



Commonwealth Universal Research Enhancement Program Annual Report 2021

Health Research Office

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pennsylvania
DEPARTMENT OF HEALTH

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Executive Summary

Chapter 9 of Act 2001-77, the Tobacco Settlement Act (Act) established the Commonwealth Universal Research Enhancement (CURE) Program within the Pennsylvania Department of Health (Department). The program is administered by the Health Research Office.

The CURE Program awards grants to Pennsylvania-based organizations for biomedical, clinical and health services research. Studies funded by the grants aim to improve the delivery of health care, promote health, prevent disease and injury, and translate research advances to community health care practice.

Grant funding is awarded in two types of health research grants:

- ❖ **Formula grant** - distributed by a pre-determined formula to institutions that received funds from the National Institutes of Health (NIH); and
- ❖ **Non-formula grants** - selected through a competitive peer review process.

Over the past 20 years, the Department has awarded more than \$1 billion in CURE Program grants (approximately \$871 million in Formula and approximately \$268 million in Non-formula grants) to a total of 60 organizations.

CURE has led to research discoveries including new developments in smoking cessation; genome-based therapeutics; heart and lung disease; nutrition and obesity; addiction; pancreatic, liver, breast and lung cancers; and leukemia.

Grants have funded laboratory construction, state-of-the-art research equipment acquisition and maintenance, ongoing research programs and new research studies.

Methods

CURE Program Overview

The Act authorized the Department through the CURE Program to fund health research using tobacco settlement monies. Of the tobacco settlement funds received in Pennsylvania, CURE receives 12.6 percent, of which 70 percent are awarded by “formula” to institutions that have previously received awards from National Institutes of Health (NIH) [titled Formula grants], and 30 percent are used for Non-formula competitive grants. One percent of the tobacco settlement funds are an additional formulaic award to Formula grants that received funds from the National Cancer Institute.

All research must be completed within four years of the grant start date. A Formula grant may be used to support more than one research project, and projects may focus on basic biomedical research, patient-oriented clinical investigations or health services research. Up to 50 percent of the Formula grant funds may be spent on infrastructure, which is defined in the Act to include office equipment and supplies, nonprofessional personnel, and laboratory or building construction, or renovations used to conduct research.

Research funds are awarded to projects that are consistent with the program’s research priorities. In developing the health research priorities, consideration is given to the national health promotion and disease prevention objectives as applied to Pennsylvania. Priorities focus on critical research areas and the disparities in health status that occur among various populations within the commonwealth.

Formula Grants

Annually, NIH information is gathered on Pennsylvania institutions that received funds for the preceding federal fiscal year (FFY). Institutions that received three consecutive years of NIH funds are contacted for verification of the funding amounts. Upon receipt of the confirmation, funds are distributed as follows: (1) 20 percent is distributed to each institution that receives more than \$175 million as an average amount from the NIH during the three immediately preceding FFYs; (2) 17 percent is distributed to each institution that receives more than \$175 million in federally sponsored research and development obligations in the immediately available preceding FFY as reported by the National Science Foundation (NSF) and receives more than \$60 million as an average amount from the NIH during the three immediately preceding FFYs; and (3) the remaining funds are distributed to eligible institutions based on the percentage calculated by dividing an institution’s average award from the NIH for the three immediately preceding FFYs by the sum of the average annual award from the NIH for all of Pa.-based eligible institutions during the three immediately available preceding FFYs. Institutions that received National Cancer Institute (NCI) funds during each of the three immediately preceding FFYs receive additional funds when they fall under (3) above.

All health research fund recipients are required to complete a grant application, which contains information specified in the Act, as well as other information deemed necessary by the

Department. The application includes a memorandum of understanding requiring applicants to abide by federal ethical and procedural standards of conduct as prescribed by the NIH as of the date that the memorandum was executed.

Non-formula Grants

The CURE program includes two research areas for Non-formula grants, they are: 1) health and 2) spinal cord research.

Through an annual Request for Application (RFA) process, the Department solicits research applications for both areas. All eligible applications are then subjected to a peer review. This process is a process used by the NIH to review and rate the scientific merit of the research proposals. Researchers, physicians and scientists who possess expertise in the area addressed by the proposal serve on the peer review panels which assures that the proposals are rated by experts who understand the scientific merit and significance of complex, highly specialized research methodologies. The peer review panels also review the proposals to determine if there are any ethical issues. Their comments are then sent to the applicants.

1) Health Research

Health research priorities are established by the Department, in conjunction with the Health Research Advisory Committee (HRAC). Applicants that apply in response to an RFA related to the predetermined health research priority must meet certain eligibility criteria, and any specific requirements in the RFA.

Specifically, they must be located in Pennsylvania and must be (1) a person, (2) a non-profit entity that conducts research, (3) a hospital that conducts research and is established under the act of July 19, 1979 (P.L. 130, No. 48), known as the Health Care Facilities Act, (4) an institution of higher education that conducts research, or (5) an entity established under the act of Aug. 24, 1951 (P.L. 1304, No. 315), known as the Local Health Administration Law. All applicants must have their primary location within Pennsylvania. Entities other than general partnerships and sole proprietorships must be registered with the Department of State.

Then, as was previously mentioned, the research application is subject to a peer review. Following the peer review, the Department identifies members for an evaluation committee (Committee). The Committee reviews both the peer review panel comments and rankings, as well as the proposals, for duplication. The Committee then provides a recommendation to the Secretary of Health for the funding amounts to the top ranked proposals and provides additional comments for the applicants, if necessary.

Grant awards are made based on the amount of available funding, which has been decreasing with the amount for state fiscal year (SFY) 2021-2022 at \$11,847,866. The awards are made based on the amount requested in the application, the amount of funds available, as well as the ranking of the proposals and how many applications are to be funded.

2) Spinal Cord Research

In October 2018, Act 126 of 2018 established the Spinal Cord Injury Research Program under CURE. This Act provided for the Department, in conjunction with the Spinal Cord Research Advisory Committee (SCRAC), to establish spinal cord injury research priorities. Similar to the health research process, institutions that apply in response to an RFA where spinal cord injury research is the priority must also meet set criteria.

More specifically, an eligible institution must conduct research on spinal cord (SC) injuries in this commonwealth and be (1) a nonprofit entity that conducts research, (2) a hospital that conducts research and is established under the act of July 19, 1979 (P.L. 130, No. 48), known as the Health Care Facilities Act, or (3) an institution of higher education that conducts research. All institutions must have their primary location within Pennsylvania and also must be registered with the Department of State.

These applications are also subject to a peer review and then evaluated by a committee (SC-Committee). The Department includes the SCRAC members without a conflict of interest on the SC-Committee. The SC-Committee reviews the peer review panel comments and ranking as well as the proposals for duplication. The SC-Committee then provides a recommendation to the Secretary of Health for the funding amounts to the top-ranked proposals and provides additional comments for the applicants, if necessary.

The Secretary of Health has identified \$1,000,000 as the annual fund amount which began with SFY 2019-2020. The SCRAC identifies three tier level maximum amounts for funding which are provided in the RFA. Tier 1 is Pilot Research Grant with the smallest award. Tier 2 is Standard Research Grant with a medium award. Tier 3 is Clinical/Translational Research Grant with the largest award. For this RFA, two SFY funds were combined for \$2,000,000, which led to maximum tier award amounts of \$100,000, \$200,000 and \$400,000. The awards are made based on the amount requested, the amount of funds available, as well as the ranking of the proposals and how many applications are to be funded.

Performance Review

According to the Act, any applicant that receives a health research grant is subject to a performance review at the end of the research project or more often as deemed necessary by the Department. The Department contracted with Oak Ridge Associated Universities (ORAU) to oversee and manage the performance review process. Two types of performance reviews are performed: (1) final performance reviews at the end of the grant term; and (2) interim performance reviews of Non-formula grants when they are partially completed. The performance reviews are based on the requirements specified in the Act and the criteria developed by the Department in consultation with the HRAC and SCRAC.

Research grant recipients submit annual and final progress reports that address the criteria that follows below. Non-formula grants are subject to peer review prior to selection for funding by the Department. Non-formula performance reviewers are not asked questions that were considered during the initial peer review.

The performance review evaluation criteria focus on:

- How well did the project meet its stated objectives? If objectives were not completely met, was reasonable progress made?
- What is the likely beneficial impact of this project? If the likely beneficial impact is small, is it judged reasonable considering the dollars budgeted?
- Did the project leverage additional funds, or were additional grant applications submitted as a result of the project?
- Did the project result in any peer-reviewed publications, licenses, patents or commercial development opportunities? Were any of these submitted/filed?
- Did the project enhance the quality and capacity for research at the grantee's institution?
- Did the project lead to collaboration with research partners outside of the institution or new involvement with the community?

Assignment of Performance Review Ratings to Research Projects and Grants

Formula grant projects and Non-formula grants are reviewed and assigned an overall rating by a minimum of three reviewers. These reviewers are experts in the technical fields of the project who have been screened for conflicts of interest. Reviewers are instructed to base all comments on the documented response to the evaluation criteria.

The final overall rating is the average rating obtained from all the reviewers. Regarding Formula grants that consist of only one project, the overall grant rating will be the average overall rating for the research project. In the case of Formula grants with more than one research project, the overall grant rating is an average rating for all projects.

The rating is made according to the following guidelines:

- **Outstanding**, 1.00 – 1.33, indicates that: (1) major strengths were identified throughout the project with few weaknesses; (2) the project met all or most of its stated objectives; and (3) the project is likely to have some beneficial impact.
- **Favorable**, 1.34 – 2.66, indicates that: (1) strengths were identified within the project with one or more weaknesses; (2) the project met some of its stated objectives and/or made acceptable progress to do so; and/or (3) the project may or may not have a beneficial impact.
- **Unfavorable**, 2.67 – 3.00, indicates that: (1) major weaknesses were identified that are pervasive throughout the project; (2) the project did not meet any of its objectives or did not make any acceptable progress to meet the objectives; (3) the project is not likely to have any beneficial impact; and/or (4) insufficient data and information were provided to support the fact that the project met any of its objectives or made acceptable progress; or (5) the information and data provided were not applicable to the project objectives listed in the strategic plan.

Use and Impact of Performance Review Reports

The grant recipients receive a report of the performance review. The report includes the overall rating for the grant, the ratings for each project, as well as reviewer comments on the strengths and weaknesses of the project/grant and recommendations for future improvement. The grant recipients are required to submit a written response describing how the weaknesses and recommendations will be addressed in future health research grants.

The principal investigator (PI) of the project/grant that receives an unfavorable performance review may become ineligible for health research funding in the future. The consequence of receiving one unfavorable project/grant rating is a written warning outlining the expectations for any future project submissions and/or the inability to apply for a Non-formula grant for two state fiscal years. A second consecutive unfavorable project/grant rating will identify the PI as ineligible for two years of research grant funding. A third consecutive unfavorable project/grant rating will identify the PI as ineligible for five years of research grant funding and will require the institution to provide a corrective action plan for the grant vetting process. A fourth consecutive unfavorable project/grant rating will identify the PI as ineligible for research grant funds and require the institution to ensure the PI is removed as a participant on any currently funded research grant.

Findings

CURE Program Accomplishments

Annual Progress Reports

At the end of every state fiscal year, health research grant award recipients report progress on research projects. This information is used to compile the annual report to the legislature. This year's annual report as well as past reports, can be found at: <https://www.health.pa.gov/topics/Research/CURE/Pages/CURE.aspx>. This website is updated with the most recent information about the CURE Program, including announcements concerning research priorities, RFAs and meetings of the HRAC and SCRAC.

This Annual Report includes the annual progress reports for all active grants during the SFY 2021-2022. The focus of the Formula research projects during this SFY are identified below in Table 1.

Table 1. Focus of Research Projects		
Research Focus	Number of Projects	Percentage*
Cell biology, biological chemistry, macromolecular biophysics, genomes and genetics	5	6%
Biology of development and aging	0	0%
Bioengineering, surgical sciences and technology	7	9%
Health of populations, behavioral and biobehavioral processes	14	18%
Immunology	9	11%
Infectious diseases and microbiology	4	5%
AIDS and related research	1	1%
Oncological sciences	14	18%
Hematology	1	1%
Cardiovascular sciences	1	1%
Endocrine, metabolism, nutrition and reproductive sciences	6	7%
Musculoskeletal, oral and skin sciences	2	2%
Digestive sciences	1	1%
Respiratory sciences	0	0%
Renal and urological sciences	0	0%
Neurosciences	10	12%
Research Infrastructure Project	6	7%
Total Research Projects	81	100%

*Percentages may not total 100% due to rounding. Based on applications submitted SFY 2021-22.

The focus of the Non-formula research projects during this SFY are identified in Table 2. This list includes the institutions that received awards and the amount received.

Table 2. Focus of Non-formula Research Grants		
SFY Research Focus	Name of Awardees	Award Amount
2021-2022 SPINAL CORD INJURY ¹	ALBERT EINSTEIN HEALTHCARE NETWORK – PI: EDWARDS	\$199,423
	DREXEL UNIVERSITY – PI: COTE	\$200,000
	DREXEL UNIVERSITY – PI: DOUGHERTY	\$200,000
	DREXEL UNIVERSITY – PI: FINLEY	\$400,000
	TEMPLE UNIVERSITY – PI: SMITH	\$199,999
	THOMAS JEFFERSON UNIVERSITY – PI: LEPORE	\$199,998
	UNIVERSITY OF PITTSBURGH – PI: COOPER	\$398,044
	UNIVERSITY OF PITTSBURGH – PI: SCHWARTZ	\$199,996
Total Research Projects	8	\$1,997,460

¹ Combined funds from 2020-2021 and 2021-2022 for a total of \$2M. 2021 Nonformula RFA has not posted as of the date of this report.

Performance Review Outcomes

The outcomes of the performance reviews completed during SFY 2021-2022 are found in Table 3. The State Fiscal Year is the year the performance review was completed.

Table 3. Performance Review Outcomes				
State Fiscal Year	Number of Grants	Grant Outcomes	Number of Projects	Project Outcomes
2016-2017 Non-formula final	6	0 – Outstanding 6 – Favorable 0 – Unfavorable	6	0 – Outstanding 6 – Favorable 0 – Unfavorable
2018-2019 Non-formula final	3	0 – Outstanding 2 – Favorable 1 – Unfavorable	3	0 – Outstanding 2 – Favorable 1 – Unfavorable
2016-2017 Formula final	5	1 – Outstanding 5 – Favorable 0 – Unfavorable	43	13 – Outstanding 30 – Favorable 0 – Unfavorable
2017-2018 Formula final	15	0 – Outstanding 1 – Favorable 0 – Unfavorable	4	0 – Outstanding 2 – Favorable 2 – Unfavorable
2018-2019 Formula Final	5	2 – Outstanding 3 – Favorable 0 – Unfavorable	9	3 – Outstanding 6 – Favorable 0 – Unfavorable

Information based on outcome reports from ORAU for the fiscal year.

Appendix 1: Financial Report

The \$36,536,300.00 allocated for health research grants for the SFY 2021-2022, was committed to health research grants and a contract for peer and performance review. This section of the report summarizes the commitments and expenditures for the grants that were awarded during the 2021-2022 SFY. The financial reports for grants awarded during prior state fiscal years may be viewed in prior annual CURE reports at <http://www.health.state.pa.us/cure>.

In the SFY 2021-2022 health research grant recipients received the full amount of the grant award upon the initiation of the grant term. When grant funds are awarded in a SFY, recipients are required to invest the funds in an insured interest-bearing account or in accordance with other investment guidelines contained in the grant agreement. Earnings derived from the investments must be applied toward health research projects approved by the Department. Amounts show the award amount and expenditures that include interest earned. Any unspent funds at the completion of the grant award period are returned to the Department.

2017-2018 Grant Awards and Expenditures

The Department awarded \$34,308,000 in Formula grants. Table 1 shows the amount of the grant awards and the expenditures for the last five SFYs.

2018-2019 Grant Awards and Expenditures

The Department awarded \$33,426,300 in Formula grants. Table 2 shows the amount of the grant awards and the expenditures for the last four SFYs.

2019-2020 Grant Awards and Expenditures

The Department awarded \$33,940,300.00 in Formula grants. Table 3 shows the amount of the grant awards and the expenditures for the last three SFYs.

2020-2021 Grant Awards and Expenditures

The Department awarded \$35,588,800.00 in Formula grants. Table 4 shows the amount of the awards and the expenditures for the last two SFYs.

2021-2022 Grant Awards

The Department will award \$36,536,300.00 in Formula grants. Table 5 shows the amount of the awards.

Table 1. 2017-2018 Formula Grants

Funds Awarded and Summary of Expenditures for SFY 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022

Formula Grant Institutions 2017-2018	Funds Awarded	Expenditures SFY 17-18	Expenditures SFY 18-19	Expenditures SFY 19-20	Expenditures SFY 20-21	Expenditures SFY 21-22
Albert Einstein Healthcare Network	\$59,512	\$22,827	\$35,532	-	-	-
Allegheny-Singer Research Institute	\$55,501	\$762	\$51,295	-	-	-
American College of Radiology	\$244,014	-	-	\$13,513	\$43,730	\$139,512*
Carnegie Mellon University	\$467,894	-	\$46,564	\$278,043	\$12,000	\$131,127*
Children's Hospital of Philadelphia	\$4,684,980	\$13,886	\$1,014,734	\$1,291,423	\$831,130	\$1,317,108*
Drexel University	\$984,334	-	\$656,111	\$328,222	-	-
Duquesne University	\$112,997	-	\$37,923	\$44,795	\$21,366	\$5,158*
Franklin and Marshall College	\$12,920	-	-	\$3,255	-	\$9,801*
Geisinger Clinic	\$176,152	-	\$68,557	\$113,340	-	-
Hepatitis B Foundation	\$187	-	\$187	-	-	-
Institute for Cancer Research	\$1,091,646	\$95,061	\$499,751	\$395,745	\$111,132	-
Lankenau Institute for Medical Research	\$111,517	\$4,262	\$70,344	\$37,019	-	-
Lehigh University	\$111,441	-	\$84,785	\$22,561	-	-
Magee-Women's Research Institute and Foundation	\$1,201,505	\$61,723	\$715,953	\$423,828	-	-
Monell Chemical Senses Center	\$129,462	\$7,825	\$121,636	-	-	-

NRG Oncology Foundation	\$1,617,838	Ineligible	Ineligible	Ineligible	Ineligible	Ineligible
Pennsylvania State University	\$5,238,380	\$252,700	\$1,198,212	\$563,282	\$1,382,196	\$567,248*
Salus University	\$42,703	-	\$11,854	\$31,081	-	-
Temple University	\$2,239,881	-	\$311,988	\$668,781	\$340,923	\$918,487*
Thomas Jefferson University	\$1,890,887	-	\$770,329	\$519,092	\$330,342	\$322,517*
University of Pennsylvania	\$6,162,800	-	\$832,016	\$3,165,985	\$1,146,468	\$801,806*
University of Pittsburgh	\$6,162,800	\$34,787	\$1,017,186	\$1,106,120	\$3,637,224	\$443,798*
University of the Sciences in Philadelphia	\$22,390	-	\$10,087	\$12,302	-	-
Wistar Institute	\$1,486,259	\$23,873	\$532,121	\$361,753*	-	\$917,749*
Total	\$34,308,000	\$517,710	\$8,087,172	\$9,018,395	\$7,856,513	\$5,573,711

Amounts show the award amount and expenditures that include interest earned.

*Pending HRO Final Review

Table 2. 2018-2019 Formula Grants

Funds Awarded and Summary of Expenditures for State Fiscal Year 2018-2019, 2019-2020, 2020-2021, 2021-2022

Formula Grant Institutions 2018-2019	Funds Awarded	Expenditures SFY 18-19	Expenditures SFY 19-20	Expenditures SFY 20-21	Expenditures SFY 21-22
Albert Einstein Healthcare Network	\$48,955	-	\$6,602	\$25,121	\$13,992*
Allegheny-Singer Research Institute	\$55,390	-	\$24,705	\$7,457	-
American College of Radiology	\$477,587	-	-	\$44,558	\$35,798*
Baruch S. Blumberg	\$60,279	-	\$15,211	\$45,092	-
Carnegie Mellon University	\$516,169	-	-	\$142,920	\$144,134*
Children's Hospital of Philadelphia	\$4,824,238	-	\$21,656	\$831,130	\$1,546,568*
Drexel University	\$1,012,965	-	\$35,758	\$551,180	\$313,621*
Duquesne University	\$85,398	-	\$14,122	\$70,146	-
Franklin and Marshall College	\$12,306	-	\$717	-	-
Geisinger Clinic	\$225,671	-	\$53,409	\$44,729	\$55,914*
Institute for Cancer Research	\$1,121,111	\$50,008	\$485,445	\$495,729	\$99,540*
Lankenau Institute for Medical Research	\$133,892	-	\$77,887	\$45,926	-
Lehigh University	\$116,029	-	-	\$45,015	\$19,371*
Magee-Women's Research Institute and Foundation	\$1,306,087	-	\$456,513	\$849,573*	-
Monell Chemical Senses Center	\$103,668	-	\$28,941	\$43,233	\$13,435*

Pennsylvania State University	\$5,103,791	-	\$1,851,125	\$936,868	\$604,757*
Salus University	\$37,725	-	\$1,962	\$36,042	-
Temple University	\$2,366,163	-	\$479,159	\$634,395	\$131,159*
Thomas Jefferson University	\$2,014,710	-	\$382,937	\$471,793	\$651,004*
University of Pennsylvania	\$6,004,460	-	\$18,210	\$1,643,612	\$1,962,106*
University of Pittsburgh	\$6,004,460	-	\$2,833,629	\$1,055,691	\$844,447*
University of the Sciences in Philadelphia	\$43,799	-	-	\$5,227*	-
Wistar Institute	\$1,751,447	-	\$771,122	\$500,729	\$405,247*
Total	\$33,426,300	\$50,008	\$7,559,118	\$8,039,031	\$6,841,093

Amounts show the award amount and expenditures that include interest earned.

*Pending HRO Final Review

Table 3. 2019-2020 Formula Grants

Funds Awarded and Summary of Expenditures for State Fiscal Year 2019-2020, 2020-2021, 2021-2022

Formula Grant Institutions 2019-2020	Funds Awarded	Expenditures SFY 19-20	Expenditures SFY 20-21	Expenditures SFY 20-21
Albert Einstein Healthcare Network	\$46,293	-	-	\$15,640*
Allegheny-Singer Research Institute	\$43,359	-	\$43,359*	-
American College of Radiology	\$429,444	-	\$11,258	\$38,379*
Baruch S. Blumberg	\$76,234	-	\$46,421*	\$29,824*
Bucknell University	\$6,326	-	-	\$1,283*
Carnegie Mellon University	\$552,847	-	\$160,770	\$259,867*
Children's Hospital of Philadelphia	\$4,592,650	-	\$557,041	\$822,852*
Drexel University	\$1,003,510	-	\$37,276	\$608,583*
Duquesne University	\$56,913	-	\$13,246*	\$24,827*
Franklin and Marshall College	\$9,176	-	-	-
Geisinger Clinic	\$232,936	-	\$23,222	\$88,986*
Institute for Cancer Research	\$1,039,104	-	\$349,432	\$559,321*
Lankenau Institute for Medical Research	\$111,688	-	\$45,926	-
Lehigh University	\$110,976	-	\$5,819	\$31,877*
Magee-Women's Research Institute and Foundation	\$1,132,807	\$521,984	-	\$495,837*
Monell Chemical Senses Center	\$87,104	-	\$5,957*	\$40,254*

NRG Oncology Foundation	\$1,261,979	-	\$93,513*	\$308,765*
Pennsylvania State University	\$5,182,331	-	\$445,138	\$979,413*
Salus University	\$25,827	-	\$7,962	\$9,285*
Temple University	\$2,261,135	-	\$192,106*	\$284,501*
Thomas Jefferson University	\$1,907,083	-	\$371,466*	\$468,340*
University of Pennsylvania	\$6,096,860	-	\$224,354	\$569,855*
University of Pittsburgh	\$6,096,860	-	\$975,125*	\$3,756,921*
University of the Sciences in Philadelphia	\$40,410	-	\$5,278*	-
Wistar Institute	\$1,536,448	-	\$500,729	\$394,044*
Total	\$33,940,300	-	\$2,368,933	\$9,788,654

Amounts show the award amount and expenditures that include interest earned.

*Pending HRO Final Review

Table 4. 2020-2021 Formula Grants

Funds Awarded and Summary of Expenditures for State Fiscal Year 2020-2021, 2021-2022

Formula Grant Institutions 2020-2021	Funds Awarded	Expenditures SFY 20-21	Expenditures SFY 21-22
Albert Einstein Healthcare Network	\$48,175	-	\$889*
Allegheny-Singer Research Institute	\$32,691	-	-
American College of Radiology	\$455,940	-	-
Baruch S. Blumberg	\$66,940	-	\$16,603*
Carnegie Mellon University	\$705,659	-	\$11,664*
Children's Hospital of Philadelphia	\$5,037,731	-	\$1,235,940*
Drexel University	\$1,062,838	-	\$68,639*
Duquesne University	\$48,976	-	\$831*
Geisinger Clinic	\$260,474	-	\$28,473*
Institute for Cancer Research	\$1,062,931	-	\$483,243*
Lankenau Institute for Medical Research	\$97,042	-	-
Lehigh University	\$125,738	-	-
Magee-Women's Research Institute and Foundation	\$1,088,968	-	\$429,366*
Monell Chemical Senses Center	\$101,166	-	\$80,528*

Pennsylvania State University	\$5,434,016	-	-
Salus University	\$16,048	-	-
Swarthmore College	\$12,788	-	\$648*
Temple University	\$2,229,527	-	-
Thomas Jefferson University	\$2,005,191	-	\$344,552*
University of Pennsylvania	\$6,392,960	-	-
University of Pittsburgh	\$6,392,960	-	\$855,743*
Wistar Institute	\$1,515,622	-	\$254,372*
Total	\$35,588,800	-	\$3,811,491

Amounts shown have may not have been disbursed to applicants at the time this report was published.

*Pending HRO Final Review

Table 5. 2021-2022 Formula Grants
Funds Awarded for State Fiscal Year 2021-2022

Formula Grant Institutions 2021-2022	Funds Awarded
Albert Einstein Healthcare Network	\$44,786
Allegheny-Singer Research Institute	\$26,128
American College of Radiology	\$679,765
Baruch S. Blumberg	\$69,919
Carnegie Mellon University	\$753,717
Children's Hospital of Philadelphia	\$5,578,601
Drexel University	\$1,115,693
Duquesne University	\$46,682
Geisinger Clinic	\$314,911
Institute for Cancer Research	\$1,444,124
Lankenau Institute for Medical Research	\$91,213
Lehigh University	\$134,316
Magee-Women's Research Institute and Foundation	\$891,209
Monell Chemical Senses Center	\$119,068
Pennsylvania State University	\$5,578,601
Salus University	\$9,476
Swarthmore College	\$16,126

Temple University	\$2,179,433
Thomas Jefferson University	\$2,463,941
University of Pennsylvania	\$6,563,060
University of Pittsburgh	\$6,563,060
Wistar Institute	\$1,823,065
Total	\$36,536,300

Amounts shown have may not have been disbursed to applicants at the time this report was published.

Appendix 2: Research Advisory Committees

Health Research Advisory Committee (HRAC)

Chaired by the Secretary of Health, this nine-member advisory committee provides recommendations on priorities, grant accountability and evaluation procedures, as well as other related issues. HRAC meeting notices are advertised through the “PA Bulletin” and on the Department’s CURE website. Approved committee meeting minutes are posted on the CURE webpage. The committee has had four meetings during the SFY 2021-2022.

Health research grants awarded must address the priorities, which are established by the Department in conjunction with the HRAC. The priorities are reviewed annually and revised as needed. Separate priorities are established for Formula and Non-formula funds. The Formula fund health research priorities have remained unchanged since the first year of the program and are broad-based, so institutions can concentrate on their areas of research strength.

The Non-formula fund priorities have changed annually. The Non-formula priorities for SFY 2021 and 2022 were identified in the SFY 2021 and 2022 Pennsylvania Fiscal Code.

HRAC Members During Reporting Period (SFY 2021-2022)

Chair



Muneeza Iqbal, MPH
Deputy Secretary for Health Resources and Services
Pennsylvania Department of Health
Muneeza Iqbal served as the Secretary of Health’s designee as Chair of HRAC during the SFY 2021 – 2022 reporting period.

Appointed by the Governor



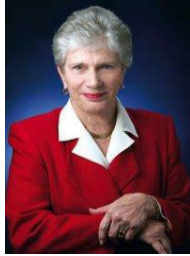
Dwight Davis, MD
Professor of Medicine and medical director, Cardiac Rehabilitation Program
Pennsylvania State University School of Medicine
Appointed by the governor (Oct. 12, 2007)



Donna Gentile O'Donnell, PhD
Special assistant to the president and chief executive officer
Vice president for Innovation Partnerships and Programs
Thomas Jefferson University and Jefferson Health
Appointed by the governor (March 20, 2017)



Michele M. Masucci, PhD
 Professor, Department of Geography and Urban Studies vice president for research
 Director, Information Technology and Society Research Group Temple University
 Appointed by the governor (March 20, 2017)

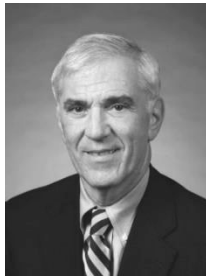


Patricia H. Vance, R.N.
 Former senator
 Appointed by the governor (March 20, 2017)

Appointed by the Pa. House



Michael S. Parmacek, MD
 Chair, Department of Medicine
 Hospital of the University of Pennsylvania
 Appointed by the speaker of the Pa. House of Representatives (Aug. 28, 2015)



Peter G. Tombros, BS, MBA
 Professor and executive in residence
 Penn State University
 Appointed by the Pa. House minority leader (Oct. 31, 2016)

Appointed by the Pa. Senate



Anantha Shekhar, MD, PhD
 Senior vice chancellor for the Health Sciences and John and Gertrude Petersen dean,
 School of Medicine
 University of Pittsburgh
 Appointed by president pro tempore of the Pa. Senate (Aug. 26, 2020)



Karen Wolk Feinstein, PhD
 President and chief executive officer
 Jewish Healthcare Foundation
 Appointed by the Pa. Senate minority leader (March 26, 2012)

Spinal Cord Research Advisory Committee (SCRAC)

The SCRAC was established and had its first meeting on Jan. 15, 2020. This advisory committee provides recommendations on spinal cord injury priorities, grant accountability and evaluation procedures, and other related issues. SCRAC meeting notices are advertised through the “PA Bulletin” and on the Department’s CURE website. Approved committee meeting minutes are posted on the CURE webpage. The committee has had four meetings during the SFY2021-2022.

Spinal cord injury research grants will be awarded based on a tiered system. The Department in conjunction with the SCRAC will review the spinal cord injury research priorities and the tiered process annually.

The current spinal cord injury priorities include the following.

- a) Pharmacologic, biologic, medical device, brain stimulus, and rehabilitative approaches and techniques.
- b) Preference will be given to those projects and techniques that seek to change the nature and course of the injury.
- c) To ensure funded research addresses the gap in translation of discovery to human study and application, further preference will be given to research that is strategically translational or translatable relative to aims and outcomes.
- d) Finally, further preference will be given to research strategies that represent either potential or existing collaboration with industry, whether in the development and trial of biologics, pharmacologics, device or novel therapeutic rehabilitative treatments in combination with these developments.

SCRAC Members



Jacob Chalfin, chair

Member who has a spinal cord injury

Jake was an advocate who proposed and lobbied for the bill that eventually created the SCRAC. While competing as an amateur steeplechase jockey, Jake sustained a spinal cord injury in 2010 racing in Virginia. He has a C-7 lesion ASIA B, and is paralyzed from the chest down. Jake leads an active life and is engaged in many civic endeavors.



Benjamin Abramoff, MD, MS

Member who is a physician specializing in the treatment of spinal cord injuries

Dr. Benjamin Abramoff is an assistant professor of Physical Medicine and Rehabilitation at the University of Pennsylvania and director of Spinal Cord Injury Services at the Penn Institute for Rehabilitation Medicine.



Michael Boninger, MD

Member who is a physician specializing in physical medicine and rehabilitation
Dr. Michael Boninger is a professor and UPMC endowed vice chair for research in the Department of Physical Medicine and Rehabilitation at the University of Pittsburgh School of Medicine. He has joint appointments in the Departments of Bioengineering, Rehabilitation Science and Technology, and the McGowan Institute for Regenerative Medicine. He is senior medical director for post-acute care for the Health Services Division of UPMC. He is also a physician researcher for the United States Department of Veterans Affairs. **NOTE:** Dr. Boninger has resigned from SCRAC as of October 2021.



Franklin Caldera, DO, MBA

Member who is a physician specializing in physical medicine and rehabilitation
Dr. Franklin Caldera is the chief medical officer at Penn Rehab and the Department of Physical Medicine and Rehabilitation vice chair for Clinical Services. He works at the University of Pennsylvania Hospital as the associate director of the Residency Training Program.



Rory A. Cooper, PhD

Veteran who has a spinal cord injury
Dr. Rory A. Cooper is the associate dean for Diversity and Inclusion and FISA and Paralyzed Veterans of America Distinguished Professor of Rehabilitation Science and Technology and Orthopedic Surgery at the University of Pittsburgh. He is also the founding director and the VA senior research career scientist at the Human Engineering Research Laboratories. He holds an adjunct professorship at the Robotics Institute of Carnegie Mellon University and is also a professor of Physical Medicine and Rehabilitation at the Uniformed Services University of the Health Sciences in Bethesda, Maryland.



Alex Charlton

Member who is a family member of a person with a spinal cord injury
As a member of the legislature, Alex was a strong advocate for disability rights and pushed for the passage of SB 31 legislation that created the Spinal Cord Disability Research Grant Program. Alex became a legislator and advocate for those with disabilities after one of his daughters suffered a spinal cord injury at birth.



Itzhak Fischer, PhD

Member representing a Pa. medical college or university
Dr. Itzhak Fischer is professor and chair of the Department of Neurobiology and Anatomy at Drexel University College of Medicine and co-director of the Spinal Cord Center.



Joel Winer, MD

Member who is a neurosurgeon

Dr. Winer is a practicing neurosurgeon at WellSpan Health York Hospital's level one trauma center.



Elizabeth C. Tyler-Kabara, MD, PhD

Member who is a neurosurgeon

Dr. Tyler-Kabara joined the faculty at Dell Medical School at the University of Texas in 2020. She is the Co-Chief of Pediatric Neuroscience and Chief of Pediatric Neurosurgery at Dell Children's Medical Center. In addition, she is the Director of Restorative Neurosurgery. She is helping to build the new Neuroscience program, including a Comprehensive Epilepsy Program, Neuro-oncology, Physical Medicine and Rehabilitation, and other multidiscipline programs.

Appendix 3: Research Grants Active during SFYs

This report contains a summary of the research progress made by the grantees during the 2021 State Fiscal Year. The progress reports identified below and information on grants that ended prior to July 1, 2022, are found at <https://www.health.pa.gov/topics/Pages/E-Library.aspx>. 2021 Formula grants may not have been executed by the publish date of this report.

Albert Einstein Healthcare Network

- 2018 Formula Grant
- 2019 Formula Grant
- 2020 Formula Grant
- 2021 Formula Grant

Allegheny Singer Research Institute

- 2018 Formula Grant
- 2019 Formula Grant
- 2020 Formula Grant
- 2021 Formula Grant

American College of Radiology

- 2017 Formula Grant
- 2018 Formula Grant
- 2019 Formula Grant
- 2020 Formula Grant
- 2021 Formula Grant

Baruch S. Blumberg Institute

- 2019 Formula Grant
- 2020 Formula Grant
- 2021 Formula Grant

Bucknell University

- 2019 Formula

Carnegie Mellon University

- 2017 Formula Grant
- 2018 Formula Grant
- 2019 Formula Grant
- 2020 Formula Grant
- 2021 Formula Grant

Children’s Hospital of Philadelphia

- 2015 Non-formula Grant – Traumatic Brain Injury (TBI)
- 2016 Formula Grant
- 2017 Formula Grant
- 2018 Formula Grant
- 2019 Formula Grant
- 2020 Non-formula Grant - COVID
- 2020 Formula Grant
- 2021 Formula Grant

Drexel University

- 2018 Formula Grant
- 2019 Formula Grant
- 2019 Non-formula Grant – SC Hou
- 2019 Non-formula Grant – SC Jin
- 2019 Non-formula Grant – SC Lane
- 2019 Non-formula Grant – SC Bedzdudnaya
- 2019 Non-formula Grant – SC Giszter
- 2019 Non-formula Grant – SC Qiang
- 2020 Formula Grant
- 2021 Formula Grant

Duquesne University

- 2017 Formula Grant
- 2019 Formula Grant
- 2020 Formula Grant
- 2021 Formula Grant

Franklin and Marshall College

- 2017 Formula Grant
- 2018 Formula Grant
- 2019 Formula Grant
- 2020 Formula Grant

Geisinger Clinic

- 2018 Formula Grant
- 2019 Formula Grant
- 2020 Formula Grant
- 2021 Formula Grant

Institute for Cancer Research

- 2018 Formula Grant
- 2019 Formula Grant
- 2020 Formula Grant
- 2021 Formula Grant

Lankenau Institute for Medical Research

- 2019 Formula Grant
- 2020 Formula Grant
- 2021 Formula Grant

Lehigh University

- 2018 Formula Grant
- 2019 Formula Grant
- 2020 Formula Grant
- 2021 Formula Grant

Magee-Women's Research Institute and Foundation

- 2018 Formula Grant
- 2019 Formula Grant
- 2020 Formula Grant
- 2021 Formula Grant

Monell Chemical Senses Center

- 2018 Formula Grant
- 2019 Formula Grant
- 2020 Formula Grant
- 2021 Formula Grant

NRG Oncology Foundation, Inc.

- 2019 Formula Grant
- 2020 Formula Grant

Pennsylvania State University

- 2015 Non-formula Grant – Traumatic Brain Injury (TBI)
- 2016 Formula Grant
- 2017 Formula Grant
- 2018 Formula Grant
- 2019 Formula Grant
- 2020 Non-formula Grant - COVID
- 2020 Formula Grant
- 2021 Formula Grant

Public Health Management Corporation

- 2018 Non-formula Grant – Opioid

Salus University

- 2019 Formula Grant
- 2020 Formula Grant
- 2021 Formula Grant

Swarthmore College

- 2019 Formula Grant
- 2020 Formula Grant
- 2021 Formula Grant

Temple University

- 2015 Non-formula Grant – Traumatic Brain Injury (TBI)
- 2017 Formula Grant
- 2018 Non-formula Grant – Opioid
- 2019 Non-formula Grant – Alzheimer
- 2019 Formula Grant
- 2020 Formula Grant
- 2021 Formula Grant

Thomas Jefferson University

- 2015 Non-formula Grant – Health Care Innovation (HCI)
- 2016 Formula Grant
- 2017 Formula Grant
- 2018 Formula Grant
- 2019 Formula Grant
- 2020 Formula Grant
- 2021 Formula Grant

University of Pennsylvania

- 2015 Non-formula Grant - Traumatic Brain Injury (TBI)
- 2016 Formula Grant
- 2017 Formula Grant
- 2018 Non-formula Grant – Opioid
- 2019 Non-formula Grant – Alzheimer
- 2019 Formula Grant
- 2020 Non-formula Grant - COVID
- 2020 Formula Grant
- 2021 Formula Grant

University of Pittsburgh

- 2015 Non-formula Grant - Traumatic Brain Injury (TBI)
- 2016 Formula Grant
- 2017 Formula Grant
- 2018 Formula Grant
- 2019 Non-formula Grant - Alzheimer
- 2019 Formula Grant
- 2020 Formula Grant
- 2021 Formula Grant

University of the Sciences in Philadelphia

- 2018 Formula Grant
- 2019 Formula Grant
- 2020 Formula Grant

Wistar Institute

- 2018 Formula Grant
- 2019 Formula Grant
- 2020 Formula Grant
- 2021 Formula Grant