which at least three bids cannot be obtained must be accompanied a written Request to Waive the Competitive Bidding Process, in which the circumstances are explained.
- b. Purchasing Services is authorized to determine when more than three bids will be required."

University Policy 2112 Procurement of Goods and Services states that "The University of Pennsylvania elects to utilize the grace period for compliance with the procurement standards under OMB Uniform Guidance Part 200.320."

Circular A-110 subpart C – Post-Award Requirements section .44 part (e) notes the following: "Recipients shall, on request, make available for the Federal awarding agency, pre-award review and procurement documents, such as request for proposals or invitations for bids, independent cost estimates, etc., when any of the following conditions apply.

- (1) A recipient's procurement procedures or operation fails to comply with the procurement standards in the Federal awarding agency's implementation of this Circular.
- (2) The procurement is expected to exceed the small purchase threshold fixed at 41 U.S.C. 403 (11) (currently \$25,000) and is to be awarded without competition or only one bid or offer is received in response to a solicitation.
- (3) The procurement, which is expected to exceed the small purchase threshold, specifies a "brand name" product.
- (4) The proposed award over the small purchase threshold is to be awarded to other than the apparent low bidder under a sealed bid procurement.
- (5) A proposed contract modification changes the scope of a contract or increases the contract amount by more than the amount of the small purchase threshold.

**Condition**

In testing the University's conformity with the compliance requirements for procurement, we selected 25 Research and Development (R&D) purchases and three Supplemental Nutrition Assistance Program (SNAP) purchases and noted two selections that did not have documentation of competitive bidding or a sole source justification prior to purchase. Refer to the table on the following page for further details.

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CFDA#	Award #	Purchase Order #	Purchase Order Amount (\$)
93.855	SUB TO UM1 AI068619	3695351	\$30,000
10.561	5315-TUP-COP-9151	3603916	\$5,450

This is a repeat of finding 2016-004 in the prior year audit report

**Cause**

The sole source justification for the approved Purchase Orders was not adequately documented at the time due to confusion over the policy requirements.

**Effect**

The documentation does not comply with the University's procurement policy. Additionally, items purchased with federal funds may be at increased risk for purchase at a higher rate if the University is not evaluating competitive bids.

**Questioned costs**

None

**Recommendation**

The University should enhance their current process of ensuring competitive bidding or sole source justification is documented before purchase, including a more detailed review of the procurement documentation by the Business Administrator or Principal Investigator prior to approving the purchase on the Federal fund. The control documentation should include a manual or electronic signature from the reviewer and date of review, specifically indicating the review and approval that satisfactory evidence of competitive bidding or sole source justification has been included in the award file. Additionally, management should further enhance their process by implementing a periodic review control to ensure that purchases made on Federal funds have required procurement documentation, as necessary.

**Management's View and Corrective Action Plan**

Following these findings are management's view and corrective action plan.



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**Findings 2017-005 through 2017-007 are additional findings included in the report based upon the results of the audit of the University of Pennsylvania's City of Philadelphia Awards. As these programs include Federal funding, these findings have also been included within this report.**

**Finding 2017-005 Eligibility**

**Grantor:** Department of Health and Human Services, Pass-through City of Philadelphia, Aids Activity Coordinating Office (AACO)  
**Program:** Ryan White HIV/AIDS  
**CFDA:** 93.914  
**Title:** HIV Emergency Relief Project Grants  
**Award Year:** 2016-2017; 2017-2018  
**Award Number:** RM6757, R7868, RS6944, R7944, R6866, R7866, R6965, R7965, RW6731, and RW7731

**Criteria**

Per the AACO/PA Dept. of Health Ryan White Part A/B – Payer of Last Resort Client Certification Form Instructions, “The certification process must begin for all clients upon initial intake for services and final Eligibility is determined once all supporting documentation has been received and verified. The City of Philadelphia Audit Guide section 6130.04 provides a list of documents to be maintained and states “case management service providers are required to keep a file on each client served”.

Additionally, per the Universal Monitoring Standards set forth by the Health Resources and Services Administration (HRSA) of the Department of Health and Human Services, the Ryan White HIV/AIDS Program Part A and B Monitoring Standards require service providers who receive Ryan White funding to screen to certify their eligibility for Ryan White-funded services. The guidance states that documentation of eligibility determination is required in client records, as evidenced by copies of documents.

Finally, per 42 USC 300ff-15, providers may impose charges for the provision of services to patients in accordance with the individual's income level not exceeding in aggregate specific thresholds based on the individual's income level. The term aggregate applies to the annual charges imposed for all charges without regard to whether they are characterized as enrollment fees, premiums, deductibles, cost sharing, co-payments, coinsurance, or other charges for services.

**Condition**

Health Resources and Services Administration of the Department of Health and Human Services standards require service providers who receive Ryan White funding to screen clients and collect certain documentation to support their determination of eligibility for Ryan White funded services, including an HIV positive diagnosis, identity, residence, insurance status, and income level. These requirements were sent to the University of Pennsylvania (“the University”) by the City of Philadelphia as part of its contract to provide services.

Additionally, in cases in which the service provider charges individuals for service performed under the Ryan White program, the service provider is required to ensure that the aggregate amount of charges for the year do not exceed the income level related thresholds within the criteria below.

For the AACO Medical awards, of the 60 patient files selected for eligibility testing, 7 patients did not have all the required eligibility documentation for the Ryan White program. For the AACO Dental awards, of the 40 patient files selected for testing, 1 patient did not have all the required eligibility documentation for the Ryan White program. This is a repeat of finding 2016-005 in the prior year audit report.

Additionally, 60 AACO Medical patient files were tested for program income testing, and 1 of these individuals had co-payments charged, totaling \$50. For this one transaction, it was unable to be

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determined whether the institution met the program income billing criteria stated below. This is a repeat of finding 2016-005 in the prior year audit report.

The following table provides more detail for each of the exceptions noted above.

Exception	Medical/Dental	Location	Co-Payment Made	Exceptions Noted
1	Medical	Presbyterian Medical Center		A
2	Medical	Presbyterian Medical Center		A
3	Medical	Presbyterian Medical Center		A, B
4	Medical	Presbyterian Medical Center		B
5	Medical	Presbyterian Medical Center		C
6	Medical	Presbyterian Medical Center	\$50	A, B, D
7	Medical	J. Edwin Wood Clinic		A
8	Dental	Dental School of Medicine		C

- A** Missing evidence of eligibility determination
- B** Missing evidence of income verification for eligibility determination
- C** Missing evidence of personal identification for eligibility determination
- D** Missing evidence of income level for income level threshold determination

**Cause**

The system management has in place to properly identify and certify individuals who are part of the Ryan White Program, in order to ensure that all eligibility documentation is obtained and retained in the patient's file, is not consistently adhered to due to staff turnover.

Additionally, the process currently in place to ensure that each Ryan White designated patient is not charged more than the allowable amount based on their income level is not consistently adhered to obtain the individual's income information prior to billing.

**Effect**

Patient care may be provided to ineligible patients and uninsured/underinsured patients may have been inappropriately billed for services provided.

**Questioned Costs**

None

**Recommendation**

The University should continue to ensure proper documentation is retained supporting all eligibility requirements. Management should implement preventative controls to ensure that prior to each patient visit, all eligibility documentation has been obtained. Management should also implement a periodic review control to detect any patients who are missing eligibility documentation and work to obtain the missing documentation. Finally, the AACO programs should implement a process to ensure each patient's income verification is collected and retained and should implement a process to certify that each patient is not overcharged for services received throughout the year.

**Management's View and Corrective Action Plan**

Following these findings are management's view and corrective action plan.

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**Finding 2017-006 Matching**

**Grantor:** Department of Education, Pass-through City of Philadelphia, School District of Philadelphia  
**Program:** Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP)  
**Title:** GEAR UP College Readiness Collaborative Communities Project  
**CFDA:** 84.334  
**Award Year:** 2015-2016  
**Award Number:** 005A/F16 (362/F16)

**Criteria**

34 CFR 694.7(a) – “In order to be eligible for GEAR UP funding... a grantee must make substantial progress towards meeting the matching percentage stated in its approved application for each year of the project period. The non-Federal share of the cost of the GEAR UP project must be not less than 50 percent of the total cost of the project (i.e. one dollar of non-Federal contributions for every one dollar of Federal funds obligated for the project) over the project period.”

**Condition**

Award 005A/F16 (362/F16) closed September 2016 and had \$74,426 in cumulative expenditures as of year-end. The University matched \$33,529, and therefore the required match of \$374,279, as communicated by the School District of Philadelphia, was not met.

**Cause**

The University believed the responsibility of the match requirements to belong to the prime recipient of the federal award, the School District of Philadelphia, and that such responsibility was not clearly delineated in the sub-award agreement. The University had verbal, undocumented, conversations with the School District of Philadelphia about the requirements and was communicated by the District that the District would ensure the federally required match was made, and that the University did not need to meet the federally required match level, as cited above. Subsequently, the District clarified with the University that the University was responsible for the match of \$374,279, as documented in the Partner Identification Form and Cost Share Worksheet between the University and the District.

**Effect**

The required match per the condition cited above is not being met by the University as a subrecipient of the federal award.

**Questioned Costs**

None

**Recommendation**

We recommend that management clarify in writing with the District the match requirements for each year of the GEAR-UP awards going forward. Additionally, we recommend that the University enhance their process of monitoring the expenditures applied to the award throughout the award year and implement a secondary level of review to ensure the required match, as confirmed by the District, is being met prior to the end of each award year.

**Management's View and Corrective Action Plan**

Following these findings are management's view and corrective action plan.

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**Finding 2017-007 Cash Management**

**Grantor:** Department of Education, Pass-through City of Philadelphia, School District of Philadelphia  
**Program:** Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP)  
**Title:** GEAR UP College Readiness Collaborative Communities Project  
**CFDA:** 84.334  
**Award Year:** 2015-2016  
**Award Number:** 005A/F16 (362/F16)

**Criteria**

Award agreement – “The Contractor shall submit its final invoice not later than thirty (30) business days after the last day of the term.”

School District Standard Terms and Conditions, included in grant agreement – “If the Contractor, after a request by the School District, does not provide evidence satisfactory to the School District to support any items or items set forth on an invoice, the School District shall have no liability to make any payment with respect to that item or items. If the School District has already made payment for that item or items, the School District may by notice to the Contractor require the Contractor to refund to the School District the amount of any such overpayment, or the School District, at its option, may set off such overpayment against any payments accruing thereafter to the Contractor under this Contract or any other contract between the Parties.”

**Condition**

Award 005A/F16 (362/F16) closed September 2016 and the final invoice was rendered for a cumulative amount of \$81,747. Subsequently, compensation, employee benefits, subcontractor expenses, and associated indirect costs were reversed off of the award in the amount of \$7,321. As the University was reimbursed for these expenditures in December 2016, a return of funds and updated invoice is required to be submitted to the School District of Philadelphia.

**Cause**

The award closeout process in place lacks adequate detective controls to ensure that late reversals of expenditures on awards with manual invoicing are identified in a timely manner for updated invoicing and return of funds to the sponsor.

**Effect**

The School District of Philadelphia is owed a refund for overpayment made to the University.

**Questioned Costs**

\$7,321

**Recommendation**

We recommend that the University enhance their controls related to award close out to ensure that any late credits are reviewed, funds are closed timely, and, if necessary, excess funds are returned to the sponsor timely.

**Management’s View and Corrective Action Plan**

Following these findings are management’s view and corrective action plan.

**University of Pennsylvania**  
**Schedule of Findings and Questioned Costs**  
**June 30, 2017**

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**Although the Student Financial Aid Cluster was not selected as a major program, instances of non-compliance were noted and therefore, reported as required.**

**Finding 2017-008 Return of Title IV Funds**

**Grantor:** Department of Education  
**Program:** Student Financial Aid  
**CFDA:** 84.063, 84.268  
**Title:** Federal Pell Grant, Federal Direct Loans  
**Award Year:** 7/2016 – 6/2017  
**Award Number:** P063P162158, P268K172158

**Criteria**

In accordance with 34 CFR 668.22 the University must return the amount of Title IV funds for which it is responsible as soon as possible but no later than 45 days after the date of the institution's determination that the student withdrew.

**Condition**

Of the 20 refund calculations tested, we noted that for 2 students the return of funds to the government occurred untimely. This is a repeat of finding 2016-008 in the prior year audit report. Refer to the table below for further details.

#	Semester of Leave	Date of Determination of Withdrawal	Date Funds Returned	Days to Return Funds	Days Late	Aid Type Returned	Amount Returned
1	Spring 2017	2/20/2017	4/22/2017	61	16	Unsub Direct Loan	13,732
2	Fall 2016	11/2/2016	1/9/2017	68	23	Pell Grant	2,135

**Cause**

While management made enhancements to the return of Title IV funds control processes to address the accuracy of the calculation and the timeliness of the returns during fiscal year 2017 in response to the 2016 audit finding, there were exceptions regarding the timeliness of returning Title IV funds during the fiscal year.

**Effect**

Late refunds of the Title IV funds to the government occurred.

**Questioned Costs**

None.

**Recommendation**

Management should further enhance their control process to ensure that all refunds are submitted to the government within the 45 day threshold.

**Management's View and Corrective Action Plan**

Following these findings are management's view and corrective action plan.

**University of Pennsylvania**  
**Summary Schedule of Status of Prior Audit Findings**  
**June 30, 2017**

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**Finding 2016-001 Cost Transfers, 2015-003 Cost Transfers, 2014-002 Cost Transfers, 2013-004 Cost Transfers**

**Grantor:** Various  
**Program:** Research and Development Cluster  
**CFDA#:** Various  
**Title:** Various  
**Award Year:** 07/2015 – 06/2016  
**Award Number:** Various

**Summary**

For 60 R&D cost transfer selections, PwC requested the original invoice, evidence of original invoice approval, journal entry detail, evidence of Principal Investigator approval of the cost transfer, copy of the original or amended grant budget with identification of the cost transfer budget category and documentation at the time of transfer of a descriptive explanation of the reason for the transfer and a correlation of the charge to the project to which the transfer was made. We also requested the cost transfer form for all transfers made after the implementation of the new policy in April 2016. It was noted for 35 of the 60 selections that the University's cost transfer policy was not fulfilled by the support provided. Management was able to provide some level of appropriate documentation for each cost transfer selection, although not necessarily documented at the time of transfer.

**Status Update**

Towards the end of FY16, the University implemented the use of a new, standardized Cost Transfer Justification Form to help address the repeated Cost Transfer audit findings. As a result of the FY16 audit the University further strengthened and improved controls over cost transfers by implementing a multi-faceted plan. First, a Research Shared Governance Board was established with representation across Schools and Centers to actively engage, communicate, train on research matters, as well as help establish best practices for research policy implementation. Currently, the Board meets monthly and provides both a forum for discussing research compliance and policy issues as well as a resource for improving practices and procedures. Secondly, through this Board, research administration management has been able to more actively engage and involve School and Center leadership in process improvement and accountability. Thirdly, the University revised its Cost Transfer policy, training and procedures in an effort to improve compliance with Federal Rules and Guidelines. This new policy was released July 2017 and will be applicable to cost transfers beginning in FY2018. In conjunction with the new policy, revised electronic procedures for manual journal entries on sponsored projects were implemented beginning September 2017 in order to improve the timeliness of cost transfer documentation, such that copies of Cost Transfer Justification Forms no longer need to be collected or emailed to a central repository. Lastly, a cost transfer controls review and monitoring process was designed through the Research Shared Governance Board, which is currently being implemented during Q2 of the fiscal year 2018. Please see the current year finding 2017-001 and Management's View and Corrective Action Plan for more information.

**Finding 2016-002 Equipment Management, 2015-004 Equipment Management**

**Grantor:** National Institute of Health  
**Program:** Research and Development Cluster  
**CFDA#:** 93.859, 93.279  
**Title:** Ras signaling and tubulogenesis in the *C. elegans* excretory (renal) system, Integrated Interdisciplinary Training in Computational Neuroscience  
**Award Year:** 06/2015-07/2016  
**Award Number:** 2-R01-GM-058540-01A1, 5-R90-DA023424-05

**Summary**

# University of Pennsylvania

## Summary Schedule of Status of Prior Audit Findings

### June 30, 2017

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From a sample of 40 pieces of equipment partially or fully purchased with Federal funds selected for testing, two equipment inventory items were not retired on a timely basis. One piece of equipment with a net book value of \$3,102 as of June 30, 2016 was replaced without being updated in the University's system, while one piece of equipment with a net book value of \$0 as of June 30, 2016 was decommissioned in 2015 but not updated in the University's system. In each case, the equipment stopped working prematurely and the system records were not updated to reflect its discontinued use.

#### Status Update

The University established the Research Shared Governance Board as a forum in which to actively communicate, train and engage the community on research policies, trainings and best practices. The requirement for timely reporting of equipment disposals and documentation was emphasized and re-communicated through the Research Shared Governance Board. Additionally, inventory procedures were revised to increase the frequency for sponsored equipment observation from every two years to every year.

#### Finding 2016-003 Subrecipient Monitoring

**Grantor:** Department of Defense, National Institute of Health  
**Program:** Research and Development Cluster  
**CFDA#:** 12.300  
**Title:** SPARCS: Synthesis of Platform-Weave Attache-Resilient Control Systems; New Paradigms for Scalable Online Decentralized Optimization;  
**Award Year:** 06/2015-07/2016  
**Award Number:** FA8760-12-2-0247, N00014-12-1-0997

#### Summary

From a sample of 25 R&D subrecipient invoices selected for testing, 2 invoices did not have documentation demonstrating Principal Investigator (PI) approval, as is required per University policy.

#### Status Update

In January 2017, the business unit managing the awards was reminded of the need to document PI approval for sub-recipient invoices, and the business unit is now retaining written documentation of such PI approvals.

#### Finding 2016-004 Procurement

**Grantor:** National Institute of Aging of National Institutes of Health  
**Program:** Research and Development Cluster  
**CFDA#:** 93.866  
**Title:** The NIA Genetics of Alzheimer's Disease Data Storage Site  
**Award Year:** 06/2015 - 07/2016  
**Award Number:** 1-U24-AG-041689-01

#### Summary

During testing of procurement compliance requirements, 25 Research and Development (R&D) purchases greater than \$25,000 were selected, and it was noted that two selections that were not from a Penn Marketplace Supplier and did not have contemporaneous documentation at the time of purchase as to the reasons these vendors were sole source providers and therefore, why no competitive bids were necessary. The documentation to support the approved Purchase Orders was not adequately retained.

#### Status Update

Since the finding in January 2017, the Purchasing Services staff received reinforced training for Purchase Order approvals and documentation. Although Penn received a repeat finding for FY17 in the area of

**University of Pennsylvania**  
**Summary Schedule of Status of Prior Audit Findings**  
**June 30, 2017**

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Procurement, we note that the 2 POs in the finding were from before the corrective action plan of the FY2016 audit report was implemented. See current year finding 2017-004.

**The following prior year audit findings are additional findings included in the PwC report based upon the results of PwC's audit of the University of Pennsylvania's City of Philadelphia Awards. As these programs include Federal monies, these findings have also been included within this report.**

**Finding 2016-005 Eligibility, 2015-005 Eligibility, 2014-005 Eligibility, 2013-006 Eligibility**

**Grantor:** Department of Health and Human Services, Pass-through City of Philadelphia, Aids Activity Coordinating Office (AACO)  
**Program:** Ryan White HIV/AIDS  
**CFDA:** 93.914  
**Title:** HIV Emergency Relief Project Grants  
**Award Year:** 2015-2016; 2016-2017  
**Award Number:** RM5757 and R5731; RM6757 and R6731

**Summary**

Health Resources and Services Administration of the Department of Health and Human Services standards require service providers who receive Ryan White funding to screen clients and collect certain documentation to support their determination of eligibility for Ryan White funded services, including an HIV positive diagnosis, identity, residence, insurance status, and income level. For the AACO Medical awards, of the 60 patient files selected for eligibility testing, 14 patients did not have all the required eligibility documentation for the Ryan White program. For the AACO Dental awards, of the 25 patient files selected for testing, 2 patients did not have all the required eligibility documentation for the Ryan White program.

Additionally, in cases in which the service provider charges individuals for service performed under the Ryan White program, the service provider is required to ensure that the aggregate amount of charges for the year do not exceed specific thresholds based on the individual's income level. Of the 60 AACO Medical 60 patient files testing for eligibility, 55 were leveraged for program income testing, and 7 of these individuals had co-payments charged, totaling \$263. For all 7 transactions, it was unable to be determined whether the institution met the program income billing criteria stated below.

**Status Update**

Over the past year, most of the UPHS clinics implemented a streamlined approach to certification documentation resulting in electronic certification cards. This process has assisted the staff responsible for certifying eligible patients and improved the file documentation to support such certifications. While this improvement in addition to further emphasis on the need for compliance in the area of eligibility has helped to reduce the number and scope of audit findings for FY17 over FY16, we recognize that it was not perfect as it was implemented part way through the year and staff were transitioning to the new process. We are working to further improve and refine our process. See the current year finding 2017-005 and the associated Management's View and Corrective Action Plan for further information.



**University of Pennsylvania**  
**Summary Schedule of Status of Prior Audit Findings**  
**June 30, 2017**

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**Finding 2016-006 Employee Fringe Benefits**

**Grantor:** Department of Health and Human Services, Pass-through City of Philadelphia, Office of Behavioral Health and Intellectual Disability Services  
**Program:** Mental Health  
**CFDA:** 93.667  
**Title:** Mental Health Base Unitary  
**Award Year:** 2015-2016  
**Award Number:** 12-20104-03

**Summary**

Per review of the total salary amounts and fringe benefit amounts charged to the Mental Health award 12-20104-03, during Fiscal Year 2016, the fringe benefit rate of 34.06% applied to the award for the Social Rehabilitation Program and the 32.79% applied to the award for the Transitional and Community Integration Services Program, were higher than the federal allowable rate of 32.20% per the University's Department of Health and Human Services ("DHHS") negotiated fringe benefit rate agreement in effect during Fiscal Year 2016. Total questioned costs of \$4,859, equaled the difference between the actual fringe benefits charged and the cost of fringe benefits recalculated using the DHHS negotiated fringe benefit rate of 32.20%.

**Status Update**

As committed to in the Correction Action Plan last year, Hall Mercer updated its procedures to reflect only up to the Federal % for allowable fringe benefit costs from FY17 and on, since the city agency does not finalize its determination of federal flow thru funding under the unitary contract until the after the award year ends. As these costs represented a portion of the unfunded program costs, no refunds were required.

**Finding 2016-007 Unallowable Costs**

**Grantor:** Department of Health and Human Services, Pass-through City of Philadelphia, Office of Behavioral Health and Intellectual disability Services  
**Program:** Mental Health  
**CFDA:** 93.667  
**Title:** Mental Health Base Unitary  
**Award Year:** 2015-2016  
**Award Number:** 12-20104-03

**Summary**

The Mental Health awards have a one year duration beginning July 1<sup>st</sup> each year. During testing over the period of availability, one invoice, totaling \$541, was charged to the award for service dates prior to the start of the 2015-2016 grant. The invoice was related to gas for vehicles used during the month of June 2015. As these expenses were related to the period prior to the start of the current award, they were outside the grant's period of availability. Furthermore, during testing of 17 selections for allowability of direct costs, there were four monthly telephone expenditures totaling \$796 for which management was unable to provide the supporting documentation, such as purchase orders or invoices, necessary to validate the existence and allowability of the charges.

**Status Update**

Program financial management was reminded to specifically review costs incurred around award begin and end dates to ensure costs are charged to the proper period, and are properly documented. As these costs represented a portion of the unfunded program costs, no refunds were required.

## **Finding 2016-008 Return of Title IV Funds**

**Grantor:** Department of Education  
**Program:** Student Financial Aid  
**CFDA:** 84.007, 84.063, 84.268  
**Title:** Federal SEOG, Pell Loan, Federal Direct Loans  
**Award Year:** 7/2015 – 6/2016  
**Award Number:** Various

### **Summary**

Of the 25 refund calculations tested, it was noted for 10 students that the refund amount was calculated incorrectly or the return of funds occurred untimely. The incorrect calculations either used the wrong number of days in the semester of the wrong student withdrawal date, which led to over or under refunds to the Direct Loan, Pell Grant, and Supplemental Educational Opportunity Grant (SEOG) programs in addition to certain students being over or under refunded. There were 7 late returns ranging from 4 to 208 days late with an average of 90 days past the 45 day timeframe to return funds. Additionally 3 selections totaling \$5,208 showed the funds were not returned to the Department of Education as of the end of the University's fiscal year. Finally, one fund had funds returned in the incorrect order.

### **Status Update**

Management has determined the need for a Compliance Director in the Student Financial Services operation. This position was filled summer 2017. One of the many responsibilities of this role is to manage and provide oversight of the Return to Title IV (R2T4) process. The following steps are being put in place.

- To ensure accuracy and consistency of the R2T4 calculation, we have documented our policy and procedures, which includes how to complete a Return of Title IV Calculation worksheet.
- We have prepared written specifications for our systems support staff to properly identify potential students throughout our various systems. (Collaboration between Student Systems Support, ISC and Registrar).
- A system-generated report from our Records System, which highlights students who have withdrawn, taken a leave of absence, dropped classes, or graduated will be available effective spring 2018.
- Timeliness of returns will be addressed by weekly review of the enrollment report, determination of Return of Title IV funds required, performing calculation or revised calculation. (Spring 2018) Collaborating with Student Accounts and the Schools to appropriately adjusting the student's account, returning federal funds and notifying the student regarding disposition of their federal financial aid.
- Timeliness is also being addressed by communication and training with school administration on the definition and use of an Unofficial Withdrawal and Last Day of Attendance. We are working with the schools through our Undergraduate Working Group (UGWG) and Associate Deans. DRAFT Unofficial Withdrawal Policy: "An unofficial withdrawal occurs when a student does not successfully complete any of their courses, stops attending classes, and does not complete any of the coursework as of the 60% point of the semester or term without officially withdrawing from the university, as required. Students who never attended any of their classes and did not complete any coursework are required to repay 100% of the financial aid received for the semester or term."
- Implementation of the FAA Access to CPS Online software to Calculate and manage the return of Title IV funds, scheduled for the end of spring 2018.



Office of Research Services

## Management View and Corrective Action Plan

*Two different Management Views and Corrective Action Plans are being provided in response to the findings due to the fact that awards under Finding 2017-005 are under two different responsibility centers.*

### Finding 2017-001 Cost Transfers

**Grantor:** Various  
**Program:** Research and Development Cluster  
**CFDA#:** Various  
**Title:** Various  
**Award Year:** 07/2016 – 06/2017  
**Award Number:** Various

We note a significant reduction in the number of cost transfer exceptions in FY17 compared to previous years. Additionally, the positive effects of our re-education and monitoring efforts throughout last year resulted in only 1 cost transfer exception from the last quarter of FY17. We expect even more progress with compliance in FY18 with the policy and process revisions we implemented.

The University of Pennsylvania has been actively working to implement process improvements for the documentation of cost transfers. Monitoring the use of the Cost Transfer Justification Form led to recognition that there was still a need to improve the timeliness of the documentation. Following the 2016 finding, the Research Shared Governance Board was formed with representation from across the University to support research compliance. In consultation with this board, a cost transfer policy and process review was initiated. As a result, a significant cost transfer policy revision has already been enacted as of July 2017 to take effect beginning with fiscal year 2018. In conjunction with the policy revisions, in September 2017, the university updated the financial system to implement collection of information supporting the cost transfer including 1) the need for the transfer and 2) the correlation to the project at the time the journal entry is made, thereby eliminating the need for a separately documented, manual form. Additionally, all individuals authorized to perform cost transfer journal entries were required to complete new training. We believe these major changes will improve the university's compliance with the federal documentation requirements regarding cost transfers.

### **Finding 2017-002 Cash Management**

**Grantor:** Department of Health and Human Services, National Institute of Health  
**Program:** Research and Development Cluster  
**CFDA#:** 93.847; 93.397; 93.866  
**Title:** Continuation of the Chronic Renal Insufficiency Cohort (CRIC) Study;  
Abramson Cancer Center Support Grant;  
Alzheimer's Disease Genetics Consortium;  
Consortium for Alzheimers Sequence Analysis (CASA)  
Penn Integrated Human Pancreas Procurement and Analysis Program  
**Award Year:** 07/2016 – 06/2017  
**Award Number:** 2-U01-DK-060990-13; 2-P30-CA-016520-40; 5-U01-AG-032984-07; 1-  
UF1-AG-047133-01; 1-UC4-DK-112217-01

The University is currently following and believes it is in compliance with the cash management regulations as written in 2 CFR Part 200.305(b) which require the organization to minimize the time lapse between request for reimbursement from sponsoring agencies and vendor payment.

We understand that variations remain in the interpretation of the cash management compliance requirement. For example, on October 20, 2017, the Council On Governmental Relations (COGR) wrote a letter to the Office of Financial Management expressing concern that the cash management requirement language in the 2017 Compliance Supplement was not aligned with the requirements for cash management as currently written in 2 CFR Part 200.305(b). COGR's position is that the Compliance Supplement should be revised to conform with the cash management requirements as written in 2 CFR 200.305(b). The University agrees with COGR's position and believes the language in the Compliance supplement leads to an unrealistic and unreasonable administrative burden for universities and possibly a reconfiguration of smoothly running electronic process or a complete replacement of electronic processes with an inefficient, manual one in efforts to ensure each vendor has been paid prior to requesting reimbursement from the sponsoring agency.

The University will continue to monitor the OMB interpretation of the Cash Management requirements. If there is no resolution by OMB or change to the requirement in the Compliance Supplement we will work with our cognizant agency to arrive at a solution that fits the interests of all parties.

### **Finding 2017-003 Period of Availability**

**Grantor:** Department of Defense, Advanced Research Projects Agency;  
Department of Agriculture  
**Program:** Research and Development Cluster; SNAP Cluster  
**CFDA#:** 12.910; 10.561  
**Title:** Rapid Ab Isolation and Delivery by Recombinant AAV Technology (RAID-  
RAT)  
PA Nutrition Education TRACKS Program  
**Award Year:** 07/2016 – 06/2017  
**Award Number:** W911NF-13-2-0036; 5315-TUP-COP-9151

At the time of closeout, the managing departments were aware of the uninvoiced amounts for the services received. However, the actual payment of such invoices occurred after the 90-day closeout period due to vendor issues which delayed the submission of such invoices to the university. It is not the university's practice to pay a vendor without a proper invoice.

#### **Finding 2017-004 Procurement**

**Grantor:** Department of Health and Human Services, National Institutes of Health;  
Department of Agriculture  
**Program:** Research and Development Cluster; SNAP Cluster  
**CFDA#:** 93.855; 10.561  
**Title:** A Phase 2b/3 Double Blind Safety and Efficacy Study of Injectable  
Cabotegravir Compared to Daily Oral Tenofovir Disoproxil  
Fumarate/Emtricitabine (TDF/FTC), For Pre-Exposure Prophylaxis in  
HIV-Uninfected Cisgender Men and Transgender Women who have Sex  
with Men;  
PA Nutrition Education TRACKS Program  
**Award Year:** 06/2016 - 07/2017  
**Award Number:** SUB TO UM1 AI068619; 5315-TUP-COP-9151

While this is a repeat finding from prior year, we note that these two exceptions occurred prior to the corrective action plan implemented by Purchasing Services in response to last year's finding. Therefore no further action is necessary.

#### **Finding 2017-005 Eligibility - Dental**

**Grantor:** Department of Health and Human Services, Pass-through City of  
Philadelphia, Aids Activity Coordinating Office (AACO)  
**Program:** Ryan White HIV/AIDS  
**CFDA:** 93.914  
**Title:** HIV Emergency Relief Project Grants  
**Award Year:** 2016-2017; 2017-2018  
**Award Number:** RM6757, R7868, RS6944, R7944, R6866, R7866, R6965, R7965,  
RW6731, and RW7731

Although, this is a repeat finding for the AACO Dental program, we note significant improvement demonstrated by the fact that last year, 2 of 25 tested selections resulted in exceptions, but this year only 1 of 40 tested selections did so.

The exception this year is for one patient file missing documented proof of identification. In this situation, the patient was certified as Ryan White eligible, but documentation of identification was not retained. The patient file and history reveal that since the initial August 2016 visit, this patient never returned to the clinic. Therefore, clinic staff were unable to obtain the missing documentation, as would have been the normal follow-up procedure for missing patient file documentation. This patient visit was covered by insurance, therefore not considered a part of the under-insured or uninsured population supported directly by the Ryan White grant funds.

Under the AACO Dental program, the clinic staff conscientiously work to ensure that eligible patients complete Ryan White certification in a timely manner, receive the needed services and provide the required documentation, per the aims of the award.

#### **Finding 2017-006 Matching**

**Grantor:** Department of Education, Pass-through City of Philadelphia, School  
District of Philadelphia  
**Program:** Gaining Early Awareness and Readiness for Undergraduate Programs  
(GEAR UP)  
**Title:** GEAR UP College Readiness Collaborative Communities Project  
**CFDA:** 84.334  
**Award Year:** 2015-2016  
**Award Number:** 005A/F16 (362/F16)

For the future, we will make more timely attempts to obtain documented clarification of

expectations and responsibilities from the prime recipient where requirements may be unclear and/or obtain written approval for matching amounts less than what was required.

#### **Finding 2017-007 Cash Management**

**Grantor:** Department of Education, Pass-through City of Philadelphia, School District of Philadelphia  
**Program:** Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP)  
**Title:** GEAR UP College Readiness Collaborative Communities Project  
**CFDA:** 84.334  
**Award Year:** 2015-2016  
**Award Number:** 005A/F16 (362/F16)

After the final invoice was sent, when it became apparent that effort had been moved from the award to the matching fund and after one of our subrecipients returned funds back to us, the department managing this award had identified the need for possible refunds and was in communication with the Office of Research Services on the issue during FY17. However, the refund was not finalized in a timely manner, but was issued back to the School District of Philadelphia in November 2017.



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## University of Pennsylvania Health System

### Management View and Corrective Action Plan

#### Finding 2017-005 Eligibility - Medical

**Grantor:** Department of Health and Human Services, Pass-through City of Philadelphia, Aids Activity Coordinating Office (AACO)  
**Program:** Ryan White HIV/AIDS  
**Title:** HIV Emergency Relief Project Grants  
**CFDA:** 93.914  
**Award Year:** 2016-2017; 2017-2018  
**Award Number:** RM6757, R7868, RS6944, RS7944, R6866, R7866, R6965, R7965

Effort has been undertaken to address repeat eligibility findings on the annual audit. In addition to changes made last year to be proactive around documentation, for FY18 we have also added additional resources to our team to focus on screening for eligibility. Of note, eligibility is often noted elsewhere in the chart and working to streamline this is being undertaken. A team of capable professionals are reviewing client's individual needs and addressing eligibility at the same time with an electronic eligibility card. Also in addition to our case managers, social workers, program managers, and front desk staff, we have added a financial counselor for FY18 to review eligibility and improve compliance with required sliding fee delineation. The sliding fee schedule and an electronic process to identify and document those for whom it applies is being worked on with UPHS IT, billing, and practice management. We are now in the final stages of creating a firm workflow to be sure we are in compliance. Working to automate and document eligibility and income rules will be key to our future success.

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## Student Financial Services

### Management's View and Corrective Action Plan

#### Finding 2017-008 Return of Title IV Funds

**Grantor:** Department of Education  
**Program:** Student Financial Aid  
**CFDA:** 84.063, 84.268  
**Title:** Federal Pell Grant, Federal Direct Loans  
**Award Year:** 7/2016 – 6/2017  
**Award Number:** P063P162158, P268K172158

As noted in the prior year status update Management has enhanced quality control process, by hiring a Compliance Director in the Student Financial Services operation. This position was filled summer 2017. One of the many responsibilities of this role is to manage and provide oversight of the Return to Title IV (R2T4) process. The following steps are being put in place.

- To ensure accuracy and consistency of the R2T4 calculation, we have documented our policy and procedures, which includes how to complete a Return of Title IV Calculation worksheet.
- We have prepared written specifications for our systems support staff to properly identify potential students throughout our various systems. (Collaboration between Student Systems Support, Information Systems and Computing and Registrar).
- A system-generated report from our Records System, which highlights students who have withdrawn, taken a leave of absence, dropped classes, or graduated will be available effective spring 2018.

We understand there were two exceptions discovered in the 16-17 aid year testing, we have implemented the following enhanced processes to ensure that return of funds will occur within the 45 day requirement.

- Timeliness of returns will be addressed by weekly review of the enrollment report, determination of Return of Title IV funds required, performing a calculation or a revised calculation (spring 2018), collaborating with Student Accounts and the Schools to appropriately adjusting the student's account, and returning federal funds and notifying the student regarding disposition of their federal financial aid.
- Timeliness is also being addressed by communication and training with school administration on the definition and use of an Unofficial Withdrawal and Last Day of Attendance. We are working with the schools through our Undergraduate Working Group (UGWG) and Associate Deans.
  - Implementation of the Financial Aid Administrator (FAA) Access to CPS Online software to calculate and manage the return of Title IV funds, scheduled for the end of spring 2018.

Additional oversight by the Compliance Director as well as changes to be implemented in Spring 2018 will further strengthen the current control environment.

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