



Research Survey Report

July 1, 2019 - June 30, 2020

December 2020

2019-2020 ASCO Research Survey Report

Table of Contents

A Note About the Report

School Abbreviations

Part I – General Information

Part II – Direct Costs

Data Trends:

- Aggregate Full-Time Equivalent of Faculty Participating in Research, 2015-2020
- All Sources: Average Direct Costs Awarded to Public, Private and All Schools, 2015-2020
- National Eye Institute: Average Direct Costs Awarded to Public, Private and All Schools, 2015-2020
- Private Foundations: Average Direct Costs Awarded to Public, Private and All Schools, 2015-2020
- Industry: Average Direct Costs Awarded to Public, Private and All Schools, 2015-2020



A note about the 2019-2020 ASCO Research Survey Report . . .

This survey report covers the period July 1, 2019-June 30, 2020.

In 2016, ASCO's Academic Research Committee rewrote ASCO's Annual Research Survey in order to simplify the data collection process as well as improve the consistency and utility of the reported data.

This year's report includes two minor additions:

1. Grant numbers were collected to help track publicly funded research awards.
2. The definitions of translational research types were revised to align with current NIH categories.

Relevant endnotes and definitions follow each part of the report.

The information from this survey can be used to estimate the total research funds provided to schools and colleges of optometry, estimate the time that optometry faculty use to conduct research and quantify the types of research conducted at the schools and colleges of optometry. Schools can also use the information to benchmark their research portfolio.

All of the information in this report can be used to educate public officials, educators, and administrators about the research conducted in optometry. Researchers must continue to push the frontiers of science in order to expand the scope and ability of optometry. The information that follows assists in quantifying the ability to do so.

Twenty-three of the 23 ASCO active member schools participated in this survey. Data was collected September-November 2020.

Please contact Joanne Zuckerman, ASCO's Manager, Data Services and Special Projects, at jzuckerman@opted.org with any questions about the report.



Abbreviations of ASCO Active Member Institutions
2019-2020 ASCO Research Survey

<u>Abbreviation</u>	<u>School Name</u>
AZCOPT	Arizona College of Optometry, Midwestern University
CCO	Chicago College of Optometry, Midwestern University
IAUPR	Inter American University of Puerto Rico, School of Optometry
ICO	Illinois College of Optometry
IUSO	Indiana University, School of Optometry
KYCO	University of Pikeville, Kentucky College of Optometry
MCO	Michigan College of Optometry at Ferris State University
MCPHS	MCPHS University, School of Optometry
NECO	New England College of Optometry
NOVA	Nova Southeastern University, College of Optometry
NSUOCO	Northeastern State University – Oklahoma College of Optometry
OSU	The Ohio State University, College of Optometry
PCO/Salus	Pennsylvania College of Optometry at Salus University
PUCO	Pacific University, College of Optometry
SCCOMBKU	Southern California College of Optometry at Marshall B. Ketchum Universit
SCO	Southern College of Optometry
SUNY	State University of New York, College of Optometry
UABSO	University of Alabama at Birmingham, School of Optometry
UCB	University of California – Berkeley, School of Optometry
UHCO	University of Houston, College of Optometry
UIWRSO	University of the Incarnate Word, Rosenberg School of Optometry
UMSL	University of Missouri at St. Louis, College of Optometry
WUCO	Western University of Health Sciences, College of Optometry

Association of Schools and Colleges of Optometry
2019-2020 Research Survey - Part I
(July 1, 2019 - June 30, 2020)
(Includes 23 of 23 Schools)

	AZCOPT	CCO	IAUPR	ICO	IUSO	KYCO	MCO	MCPHS	NECO	NOVA	NSUOCO	OSU	PCO/Salus
1. Aggregate full time equivalent (FTE) ¹ of all faculty ² employed by Optometry	22.00	21.00	24.00	60.00	38.00	24.40	19.50	16.80	49.56	46.00	35.00	32.60	71.25
2. Aggregate FTE ³ of all faculty ⁴ participating in research	22.00	21.00	5.00	20.00	21.00	24.40	3.00	15.00	20.01	46.00	17.00	15.60	8.00
<i>Proportion of faculty FTE who participate in research (#2/#1)</i>	1.00	1.00	0.21	0.33	0.55	1.00	0.15	0.89	0.40	1.00	0.49	0.48	0.11
3. Aggregate FTE ⁵ of all faculty ⁶ that is paid for conducting research by external funding	0.05	0.00	0.20	3.00	5.0 ⁷	0.00	0.00	0.00	2.62	0.00	0.00	5.19	2.30
<i>Proportion of total faculty FTE paid by external funding for participating in research (#3/#1)</i>	0.00	0.00	0.01	0.05	0.13	0.00	0.00	0.00	0.05	0.00	0.00	0.16	0.03
4. How many students are enrolled in Master's programs ⁸ that are optometry or vision-related?	0	0	0	0	4	0	0	20	22	12	0	32	6
5. How many students are enrolled in PhD programs ⁹ that are optometry or vision-related?	0	0	0	0	21	0	0	0	0	0	0	9	7
6. How many post-doctoral fellows are in optometry?	0	0	0	0	4	0	0	0	1	2	0	5	0
7. How many support staff participate in funded research? ¹⁰	2	0	0	1	20	0	0	0	4	0	0	44	2
8. # square feet of space in optometry used specifically for clinical research ¹¹	300	480	680	2460	14965	0	300	3070	1081	2800	0	9413	2775
9. # square feet of space in optometry used specifically for basic science ¹² or translational research ¹³	750	495	0	1730	13226	2117	660	1600	2374	1500	200	2666	3484
10. How many square feet of space in optometry are used specifically for animal care?	0	0	0	740 ¹⁴	1260	0	0	0	1423	0	0	0	2277
11. Federally negotiated on-campus research indirect cost rate ¹⁵	50.0%	50.0%	Not Applicable	52%	58.5%	42.8% for on-campus sites and 10.0% off-campus sites	30.0%	55.0%	78.0%	50.0%	52.0%	56.0%	42.0%
12. Typical indirect cost rate ¹⁵ for investigator-driven industry-sponsored research	30.0%	30.0% ¹⁶	Not Applicable	30.0%	58.5%	42.8% for on-campus sites and 10.0% off-campus sites	30.0%	20.0%	35.0%	Not Applicable	52.0%	30.0%	Not Applicable
13. Typical indirect cost rate ¹⁵ for contract research (not investigator-driven)	25%-50%	30.00%	Not Applicable	25.0%	58.5%	42.8% for on-campus sites and 10.0% off-campus sites	30.0%	20.0%	35.0%	Not Applicable	52.0%	30.0%	Not Applicable

(continued on next page)

Association of Schools and Colleges of Optometry
2019-2020 Research Survey - Part I
(July 1, 2019 - June 30, 2020)
(Includes 23 of 23 Schools)

(continued from previous page)

	PUCO	SCCOMBKU	SCO	SUNY	UABSO	UCB	UHCO	UIWRSO	UMSL	WUCO	TOTALS
1. Aggregate full time equivalent (FTE) ¹ of all faculty ² employed by Optometry	26.44	44.20	56.00	86.08	34.78	74.00	67.60	35.00	22.00	32.15	938.36
2. Aggregate FTE ³ of all faculty ⁴ participating in research	22.17	23.00	26.00	29.62	18.00	28.00	37.40	35.00	7.00	11.15	475.35
<i>Proportion of faculty FTE who participate in research (#2/#1)</i>	0.84	0.52	0.46	0.34	0.52	0.38	0.55	1.00	0.32	0.35	0.51
3. Aggregate FTE ⁵ of all faculty ⁶ that is paid for conducting research by external funding	0.70	0.96	0.00	2.30	6.80	0.00 ⁷	7.27	5.00	0.00	2.75	41.14
<i>Proportion of total faculty FTE paid by external funding for participating in research (#3/#1)</i>	0.03	0.02	0.00	0.03	0.20	0.00	0.11	0.14	0.00	0.09	0.04
4. How many students are enrolled in Master's programs ⁸ that are optometry or vision-related?	16	11	0	15	7	0	15	0	0	0	160
5. How many students are enrolled in PhD programs ⁹ that are optometry or vision-related?	10	0	0	14	23	34	36	2	0	0	156
6. How many post-doctoral fellows are in optometry?	0	0	0	3	5	30	8	0	0	0	58
7. How many support staff participate in funded research? ¹⁰	1	2	0	15	21	16	15	1	0	0	144
8. # square feet of space in optometry used specifically for clinical research ¹¹	4538	1998	3200	1500	2500	3000	3000	3400	600	1108	63168
9. # square feet of space in optometry used specifically for basic science ¹² or translational research ¹³	4538	1500	0	13800	18700	20000	17500	1500	300	858	109498
10. How many square feet of space in optometry are used specifically for animal care?	0	0	0	4200	0 ¹⁴	500	0 ¹⁴	0	0	160	10560
11. Federally negotiated on-campus research indirect cost rate ¹⁵	38.0%	60.0%	Not Applicable	62.0%	49.0%	57.0%	53.0%	50.0%	55.0%	41.0%	51.9% ¹⁷
12. Typical indirect cost rate ¹⁵ for investigator-driven industry-sponsored research	25.0%	50.0%	Not Applicable	30.0%	36.0%	26.0%	31.0%	50.0%	33.0%	Not Applicable	35.1% ¹⁷
13. Typical indirect cost rate ¹⁵ for contract research (not investigator-driven)	Not Applicable	50.0%	Not Applicable	30.0%	30.0%	26.0%	31.0%	50.0%	33.0%	Not Applicable	35.4% ¹⁷

Association of Schools and Colleges of Optometry

2019-2020 Research Survey

(July 1, 2019 - June 30, 2020)

Part I Endnotes

¹FTE is during the faculty member's working period, regardless of whether the faculty member is on a 9 or 12 month appointment. Does not include faculty from other institutions who collaborate on research projects. Aggregate FTE in this question means the sum of the total FTE of each faculty member, regardless of whether the faculty member conducts administrative, clinical, didactic, or research duties.

²All faculty include tenure track, clinical track, and research track faculty who are paid by optometry.

³This is the FTE of the faculty who participate in research, not the FTE that they *use* to participate in research. FTE is during the faculty member's working period, regardless of whether the faculty member is on a 9 or 12 month appointment. Does not include faculty from other institutions who collaborate on research projects. Aggregate FTE in this question means the sum of the total FTE of each faculty member that participates in research, regardless of whether the faculty member conducts administrative, clinical, didactic, or research duties.

⁴Includes all tenure track, clinical track, and research track faculty who are optometry personnel who participate in research as a PI, masked examiner, statistician, etc. Does not include faculty from outside units who collaborate on research projects.

⁵FTE is the amount of FTE that a faculty member receives from external funds to participate in research. Does not include faculty from other institutions who collaborate.

⁶Includes all tenure track, clinical track, and research track faculty who are optometry personnel who receive external funding to participate in research as a PI, masked examiner, statistician, etc.

⁷For IUSO, includes summer salary. UC does not allow except for summer salary.

⁸Includes students enrolled in programs at the institution both within and outside of the school of optometry. Includes students enrolled in combined OD/MS programs.

⁹Includes students enrolled in programs at the institution both within and outside of the school of optometry. Includes students enrolled in combined OD/PhD programs.

¹⁰Includes staff members who are paid from sponsored research projects who work in research for any amount of time.

¹¹Clinical research = healthcare science that determines the safety and efficacy of medications, devices, diagnostic products and treatment regimens intended for human use; they may be used for prevention, treatment, diagnosis or relieving symptoms.

¹²Basic research = scientific research to improve scientific theories for improved understanding or prediction of phenomena.

¹³Translational research = applied findings from basic science to enhance human health and well-being; translation of fundamental research findings into meaningful health outcomes.

¹⁴For ICO, the space is available for animal study, but no current animal care study is ongoing. For UABSO, all animal care space is outside of optometry. For UHCO, animals are housed in the UH Animal Care Operations 31,000 sq ft of vivariums in one of the buildings in which optometry resides.

¹⁵These are costs incurred by the university due to a research project, such as departmental accounting, network support, equipment depreciation, building and facilities operation and maintenance, library, and sponsored projects administration. These costs are charged as a percent of some of the direct cost elements. For example, if the indirect rate is 50%, then the sponsor pays an additional \$50,000 on a \$100,000 project. "Not Applicable" indicates that an institution does not have a standard indirect cost rate.

¹⁶For CCO, 30% is the average: 50% when direct costs (DCs) are >\$100K; 25% when DCs are \$50K-\$99,999; 15% when DCs are <\$50K.

¹⁷Ranges/multiple percentages are not included in the overall average.

Association of Schools and Colleges of Optometry

2019-2020 Research Survey - Part II

(Includes Direct Costs Awarded July 1, 2019 - June 30, 2020)

(Includes 16 of 23 schools; 7 had no awards)

	AZCOPT	ICO	IUSO	MCO	NECO	NOVA	OSU	PCO/Salus
<i>By Source:</i>								
Federal, NEI:	\$0	\$97,863	\$2,930,002	\$0	\$452,184	\$0	\$1,135,390	\$289,032
Federal, NIH:	\$16,167	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Federal, Other:	\$0	\$0	\$146,869	\$0	\$55,888	\$0	\$0	\$0
State:	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$17,148
Private Foundation:	\$3,500	\$15,400	\$70,000	\$6,743	\$1,294	\$17,500	\$407,118	\$0
Industry:	\$267,750	\$252,601	\$966,782	\$32,472	\$157,007	\$69,500	\$471,727	\$68,185
Other, Including Subawards:	\$0	\$0	\$0	\$5,930	\$45,613	\$0	\$151,153	\$0
<i>By Science:</i>								
Clinical:	\$287,417	\$365,864	\$776,436	\$33,472	\$421,279	\$79,500	\$1,273,569	\$68,185
Translational:	\$0	\$0	\$0	\$4,930	\$0	\$0	\$168,723	\$0
Basic:	\$0	\$0	\$3,319,147	\$6,743	\$216,227	\$7,500	\$680,983	\$306,180
Training Grant:	\$0	\$0	\$18,070	\$0	\$25,427	\$0	\$42,113	\$0
Other:	\$0	\$0	\$0	\$0	\$49,054	\$0	\$0	\$0
Total	\$287,417	\$365,864	\$4,113,653	\$45,145	\$711,987	\$87,000	\$2,165,388	\$374,365

(continued on next page)

Association of Schools and Colleges of Optometry

2019-2020 Research Survey - Part II

(Includes Direct Costs Awarded July 1, 2019 - June 30, 2020)

(Includes 16 of 23 schools; 7 had no awards)

(continued from previous page)

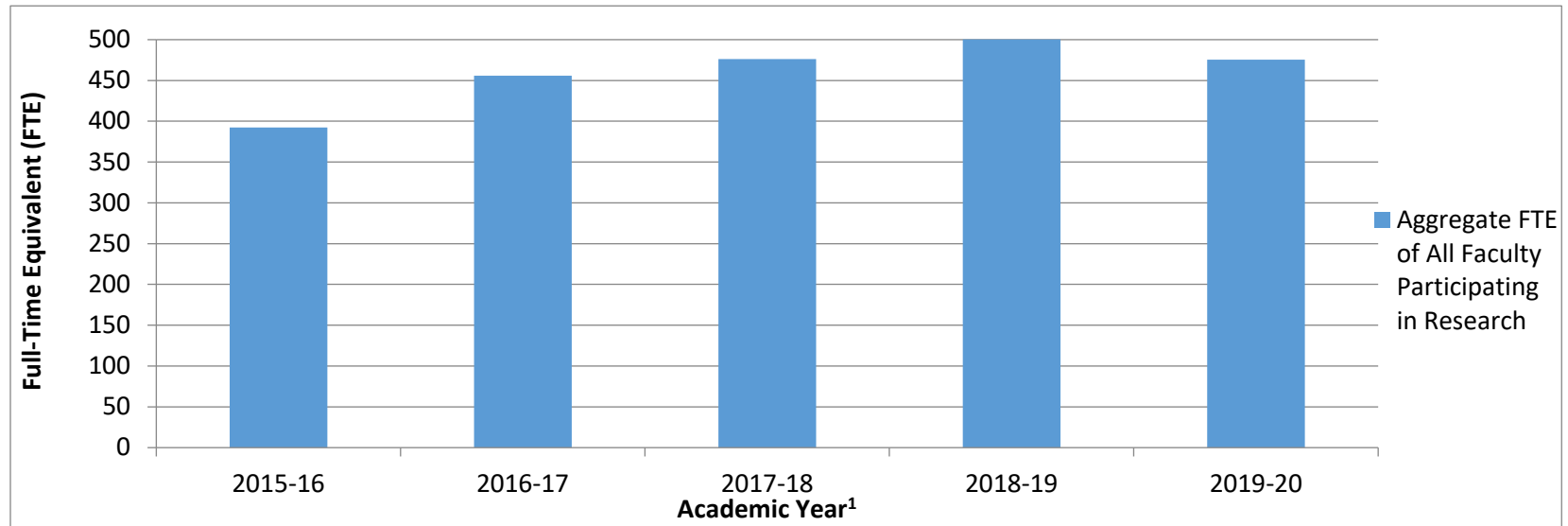
	PUCO	SCCOMBKU	SCO	SUNY	UABSO	UCB	UHCO	WUCO	GRAND TOTALS
<i>By Source:</i>									
Federal, NEI:	\$695	\$16,762	\$10,715	\$1,847,402	\$3,153,841	\$6,558,690	\$2,717,937	\$0	\$19,210,513
Federal, NIH:	\$0	\$9,818	\$0	\$0	\$50,185	\$0	\$0	\$14,000	\$90,170
Federal, Other:	\$0	\$0	\$0	\$0	\$0	\$689,531	\$27,666	\$0	\$919,954
State:	\$0	\$0	\$0	\$220,192	\$0	\$0	\$0	\$0	\$237,340
Private Foundation:	\$0	\$0	\$0	\$124,980	\$0	\$160,322	\$131,853	\$0	\$938,710
Industry:	\$40,156	\$423,861	\$285,995	\$2,536,261	\$151,661	\$2,004,334	\$24,457	\$36,728	\$7,789,477
Other, Including Subawards:	\$20,689	\$0	\$4,248	\$1,800	\$0	\$587,836	\$0	\$5,000	\$822,269
<i>By Science:</i>									
Clinical:	\$695	\$433,679	\$300,958	\$2,435,557	\$201,847	\$818,977	\$771,440	\$14,000	\$8,282,875
Translational:	\$59,641	\$16,762	\$0	\$0	\$926,060	\$1,597,804	\$382,155	\$41,728	\$3,197,803
Basic:	\$1,204	\$0	\$0	\$1,987,826	\$2,227,781	\$7,128,554	\$1,667,138	\$0	\$17,549,283
Training Grant:	\$0	\$0	\$0	\$300,684	\$0	\$455,378	\$81,180	\$0	\$922,852
Other:	\$0	\$0	\$0	\$6,568	\$0	\$0	\$0	\$0	\$55,622
Total	\$61,540	\$450,441	\$300,958	\$4,730,635	\$3,355,688	\$10,000,713	\$2,901,913	\$55,728	\$30,008,435

Association of Schools and Colleges of Optometry
2019-2020 Research Survey
 (July 1, 2019 - June 30, 2020)

Part II Definitions

Clinical	Scientific research on clinical human healthcare practices to establish or improve safety and efficacy of devices, medications, and interventions.
Translational (T0-T4)	Scientific research designed to advance basic research towards clinical practice and to enhance adoption and impact of health practices.
T0	Basic biomedical research, including preclinical and animal studies. This type of research does not include interventions with human subjects.
T1	Translation to humans; includes Phase 1 clinical trials to study new diagnostic methods, treatments or prevention strategies.
T2	Translation to patients. This includes efficacy trials (controlled Phase 2 and 3 clinical trials).
T3	Translation to practice. This stage includes Phase 4 clinical outcomes research.
T4	Translation to community. This includes population level research to evaluate benefits to society.
Basic	Scientific research to improve understanding or prediction of phenomena.
<i>If science is basic and translational, then call it translational.</i>	
<i>If science is translational and clinical, then call it clinical.</i>	
<i>These definitions were adapted from several sources.</i>	
Federal: NIH	All other NIH institutes except National Eye Institute
Federal: Other	National Science Foundation, Department of Defense, etc.

Aggregate FTE of Faculty Participating in Research U.S. Schools and Colleges of Optometry Including Puerto Rico 2015-2020



	2015-16	2016-17	2017-18	2018-19	2019-20
Aggregate FTE of All Faculty Participating in Research²	392.21	455.74	476.24	502.04	475.35

¹In 2015-16 and 2016-17 data was collected from 22 out of 23 schools. 2017-18, 2018-19 and 2019-20 include all schools.

²This is the FTE of the faculty who participate in research, not the FTE that they use to participate in research. FTE is during the faculty member's working period, regardless of whether the faculty member is on a 9 or 12 month appointment. Does not include faculty from other institutions who collaborate on research projects. Aggregate FTE in this question means the sum of the total FTE of each faculty member that participates in research, regardless of whether the faculty member conducts administrative, clinical, didactic, or research duties. Includes all tenure track, clinical track, and research track faculty who are optometry personnel who participate in research as a PI, masked examiner, statistician, etc. Does not include faculty from outside units who collaborate on research projects.

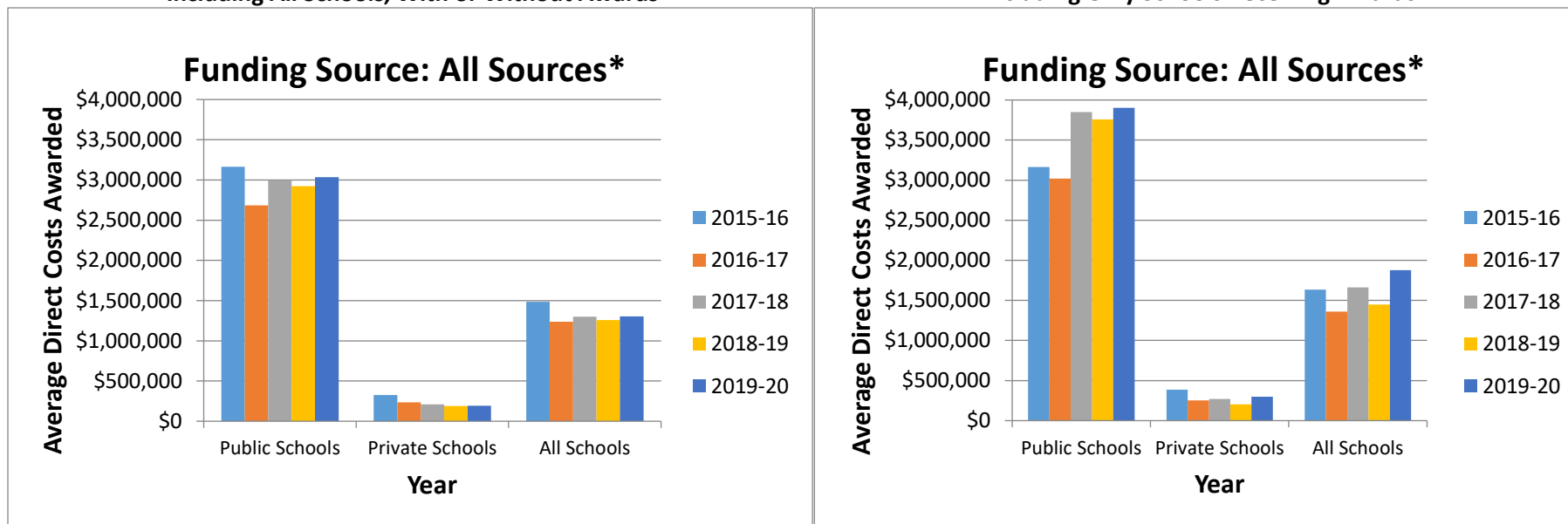
Average Research Funding, Public & Private Schools

U.S. Schools and Colleges of Optometry Including Puerto Rico

Direct Costs Awarded 2015-2020

Including All Schools, With or Without Awards

Including Only Schools Receiving Awards



Average Funding per School, Based on All Participating Schools

Average Funding per School, Based on Schools Receiving Awards

	Public Schools	Private Schools	All Schools		Public Schools	Private Schools	All Schools
2015-16				2015-16			
22 of 23 schools	\$3,163,844	\$325,694	\$1,486,755	20 schools w/awards	\$3,163,844	\$384,911	\$1,635,431
2016-17				2016-17			
22 of 23 schools	\$2,684,680	\$234,973	\$1,237,126	20 schools w/awards	\$3,020,265	\$254,554	\$1,360,838
2017-18				2017-18			
23 of 23 schools	\$2,995,173	\$211,249	\$1,300,611	18 schools w/awards	\$3,850,936	\$268,862	\$1,661,891
2018-19				2018-19			
23 of 23 schools	\$2,922,804	\$188,192	\$1,258,258	20 schools w/awards	\$3,757,891	\$202,669	\$1,446,996
2019-20				2019-20			
23 of 23 schools	\$3,034,793	\$192,521	\$1,304,715	16 schools w/awards	\$3,901,876	\$299,478	\$1,875,527

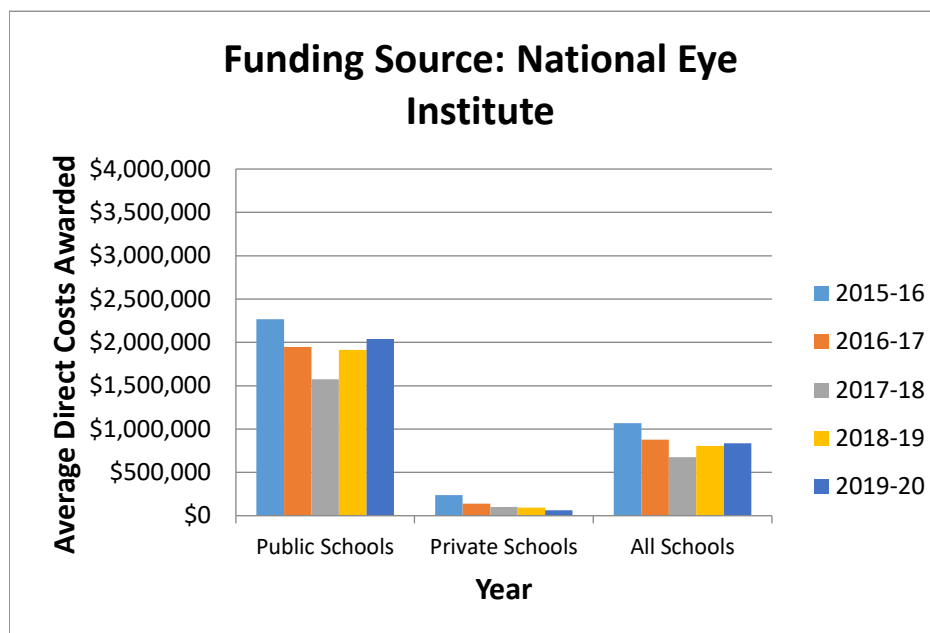
*Includes Federal NEI, Federal NIH, Federal Other, State, Private Foundation, Industry, Other Including SubAwards

Average Research Funding, Public & Private Schools

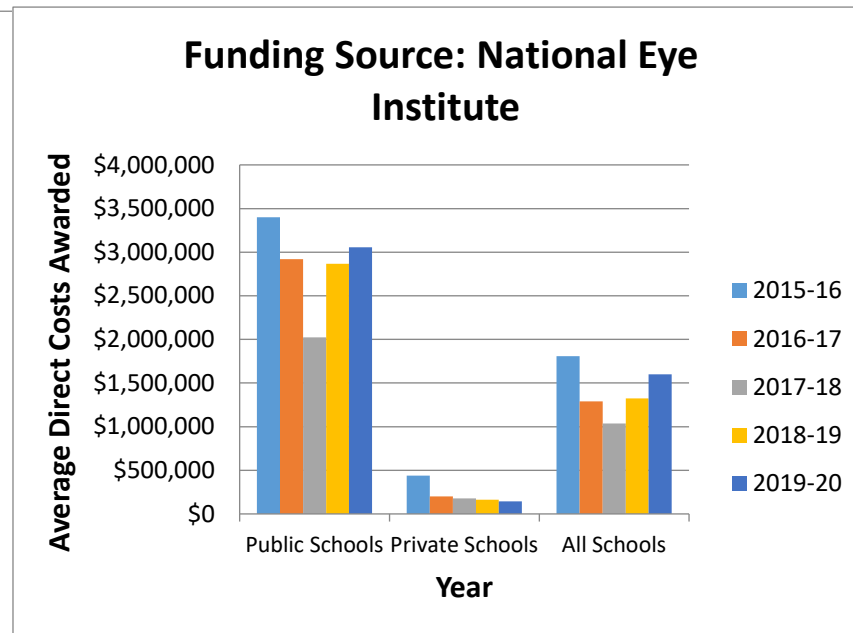
U.S. Schools and Colleges of Optometry Including Puerto Rico

Direct Costs Awarded 2015-2020

Including All Schools, With or Without Awards



Including Only Schools Receiving Awards



Average Funding per School, Based on All Participating Schools				Average Funding per School, Based on Schools Receiving Awards			
	Public Schools	Private Schools	All Schools		Public Schools	Private Schools	All Schools
2015-16 22 of 23 schools	\$2,267,163	\$237,013	\$1,067,529	2015-16 13 schools w/awards	\$3,400,745	\$440,167	\$1,806,587
2016-17 22 of 23 schools	\$1,947,040	\$138,989	\$878,646	2016-17 15 schools w/awards	\$2,920,560	\$200,761	\$1,288,681
2017-18 23 of 23 schools	\$1,572,472	\$101,124	\$676,869	2017-18 15 schools w/awards	\$2,021,750	\$176,967	\$1,037,866
2018-19 23 of 23 schools	\$1,912,201	\$93,186	\$804,974	2018-19 14 schools w/awards	\$2,868,301	\$163,075	\$1,322,458
2019-20 23 of 23 schools	\$2,038,140	\$61,947	\$835,240	2019-20 12 schools w/awards	\$3,057,210	\$144,542	\$1,600,876

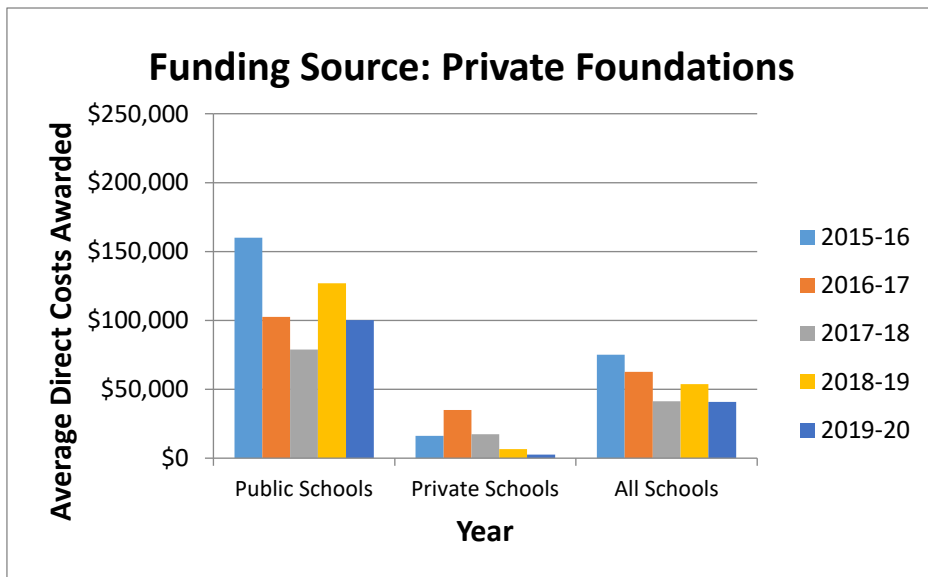
Association of Schools and Colleges of Optometry
www.optometriceducation.org

Average Research Funding, Public & Private Schools

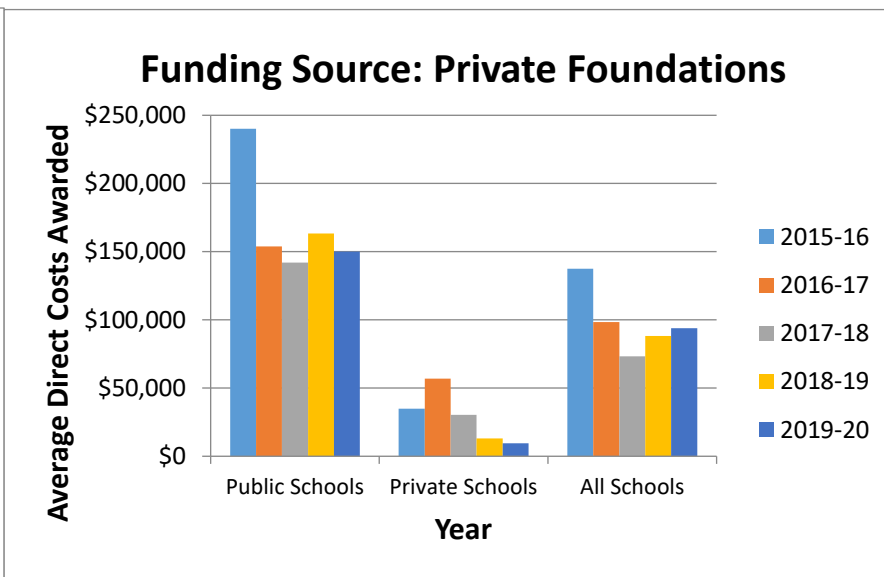
U.S. Schools and Colleges of Optometry Including Puerto Rico

Direct Costs Awarded 2015-2020

Including All Schools, With or Without Awards



Including Only Schools Receiving Awards



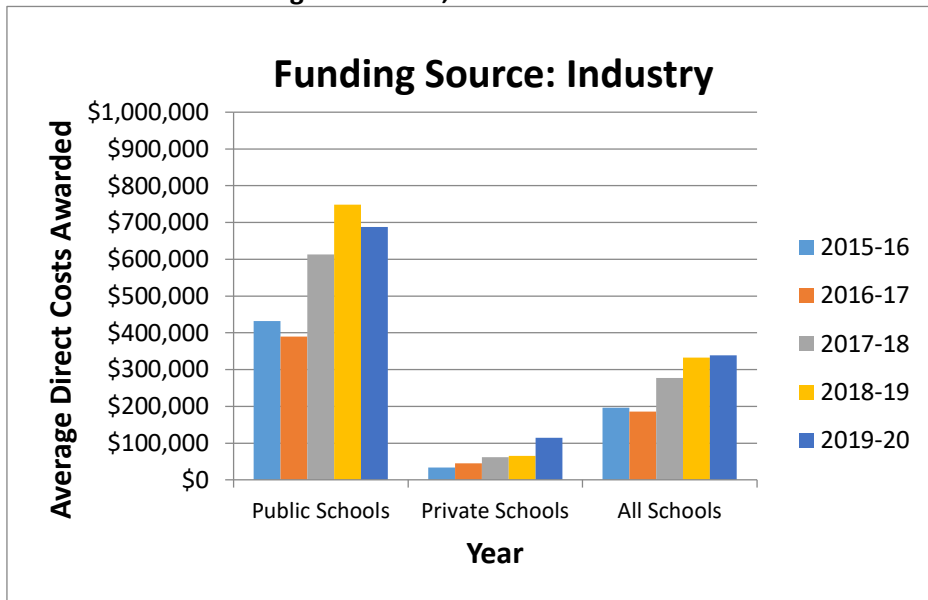
Average Funding per School, Based on All Participating Schools				Average Funding per School, Based on Schools Receiving Awards			
	Public Schools	Private Schools	All Schools		Public Schools	Private Schools	All Schools
2015-16 22 of 23 schools	\$160,051	\$16,143	\$75,015	2015-16 12 schools w/awards	\$240,076	\$34,977	\$137,527
2016-17 22 of 23 schools	\$102,542	\$34,972	\$62,614	2016-17 14 schools w/awards	\$153,813	\$56,829	\$98,393
2017-18 23 of 23 schools	\$78,879	\$17,313	\$41,404	2017-18 13 schools w/awards	\$141,982	\$30,298	\$73,253
2018-19 23 of 23 schools	\$127,020	\$6,475	\$53,645	2018-19 14 schools w/awards	\$163,312	\$12,951	\$88,131
2019-20 23 of 23 schools	\$100,113	\$2,692	\$40,813	2019-20 10 schools w/awards	\$150,169	\$9,424	\$93,871

Average Research Funding, Public & Private Schools

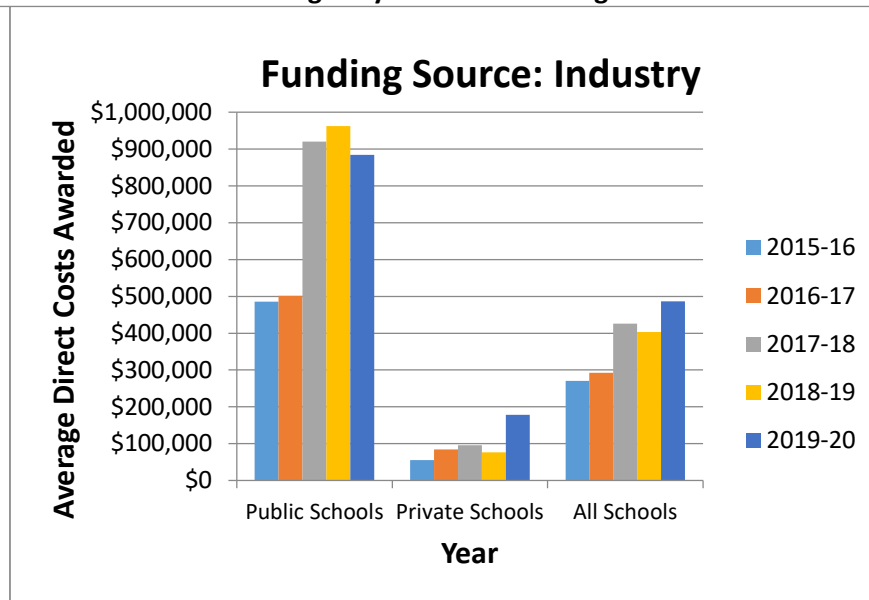
U.S. Schools and Colleges of Optometry Including Puerto Rico

Direct Costs Awarded 2015-2020

Including All Schools, With or Without Awards



Including Only Schools Receiving Awards



Average Funding per School, Based on All Participating Schools			Average Funding per School, Based on Schools Receiving Awards				
	Public Schools	Private Schools	All Schools		Public Schools	Private Schools	All Schools
2015-16 22 of 23 schools	\$431,817	\$33,900	\$196,684	2016-17 16 schools w/awards	\$485,794	\$55,088	\$270,441
2016-17 22 of 23 schools	\$389,913	\$45,285	\$186,269	2016-17 14 schools w/awards	\$501,317	\$84,100	\$292,709
2017-18 23 of 23 schools	\$613,117	\$61,802	\$277,534	2017-18 15 schools w/awards	\$919,676	\$96,136	\$425,552
2018-19 23 of 23 schools	\$748,223	\$65,809	\$332,841	2018-19 19 schools w/awards	\$962,001	\$76,777	\$402,912
2019-20 23 of 23 schools	\$687,522	\$114,413	\$338,673	2019-20 16 schools w/awards	\$883,956	\$177,976	\$486,842