<u> 2017-2022</u>



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Cover Art

Aafia Maqsood. Medicine, Year 2. Reading Disability. 2022

Executive Summary

From the Vice-Dean

This is our fourth report describing research output of the University of Saskatchewan College of Medicine. This current report includes the data analyzed from the 488 research-active faculty of our college. The data were captured, analyzed and presented by Ms. Shelley-May Neufeld, Research Impact Analyst in the Office of the Vice-Dean Research.

The College of Medicine would like to thank and congratulate all faculty who contributed to this strong research output.

Background

This report focuses on research-active faculty in the CoM and provides bibliometrics and funding data displayed first by college and then divided by department/division/school. The data is presented in descending order by number of research-active faculty per department/division/school. All information is up to date as of August 1, 2022.

CoM Research Productivity

In the 2021/22 fiscal year, College of Medicine researchers were awarded an impressive 42.7 million dollars in research funding. This represents a large increase from the year's most affected by the coronavirus pandemic (\$25 and \$29 million in 2019/2020 and 2020/2021 respectively), but also an increase compared to pre-pandemic successes (\$31 million in 2018/2019). The number of new awards awarded this fiscal year are comparable to awarded numbers over the last four years – ranging between 343-351 awards. The number of individual faculty receiving awards has also been maintained (ranging between 148 and 159).

CoM faculty published 1,304 scholarly works in 2021, an increase from 1064 at the beginning of the 5-year publication window (2017). Gathered data indicate an increase in total faculty citations/year from 38,150 in 2017 to 67,402 in 2021.

Methodology and Definitions

Research-Active Faculty

Faculty are considered research active if they have received research funding, or published a peer-reviewed publication or citation (accessible on a current, public <u>Google Scholar</u> profile) within the 5-year window of this report.

This report includes data from **488** identified research-active faculty from **17** departments, schools and divisions.

Awarded Research Funding, Research Projects Awarded and Number of Faculty Awarded

The Research Funding and Research Projects Awarded data presented in this report were

collected from the University of Saskatchewan Data Warehouse and <u>UView</u> Portal. Data are restricted to funding administered through the University of Saskatchewan and include fiscal years 2017/2018, 2018/2019, 2019/2020 and 2020/2021. University of Saskatchewan fiscal years run from May 1 to April 30.

Research Funding and Research Projects Awarded include awards, sub-transfers, travel awards, and awards from other institutions where CoM faculty are a Co-Investigator. Number of Projects Awarded is the total number of new research projects awarded for a fiscal year, whereas Number of Faculty Awarded is the total number of individual faculty members that received research awards.

Research Impact

Measuring research impact can be difficult because not all impacts are direct, and the time between the execution of research projects and the benefits of the research findings can be significant, unpredictable, and differ for different types of research.

For the purposes of this report, when the term *impact* is used, it is in reference to how health research at the CoM reaches and influences the wider academic community by articulating and distributing the research findings of faculty via publications, citations, h-indices (bibliometrics) and research projects that have received funding from internal and/or external sources. This report uses bibliometrics and research income and awards to determine impact.

Bibliometrics: Publications, Citations and H-index

Bibliometrics are research productivity indicators based on scientific publications, used to highlight research productivity and impact. The OVDR recognizes that the bibliometrics used in our analysis do not encompass all research output and do not include such important contributions as community engagement, changes to policy or clinical practice guidelines.

Publication and Citation findings presented throughout this report are derived from Google Scholar profiles of CoM research-active faculty. The report focuses on 5-year publication and citation metrics, quantified on an annual basis by calendar year: January 1 to December 31.

Publications

The act of submitting research findings to scholarly journals and then having them published is a tangible research productivity output as publications per year are easily measurable. This report refers to scholarly journal articles vetted by a group of experts, academics (peers) or other scholars as *publications*. All publications information has been sourced from the Google Scholar profiles of research-active faculty in the CoM.

Citations

Measuring the number of citations a publication receives is a means to track and quantify the influence a publication has in its relevant academic field. The term *citation* applies to scientific articles that have been peer-reviewed and published in scholarly journals and then cited in the work of other researchers.

1. College of Medicine

1.1 Research Funding

In the 2021/2022 fiscal year, researchers in the College of Medicine (CoM) received awards totaling \$42,770,877. Included in this total are \$21,559,402 in Tri-Agency funding, \$14,930,504 in other external funding and \$6,280,971 in internal funding.

\$25,000,000 \$42,770,877 \$20,000,000 \$29,681,318 \$31,666,330 \$15,000,000 \$25,720,072 \$10,000,000 \$5,000,000 \$0 2018/2019 2019/2020 2020/2021 2021/2022 ■ Tri-Agency ■ Other External ■ Internal

Figure 1.1: College of Medicine Awarded Research Funding

1.2 Research Projects Awarded

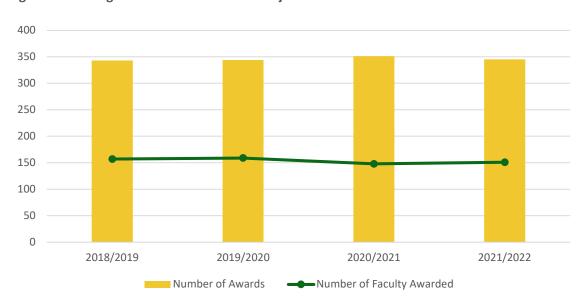


Figure 1.2: College of Medicine Research Projects Awarded

Over the past four fiscal years College of Medicine researchers have maintained a consistent number of awards and individual faculty awardees. In the 2021/2022 fiscal year **151** CoM researchers received **345** awards.

The College of Medicine continued an upward publication trend, producing **1,304** publications in 2021.

1200 1000 800 600 400 2017 2018 2019 2020 2021

Figure 1.3: College of Medicine Annual Publication Count

College of Medicine research works were cited **67,402** times in 2021. Figure 1.4 shows strong year-over-year ascending citation counts; the 2021 data exceeded the 2019 count by 7,992 citations.

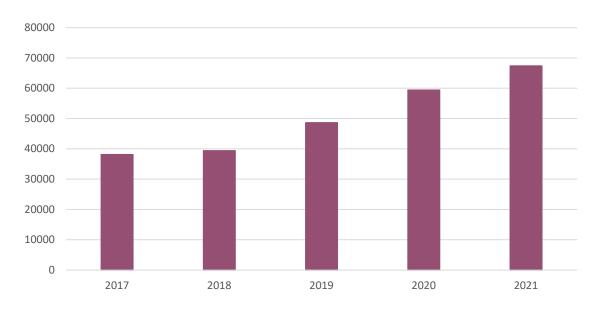


Figure 1.4: College of Medicine Annual Citation Count

In 2021/22, the OVDR identified 488 active researchers within the College of Medicine.

2. Department of Medicine

2.1 Research Funding

In the 2021/2022 fiscal year, Department of Medicine researchers were awarded a total of \$6,506,880.

\$4,000,000 \$3,500,000 \$2,500,000 \$1,500,000 \$1,000,000 \$0 2018/2019 2019/2020 2020/2021 2021/2022

Figure 2.1: Department of Medicine Research Funding

2.2 Research Projects Awarded

Department of Medicine researchers received a total of **68** new awards in the 2021/2022 fiscal year. The number of individual faculty award recipients has remained relatively stable, with **32** awardees in 2021/2022.

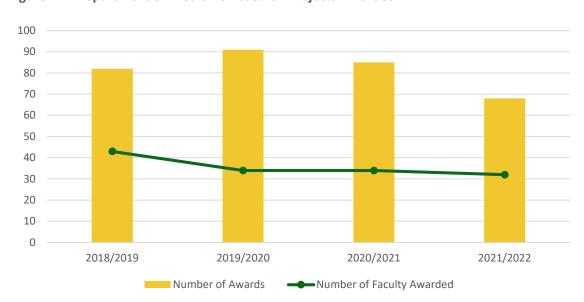


Figure 2.2: Department of Medicine Research Projects Awarded

The department produced **387** publications in 2021.

Figure 2.3: Department of Medicine Annual Publication Count

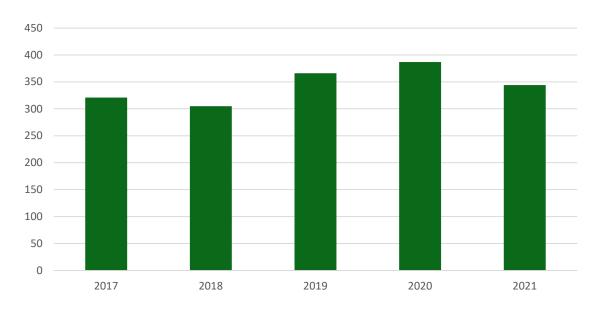
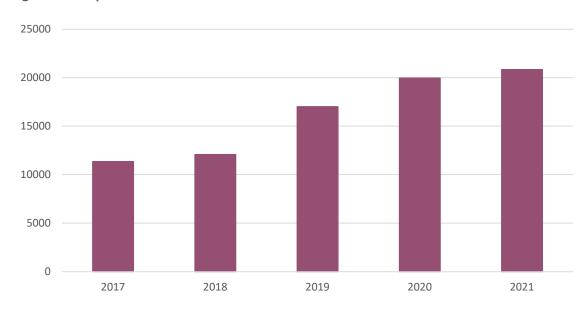


Figure 2.4 shows citation counts for Department of Medicine faculty. Department of Medicine publications received **20,842** citations in 2021.

Figure 2.4: Department of Medicine Annual Citation Count



This report included **54** research-active faculty from the Department of Medicine.

3. Department of Surgery

3.1 Research Funding

In the 2021/2022 fiscal year, Department of Surgery researchers were awarded a total of \$1,205,796.

\$1,200,000 \$800,000 \$600,000 \$400,000 \$0 2018/2019 2019/2020 2020/2021 2021/2022

Figure 3.1: Department of Surgery Research Funding

3.2 Research Projects Awarded

In 2021/2022 Department of Surgery faculty received **22** awards, received by **11** individual award recipients.

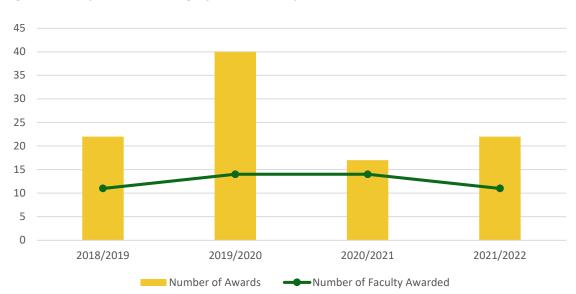


Figure 3.2: Department of Surgery Research Projects Awarded

The department produced 102 publications in 2021.

Figure 3.3: Department of Surgery Annual Publication Count

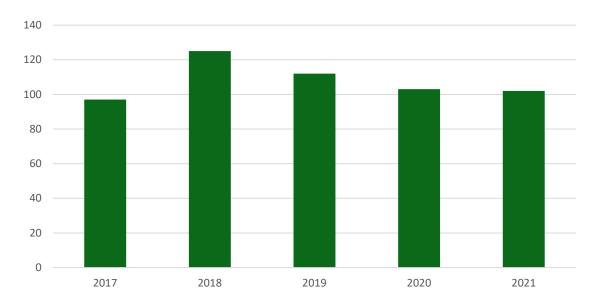
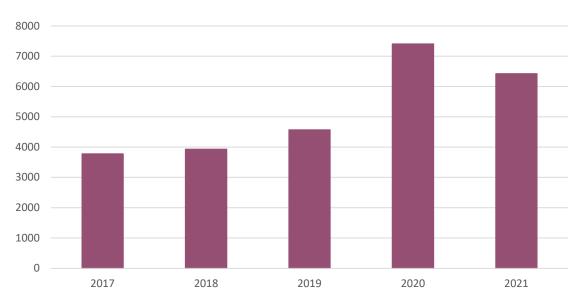


Figure 3.4 shows a slight decline in citation counts for Department of Surgery faculty. Researchers received **6,422** citations in 2021.

Figure 3.4: Department of Surgery Annual Citation Count



This report included 48 research-active faculty from the Department of Surgery.

4. Division of Oncology

4.1 Research Funding

In the 2021/2022 fiscal year, Division of Oncology researchers were awarded a total of **\$4,411,335**.

3500000
2500000
2500000
1500000
500000

2018/2019
2019/2020
2020/2021
2021/2022

Figure 4.1: Division of Oncology Research Funding

4.2 Research Projects Awarded

Division of Oncology faculty received **27** awards in 2021/2022. The number of unique faculty award recipients has remained stable through this period, with **14** individual awardees in 2021/2022.

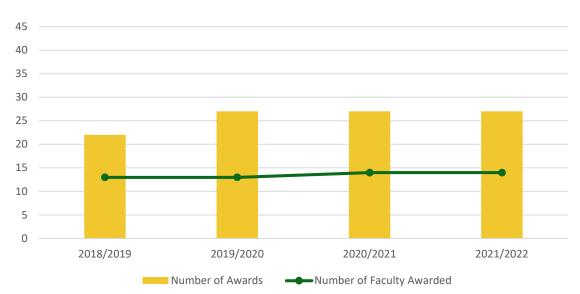
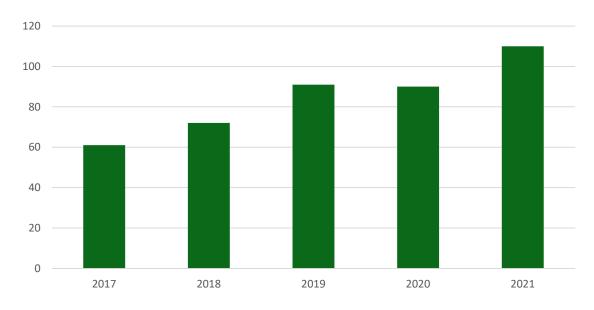


Figure 6.2: Division of Oncology Research Projects Awarded

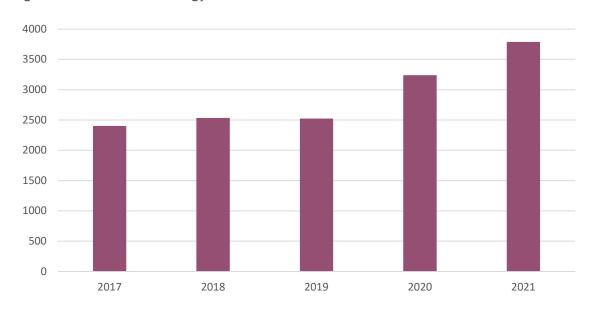
The division produced **110** publications in 2021.

Figure 4.3: Division of Oncology Annual Publication Count



Division of Oncology publications received 3,779 citations in 2021.

Figure 4.4: Division of Oncology Annual Citation Count



This report included **44** research-active faculty from the Division of Oncology.

5. Department of Pediatrics

5.1 Research Funding

In the 2021/2022 fiscal year, Department of Pediatrics researchers were awarded a total of **\$960,762**.

\$1,400,000 \$1,200,000 \$800,000 \$600,000 \$200,000 \$200,000 \$0 2018/2019 2019/2020 2020/2021 2021/2022

Figure 5.1: Department of Pediatrics Research Funding

5.2 Research Projects Awarded

In 2021/2022 Division of Oncology faculty received **20** awards, received by **9** individual award recipients.

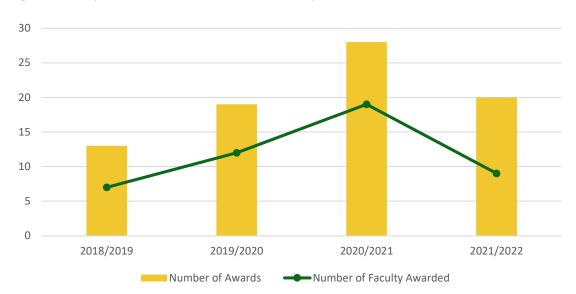
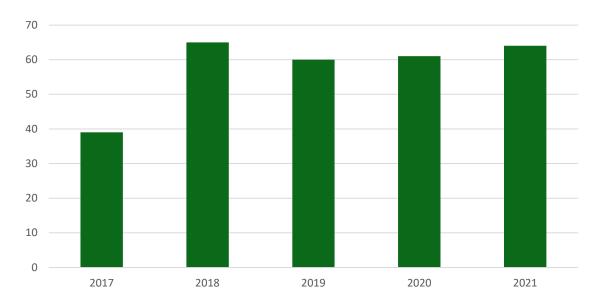


Figure 5.2: Department of Pediatrics Research Projects Awarded

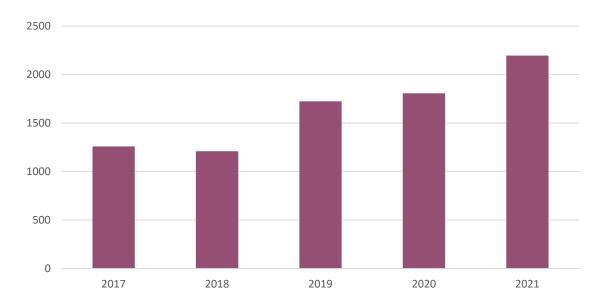
The Department of Pediatrics produced 64 publications in 2021.

Figure 5.3: Department of Pediatrics Annual Publication Count



Department of Pediatrics received **2,191** citations in 2021.

Figure 5.4: Department of Pediatrics Annual Citation Count



This report included **44** research-active faculty from the Department of Pediatrics.

6. Department of Biochemistry, Microbiology and Immunology

6.1 Research Funding

In the 2021/2022 fiscal year, Department of Biochemistry, Microbiology and Immunology researchers were awarded a total of \$3,711,405.

\$4,000,000 \$3,500,000 \$2,500,000 \$1,500,000 \$1,000,000 \$500,000 \$0 2018/2019

2019/2020

2020/2021

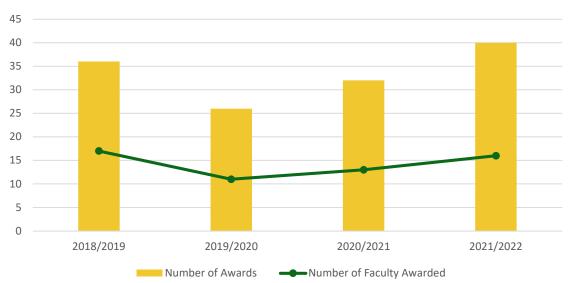
2021/2022

Figure 6.1: Department of Biochemistry, Microbiology and Immunology Research Funding

6.2 Research Projects Awarded

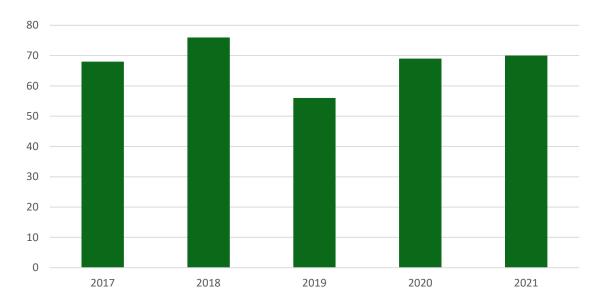
In 2021/2022 faculty received 40 awards, received by 16 individual award recipients.

Figure 6.2: Department of Biochemistry, Microbiology and Immunology Research Projects Awarded



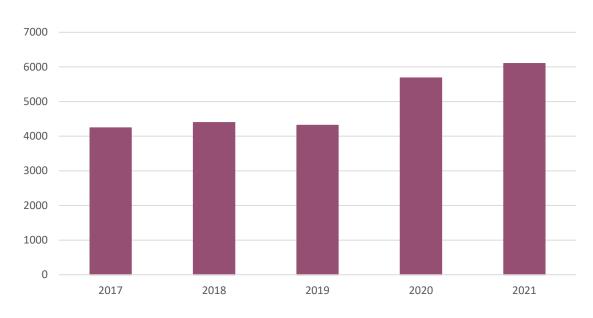
The department produced **70** publications in 2021.

Figure 6.3: Department of Biochemistry, Microbiology and Immunology Annual Publication Count



Department of Biochemistry, Microbiology and Immunology publications received **6,098** citations in 2021.

Figure 6.4: Department of Biochemistry, Microbiology and Immunology Annual Citation Count



This report included **33** research-active faculty from the Department of Biochemistry, Microbiology and Immunology.

7. Department of Academic Family Medicine

7.1 Research Funding

In the 2021/2022 fiscal year, Department of Academic Family Medicine researchers were awarded a total of \$111,620.

\$180,000 \$140,000 \$120,000 \$80,000 \$80,000 \$40,000 \$20,000 \$0 2018/2019 2019/2020 2020/2021 2021/2022

Figure 7.1: Department of Academic Family Medicine Research Funding

7.2 Research Projects Awarded

In 2021/2022 Department of Academic Family Medicine faculty saw an increase in both award number (6), and the number of unique faculty award recipients (4).

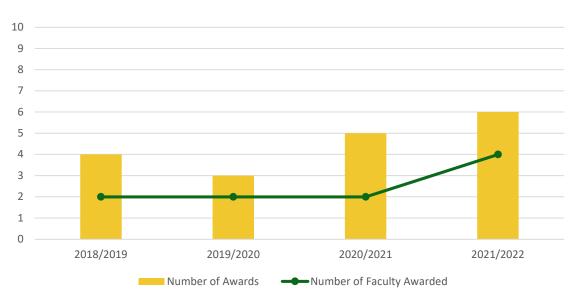


Figure 7.2: Department of Academic Family Medicine Research Projects Awarded

The department produced **50** publications in 2021.

Figure 7.3: Department of Academic Family Medicine Annual Publication Count

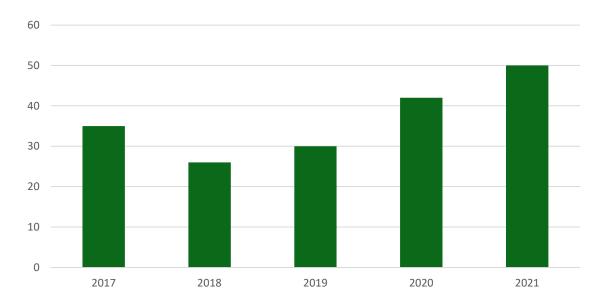
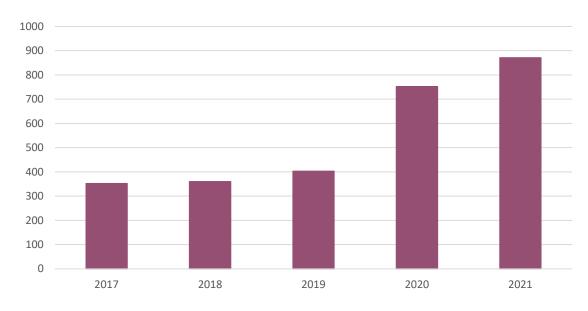


Figure 7.4 shows year-over-year ascending citations for Department of Academic Family Medicine faculty. Researchers received **871** citations in 2021.

7.4: Department of Academic Family Medicine Annual Citation Count



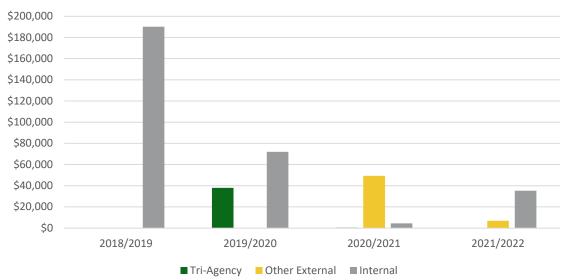
This report included **34** research-active faculty from the Department of Academic Family Medicine.

8. Department of Anesthesiology, Perioperative Medicine and Pain Management

8.1 Research Funding

In the 2021/2022 fiscal year, Department of Anesthesiology, Perioperative Medicine and Pain Management researchers were awarded a total of \$42,296.

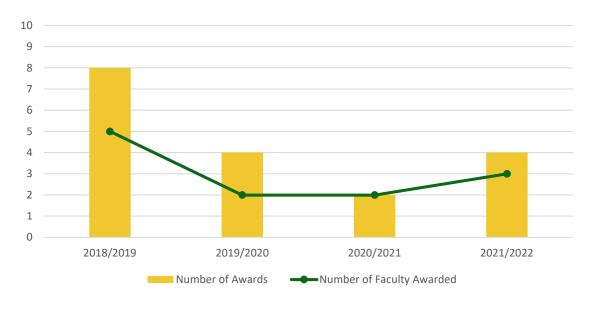
Figure 8.1: Department of Anesthesiology, Perioperative Medicine and Pain Management Research Funding



8.2 Research Projects Awarded

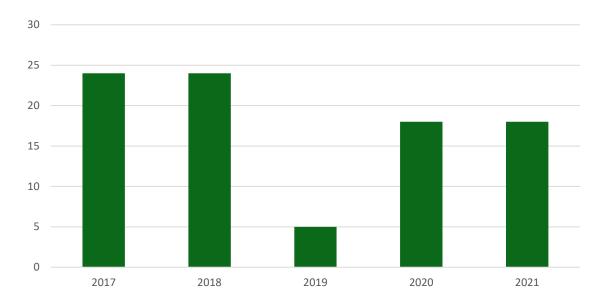
Department of Anesthesiology, Perioperative Medicine and Pain Management researchers received a total of 4 new awards, received by 3 individual award recipients.

Figure 8.2: Department of Anesthesiology, Perioperative Medicine and Pain Management Research Projects Awarded



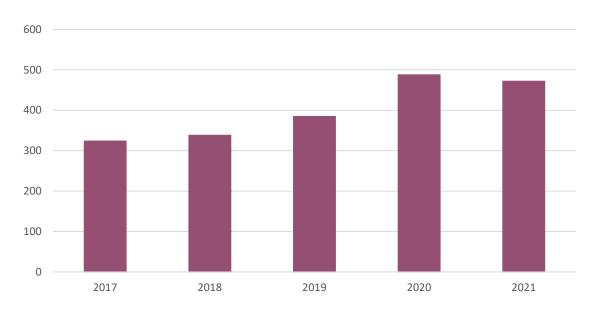
The department produced 18 publications in 2021.

Figure 8.3: Department of Anesthesiology, Perioperative Medicine and Pain Management Annual Publication Count



Anesthesiology, Perioperative Medicine and Pain Management faculty received **472** citations in 2021.

Figure 8.4 Department of Anesthesiology, Perioperative Medicine and Pain Management Annual Citation Count



This report included **33** research-active faculty from the Department of Anesthesiology, Perioperative Medicine and Pain Management.

9. Department of Anatomy, Physiology and Pharmacology

9.1 Research Funding

In the 2021/2022 fiscal year, Department of Anatomy, Physiology and Pharmacology researchers were awarded a total of **\$4,056,147**.

\$3,000,000 \$2,500,000 \$1,500,000 \$1,000,000 \$500,000 \$0 2018/2019 2019/2020 2020/2021 2021/2022

Figure 9.1: Department of Anatomy, Physiology and Pharmacology Research Funding

9.2 Research Projects Awarded

In 2021/2022 **12** Department of Anatomy, Physiology and Pharmacology faculty received a total of **34** awards.

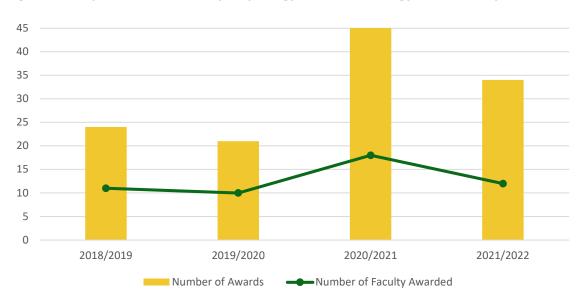
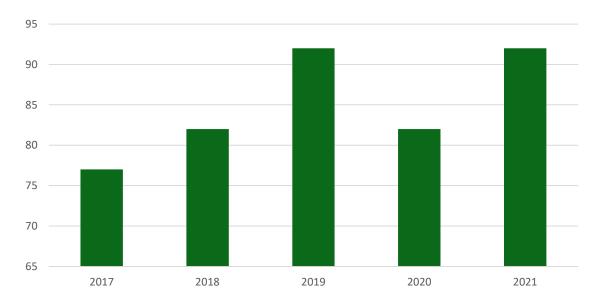


Figure 9.2: Department of Anatomy, Physiology and Pharmacology Research Projects

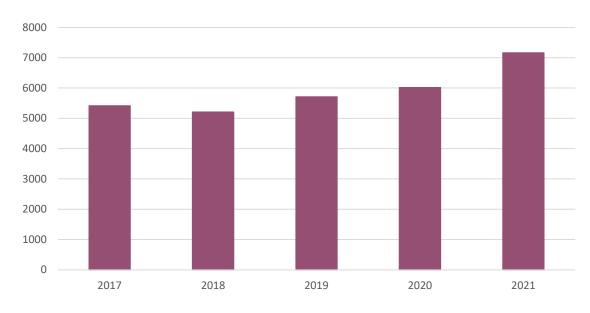
The department produced 92 publications in 2021.

Figure 9.3: Department of Anatomy, Physiology and Pharmacology Annual Publication Count



Department of Anatomy, Physiology and Pharmacology publications received **7,162** citations in 2021.

Figure 9.4: Department of Anatomy, Physiology and Pharmacology Annual Citation Count



This report included **29** research-active faculty from the Department of Anatomy, Physiology and Pharmacology.

10. Department of Pathology and Laboratory Medicine

10.1 Research Funding

In the 2021/2022 fiscal year, Department of Pathology and Laboratory Medicine researchers were awarded a total of \$368,747.

\$1,800,000 \$1,400,000 \$1,200,000 \$1,000,000 \$800,000 \$400,000 \$200,000 \$200,000 \$0 2018/2019 2019/2020 2020/2021 2021/2022

Figure 10.1: Pathology and Laboratory Medicine Research Funding

10.2 Research Projects Awarded

In 2021/2022 Department of Pathology and Laboratory Medicine faculty received **15** awards, received by **10** individual award recipients.

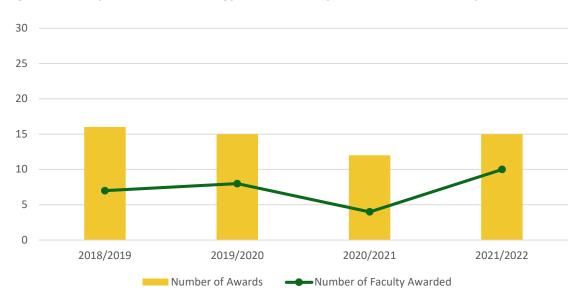
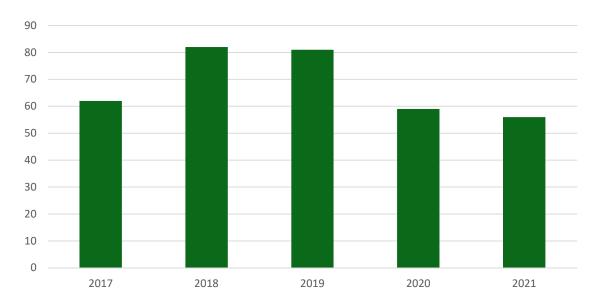


Figure 10.2: Department of Pathology and Laboratory Medicine Research Projects Awarded

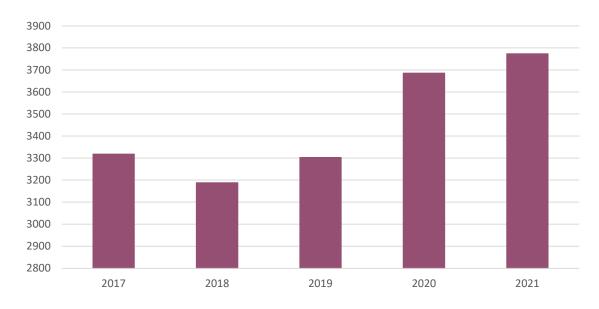
The department produced **56** publications in 2020.

Figure 10.3: Department of Pathology and Laboratory Medicine Annual Publication Count



Department of Pathology and Laboratory Medicine publications received **3,773** citations in 2020.

Figure 10.4: Department of Pathology and Laboratory Medicine Annual Citation Count



This report included **36** research-active faculty from the Department of Pathology and Laboratory Medicine.

11. Department of Community Health and Epidemiology

11.1 Research Funding

In the 2021/2022 fiscal year, Department of Community Health and Epidemiology researchers were awarded a total of **\$4,091,169**.

\$9,000,000 \$8,000,000 \$7,000,000 \$6,000,000 \$5,000,000 \$4,000,000 \$3,000,000 \$2,000,000 \$1,000,000 \$0 2018/2019 2020/2021 2019/2020 2021/2022 ■ Tri-Agency ■ Other External ■ Internal

Figure 11.1: Department of Community Health and Epidemiology Research Funding

11.2 Research Projects Awarded

Researchers in the Department of Community Health and Epidemiology received 34 awards in 2021/2022, received by **14** individual awardees.

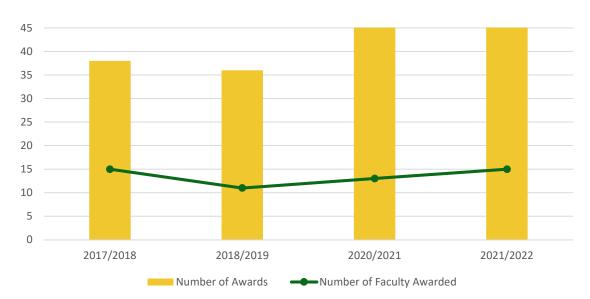
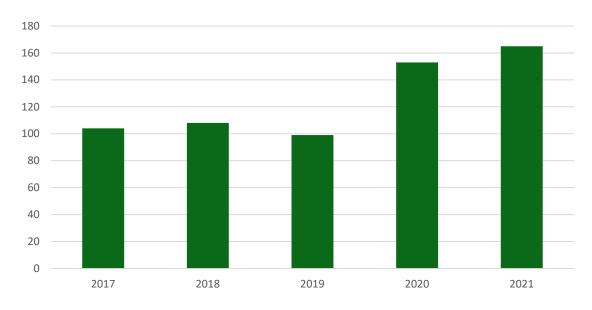


Figure 10.2: Department of Community Health and Epidemiology Research Projects Awarded

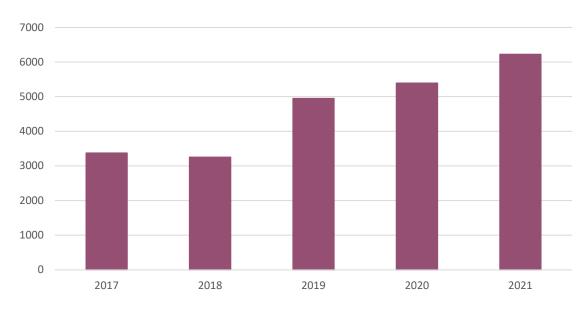
The department produced 165 publications in 2021.

Figure 11.3: Department of Community Health and Epidemiology Annual Publication Count



Department of Community Health and Epidemiology publications received **6,226** citations in 2021.

Figure 11.4: Department of Community Health and Epidemiology Annual Citation Count



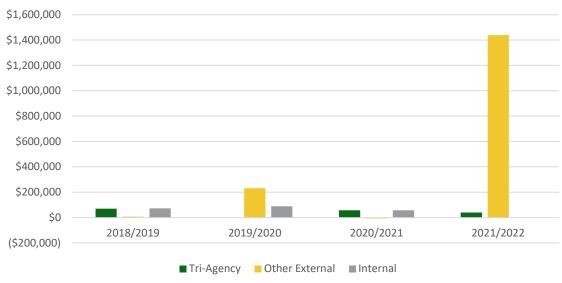
This report included **24** research-active faculty from the Department of Community Health and Epidemiology.

12. Department of Emergency Medicine

12.1 Research Funding

In the 2021/2022 fiscal year, Department of Emergency Medicine researchers were awarded a total of \$1,478,228.

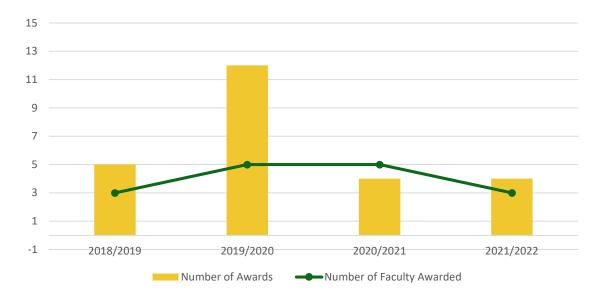
Figure 12.1: Department of Emergency Medicine Research Funding



12.2 Research Projects Awarded

In 2021/2022 faculty received 4 awards, received by 3 unique faculty members.

Figure 12.2: Department of Emergency Medicine Research Projects Awarded



The department produced **61** publications in 2021.

Figure 12.3: Department of Emergency Medicine Annual Publication Count

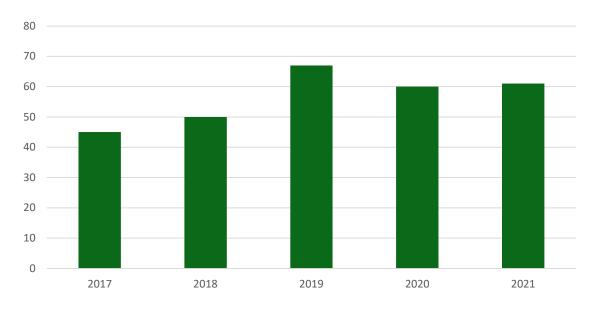
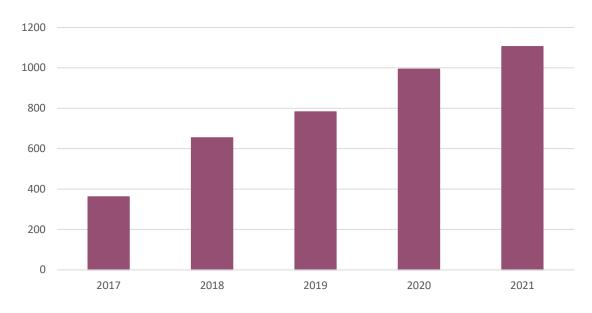


Figure 12.4 shows year-over-year ascending citation counts for Department of Emergency Medicine faculty. Researchers received **1,105** citations in 2021.

Figure 12.4: Department of Emergency Medicine Annual Citation Count



This report included **15** research-active faculty from the Department Emergency Medicine.

13. Department of Psychiatry

13.1 Research Funding

In the 2021/2022 fiscal year, Department of Psychiatry researchers were awarded a total of \$1,301,326.

\$1,800,000 \$1,600,000 \$1,400,000 \$1,200,000 \$1,000,000 \$800,000 \$600,000 \$400,000 \$200,000 \$0 2018/2019 2019/2020 2020/2021 2021/2022 ■ Tri-Agency Other External ■ Internal

Figure 14.1: Department of Psychiatry Research Funding

13.2 Research Projects Awarded

In 2021/2022 Department of Psychiatry faculty received **15** awards, received by **8** individual award recipients.

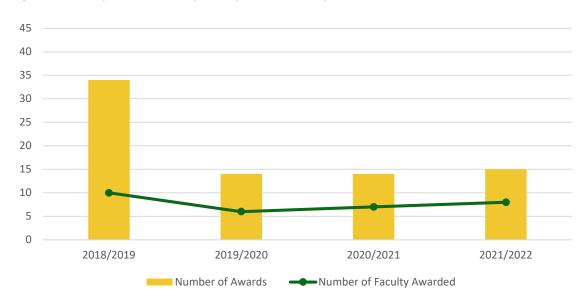
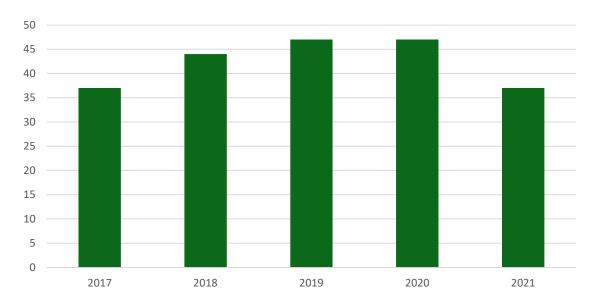


Figure 13.2: Department of Psychiatry Research Projects Awarded

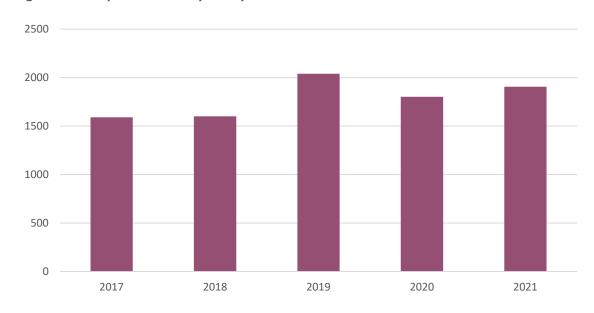
The department produced **37** publications in 2021.

Figure 13.3: Department of Psychiatry Annual Publication Count



Department of Psychiatry publications received 1,901 citations in 2021.

Figure 13.4: Department of Psychiatry Annual Citation Count



This report included **15** research-active faculty from the Department of Psychiatry.

14. Department of Obstetrics and Gynecology

14.1 Research Funding

In the 2021/2022 fiscal year, Department of Obstetrics and Gynecology researchers were awarded **\$0**.

\$45,000 \$40,000 \$35,000 \$25,000 \$15,000 \$15,000 \$5,000 \$0 2018/2019 2019/2020 2020/2021 2021/2022

Figure 16.1: Department of Obstetrics and Gynecology Research Funding

14.2 Research Projects Awarded

In 2021/2023 Department of Obstetrics and Gynecology faculty received **1** award, received by **1** individual award recipients.

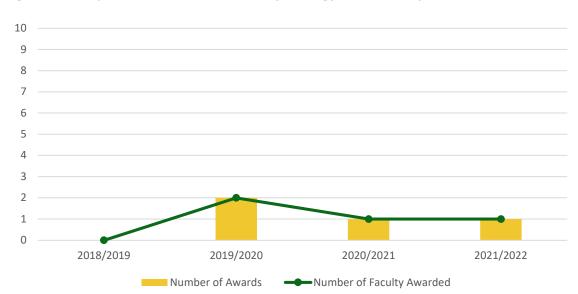
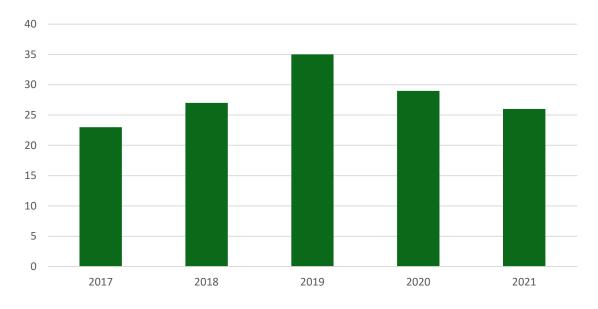


Figure 15.2: Department of Obstetrics and Gynecology Research Projects Awarded

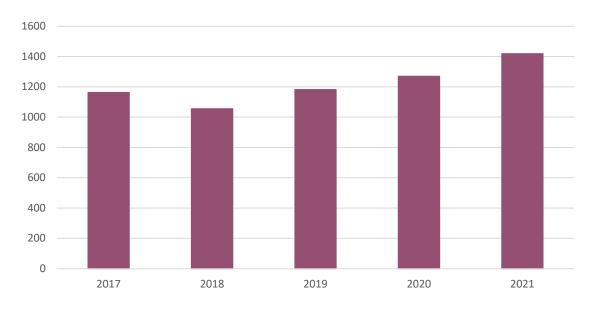
The department produced **26** publications in 2021.

Figure 14.3: Department of Obstetrics and Gynecology Annual Publication Count



Department of Obstetrics and Gynecology publications received 1,419 citations in 2021.

Figure 14.4: Department of Obstetrics and Gynecology Annual Citation Count



This report included **14** research-active faculty from the Department of Obstetrics and Gynecology.

15. Department of Medical Imaging

15.1 Research Funding

In the 2021/2022 fiscal year, Department of Medical Imaging researchers were awarded a total of \$155,000.

\$1,200,000 \$800,000 \$600,000 \$400,000 \$200,000 \$0 2018/2019 2019/2020 2020/2021 2021/2022

Figure 15.1: Department of Medical Imaging Research Funding

15.2 Research Projects Awarded

In 2021/2022 Department of Medical Imaging faculty received **7** awards, received by **3** awardees.

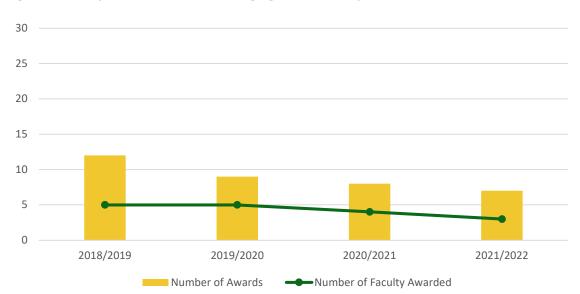
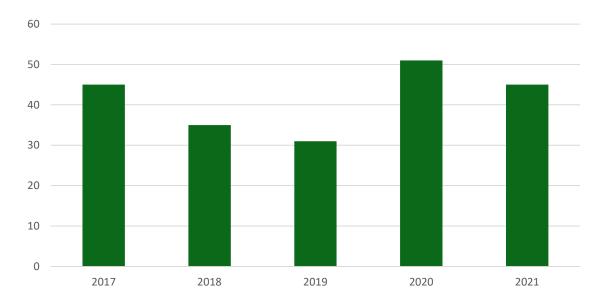


Figure 15.2: Department of Medical Imaging Research Projects Awarded

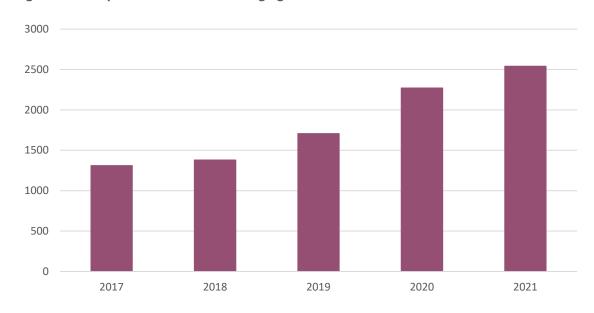
The department produced 45 publications in 2021.

Figure 15.3: Department of Medical Imaging Annual Publication Count



Department of Medical Imaging publications received **2,540** citations in 2020.

Figure 15.4: Department of Medical Imaging Annual Citation Count



This report included 14 research-active faculty from the Department of Medical Imaging.

16. School of Rehabilitation Science

16.1 Research Funding

In the 2021/2022 fiscal year, School of Rehabilitation Science researchers were awarded a total of \$976,506.

\$700,000 \$500,000 \$400,000 \$300,000 \$100,000 \$0 2018/2019 2019/2020 2020/2021 2021/2022

Figure 16.1: School of Rehabilitation Science Research Funding

16.2 Research Projects Awarded

In 2021/2022 School of Rehabilitation Science faculty received **22** awards, awarded to **6** individual award recipients.

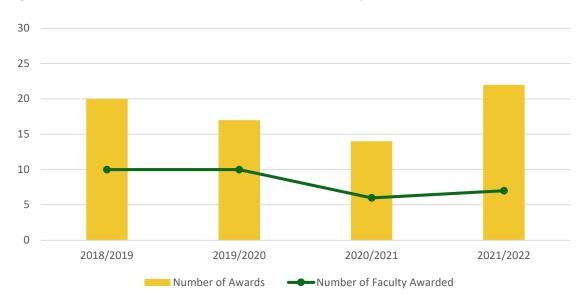


Figure 16.2: School of Rehabilitation Science Research Projects Awarded

The School of Rehabilitation Science produced 49 publications in 2021.

Figure 16.3: School of Rehabilitation Science Annual Publication Count

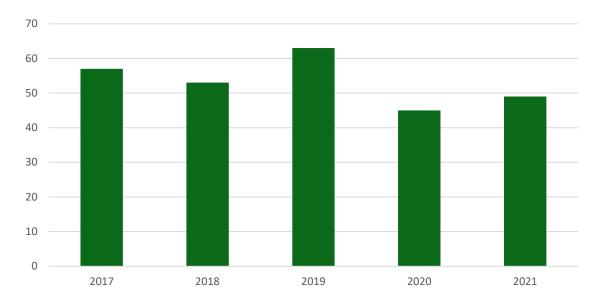
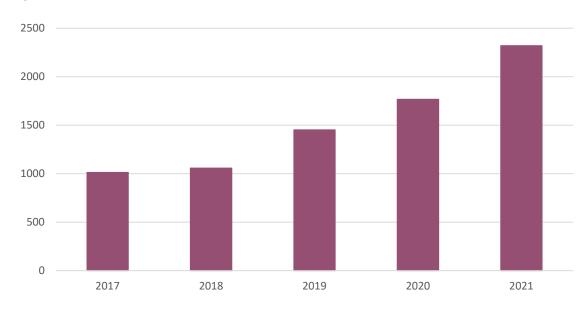


Figure 16.4 shows year-over-year ascending citation counts for School of Rehabilitation Science faculty. Researchers received **2,319** citations in 2021.

Figure 16.4: School of Rehabilitation Science Annual Citation Count



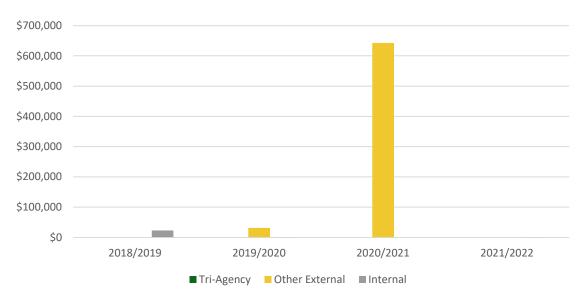
This report included **14** research-active faculty from the School of Rehabilitation Science.

17. Department of Physical Medicine and Rehabilitation

17.1 Research Funding

In the 2021/2022 fiscal year, Department of Physical Medicine and Rehabilitation researchers were awarded a total of **\$1,500**.

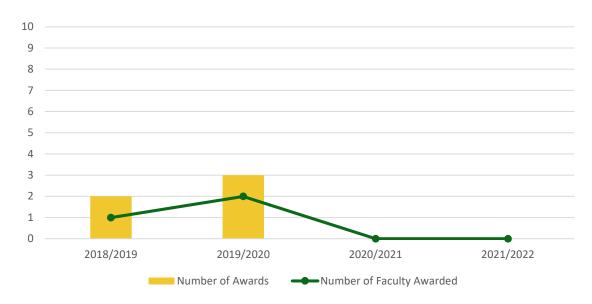
Figure 17.1: Department of Physical Medicine and Rehabilitation Research Funding



17.2 Research Projects Awarded

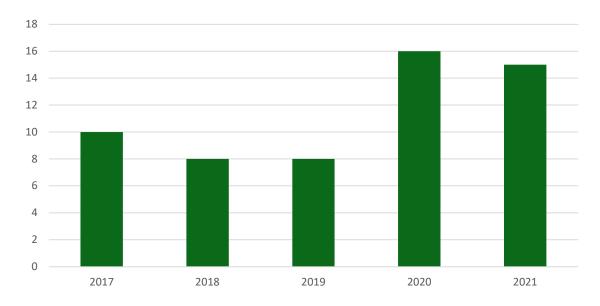
In 2021/2022 Department of Physical Medicine and Rehabilitation faculty received **0** awards.

Figure 17.2: Department of Physical Medicine and Rehabilitation Research Projects Awarded



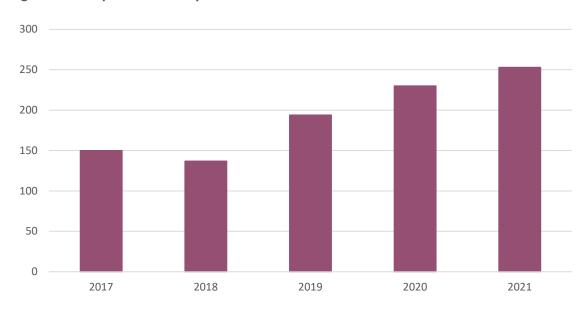
The department produced 15 publications in 2021.

Figure 17.3: Department of Physical Medicine and Rehabilitation Annual Publication Count



Department of Physical Medicine and Rehabilitation publications received 253 citations in 2021.

Figure 17.4: Department of Physical Medicine and Rehabilitation Annual Citation Count



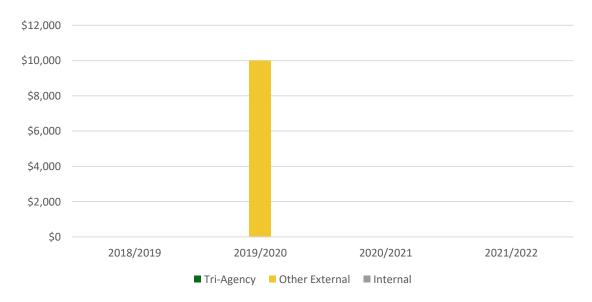
This report included **6** research-active faculty from the Department of Physical Medicine and Rehabilitation.

18. Department of Ophthalmology

18.1 Research Funding

In the 2021/2022 fiscal year, Department of Ophthalmology researchers were awarded **\$0**.

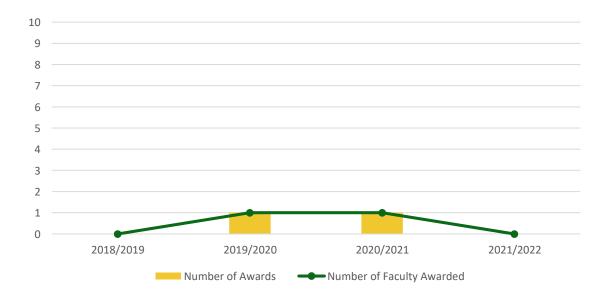
Figure 18.1: Department of Ophthalmology Research Funding



18.2 Research Projects Awarded

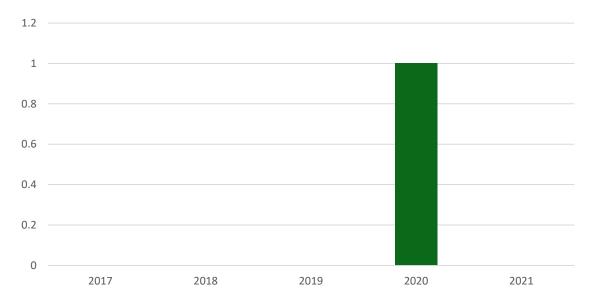
In 2021/2022 Department of Ophthalmology faculty received **0** awards.

Figure 18.2: Department of Ophthalmology Research Projects Awarded



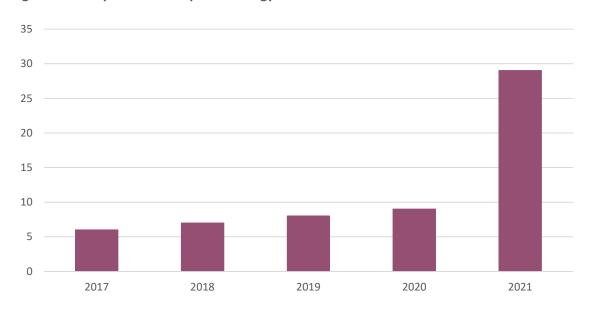
The department produced **0** publication in 2021.

Figure 18.3: Department of Ophthalmology Annual Publication Count



Department of Ophthalmology publications received 29 citations in 2021.

Figure 18.4: Department of Ophthalmology Annual Citation Count



This report included 3 research-active faculty from the Department of Ophthalmology.

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