RESEARCH PRODUCTIVITY REPORT
Table of Contents

Table of Contents 1
Executive Summary 2
Methodology and Definitions 3
1. College of Medicine 5
2. Department of Medicine 7
3. Department of Surgery 9
4. Department of Academic Family Medicine 11
5. Department of Pediatrics 13
6. Division of Oncology 15
7. Department of Anesthesiology, Perioperative Medicine and Pain Management 17
8. Department of Biochemistry, Microbiology and Immunology 19
9. Department of Anatomy, Physiology and Pharmacology 21
10. Department of Community Health and Epidemiology 23
11. Department of Pathology and Laboratory Medicine 25
12. Department of Psychiatry 27
13. Department of Emergency Medicine 29
14. School of Rehabilitation Science 31
15. Department of Obstetrics and Gynecology 33
16. Department of Medical Imaging 35
17. Department of Physical Medicine and Rehabilitation 37
18. Department of Ophthalmology 39

Cover Art

Adam Wandzura. Medicine, Year 1. Phalloidin Green on Actin. 2021
Executive Summary

From the Vice-Dean

This is our third report describing research output of the University of Saskatchewan College of Medicine. This current report includes the data analyzed from the 445 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 in the face of these unprecedented times.

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 15, 2021.

CoM Research Productivity

The past two years have been extraordinarily challenging. Our faculty, students, and staff have exhibited resilience and strength of character, while dealing with restrictions, delays, and conflicting demands. Many researchers changed their research agenda to help the U of S be the university the world needed; pivoting their research to focus on understanding the COVID-19 virus and its treatment, vaccine development, and our public health response. Many of our clinical faculty were called to provide leadership, public messaging, and to help meet the enormous health care needs of our province during this time.

Despite these many challenges, the number of new research projects and awarded funding dollars has remained relatively consistent from 2017/2018 through the 2020/2021 fiscal years. CoM researchers received a total of $29 million in research funding in 2020/2021, on par with prior years that were unaffected by the coronavirus pandemic ($30 million in 2017/2018, and $31 million in 2018/2019). The number of new awards, 343 in 2020/2021, is comparable to awarded numbers in 2017/2018 (343) and 2018/2019 (344). The number of individual faculty receiving awards has also been maintained (157 individual faculty in 2018/2019, 159 in 2019/2020, versus 158 in 2020/2021).

CoM faculty published 1,284 scholarly works in 2020, an increase from 950 at the beginning of the 5-year publication window (2016).

Gathered data indicate an increase in total faculty citations/year from 37,860 in 2016 to 59,917 in 2020.

Ending the 2020 calendar year, CoM researchers had an aggregate 5-year h-index of 5,529.
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 Google Scholar profile) within the 5-year window of this report.

This report includes data from 445 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 UView Portal. Data are restricted to funding administered through the University of Saskatchewan and include fiscal years 2016/2017, 2017/2018, 2018/2019 and 2019/2020. 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.

*Publications, Citations and H-index* findings presented throughout this report are derived from Google Scholar profiles of CoM research-active faculty. The report focuses on 5-year publication, citation and h-index data, 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.

**H-index**

The Hirsh index (h-index) is an author-level metric that measures the impact of a researcher, rather than the scientific journal in which they are publishing. Both the productivity and citation impact of the publications of a particular scholar are taken into account to reach the h-index, and it is based on the set of the scientist’s most cited published articles in congruency with the number of citations received by that researcher on other publications. For more information about h-index, please access the University Library Research Guides.
1. College of Medicine

1.1 Research Funding

In the 2020/2021 fiscal year, researchers in the College of Medicine (CoM) received awards totaling $29,496,910.00. Included in this total are $15,032,348 in Tri-Agency funding, $9,958,019 in other external funding and $4,506,543 in internal funding.

![Figure 1.1: College of Medicine Awarded Research Funding](image)

1.2 Research Projects Awarded

![Figure 1.2: College of Medicine Research Projects Awarded](image)

Over the past four fiscal years College of Medicine researchers have maintained a consistent number of awards and individual faculty awardees. In the 2020/2021 fiscal year 158 CoM researchers received 343 awards.
1.3 Publications, Citations & H-index

The College of Medicine produced 1,284 publications in 2020, over 100 more publications than the prior two years.

Figure 1.3: College of Medicine Annual Publication Count

College of Medicine research works were cited 59,917 times in 2020. Figure 1.4 shows strong year-over-year ascending citation counts; the 2020 data exceeded the 2019 count by 11,292 citations.

Figure 1.4: College of Medicine Annual Citation Count

In 2020, the College of Medicine’s 445 research-active faculty achieved a combined 5-year total h-index of 3801.
2. Department of Medicine

2.1 Research Funding

In the 2020/2021 fiscal year, Department of Medicine researchers were awarded a total of $3,011,709.

Figure 2.1: Department of Medicine Research Funding

2.2 Research Projects Awarded

Over the past four fiscal years Department of Medicine researchers increased the total number of awards received, from 69 in 2016/2017 to 83 in 2020/2021. The number of individual faculty award recipients has remained relatively stable, with 34 awardees in 2020/2021.

Figure 2.2: Department of Medicine Research Projects Awarded
2.3 Publications, Citations and H-index

The department produced 387 publications in 2020.

**Figure 2.3: Department of Medicine Annual Publication Count**

![Publication Count Chart](image)

Figure 2.4 shows citation counts for Department of Medicine faculty. Department of Medicine publications received 19,971 citations in 2020.

**Figure 2.4: Department of Medicine Annual Citation Count**

![Citation Count Chart](image)

In 2020, the Department of Medicine’s 79 research-active faculty achieved a combined 5-year total h-index of 801.
3. Department of Surgery

3.1 Research Funding

In the 2020/2021 fiscal year, Department of Surgery researchers were awarded a total of $234,847.00.

Figure 3.1: Department of Surgery Research Funding

3.2 Research Projects Awarded

In 2020/2021 faculty received 17 awards, received by 14 individual award recipients.

Figure 3.2: Department of Surgery Research Projects Awarded
3.3 Publications, Citations and H-index

The department produced 97 publications in 2020.

Figure 3.3: Department of Surgery Annual Publication Count

Figure 3.4 shows year-over-year ascending citation counts for Department of Surgery faculty. Researchers received 7,390 citations in 2020.

Figure 3.4: Department of Surgery Annual Citation Count

In 2020, the Department of Surgery’s 42 research-active faculty achieved a combined 5-year total h-index of 313.
4. Department of Academic Family Medicine

4.1 Research Funding

In the 2020/2021 fiscal year, Department of Academic Family Medicine researchers were awarded a total of $148,050.00.

Figure 4.1: Department of Academic Family Medicine Research Funding

4.2 Research Projects Awarded

Over the past four fiscal years Department of Academic Family Medicine researchers have maintained both the number of awards received (3-5), and the number of individual faculty award recipients (2 individual award recipients in 2017/2018, 2018/2019, 2019/2020 and 2020/2021).

Figure 4.2: Department of Academic Family Medicine Research Projects Awarded
4.3 Publications, Citations and H-index

The department produced 42 publications in 2020.

Figure 4.3: Department of Academic Family Medicine Annual Publication Count

Figure 4.4 shows year-over-year ascending citations for Department of Academic Family Medicine faculty. Researchers received 752 citations in 2020.

4.4: Department of Academic Family Medicine Annual Citation Count

In 2020, Department of Academic Family Medicine’s 38 research-active faculty achieved a combined 5-year total h-index of 102.
5. Department of Pediatrics

5.1 Research Funding

In the 2020/2021 fiscal year, Department of Pediatrics researchers were awarded a total of $723,562.00.

Figure 5.1: Department of Pediatrics Research Funding

5.2 Research Projects Awarded

Department of Pediatrics researchers have seen steady increases in the total number of awards received, from 21 in 2018/2019 to 30 in 2020/2021. The number of unique faculty award recipients has increased as well, with 19 individual awardees in 2020/2021.

Figure 5.2: Department of Pediatrics Research Projects Awarded
5.3 Publications, Citations and H-index

The Department of Pediatrics produced 61 publications in 2020.

Figure 5.3: Department of Pediatrics Annual Publication Count

Figure 5.4 shows year-over-year ascending citation counts for Department of Pediatrics faculty. Researchers received 1,802 citations in 2020.

Figure 5.4: Department of Pediatrics Annual Citation Count

In 2020, the Department of Pediatrics’ 36 research-active faculty achieved a combined 5-year total h-index of 167.
6. Division of Oncology

6.1 Research Funding

In the 2020/2021 fiscal year, Division of Oncology researchers were awarded a total of $1,781,531.00.

Figure 6.1: Division of Oncology Research Funding

6.2 Research Projects Awarded

Division of Oncology faculty received 26 awards in 2020/2021. The number of unique faculty award recipients has remained stable through this period, with 14 individual awardees in 2020/2021.

Figure 6.2: Division of Oncology Research Projects Awarded
6.3 Publications, Citations and H-index

The division produced 90 publications in 2020.

Figure 6.3: Division of Oncology Annual Publication Count

Division of Oncology publications received 3,230 citations in 2020.

Figure 6.4: Division of Oncology Annual Citation Count

In 2020, the Division of Oncology’s 35 research-active faculty achieved a combined 5-year total h-index of 194.
7. Department of Anesthesiology, Perioperative Medicine and Pain Management

7.1 Research Funding

In the 2020/2021 fiscal year, Department of Anesthesiology, Perioperative Medicine and Pain Management researchers were awarded a total of $54,167.00.

Figure 7.1: Department of Anesthesiology, Perioperative Medicine and Pain Management Research Funding

7.2 Research Projects Awarded

In 2020/2021 faculty received 2 awards, received by 2 individual award recipients.

Figure 7.2: Department of Anesthesiology, Perioperative Medicine and Pain Management Research Projects Awarded
7.3 Publications, Citations and H-index

The department produced 18 publications in 2020.

**Figure 7.3: Department of Anesthesiology, Perioperative Medicine and Pain Management Annual Publication Count**

![Publication Count Chart](chart1)

Figure 7.4 shows increasing citation counts for Anesthesiology, Perioperative Medicine and Pain Management faculty. Researchers received 488 citations in 2020.

**Figure 7.4 Department of Anesthesiology, Perioperative Medicine and Pain Management Annual Citation Count**

![Citation Count Chart](chart2)

In 2020, the Department of Anesthesiology, Perioperative Medicine and Pain Management’s 34 research-active faculty achieved a combined 5-year total h-index of 69.
8. Department of Biochemistry, Microbiology and Immunology

8.1 Research Funding

In the 2020/2021 fiscal year, Department of Biochemistry, Microbiology and Immunology researchers were awarded a total of $2,179,216.00.

Figure 8.1: Department of Biochemistry, Microbiology and Immunology Research Funding

8.2 Research Projects Awarded

In 2020/2021 faculty received 32 awards, received by 13 individual award recipients.

Figure 8.2: Department of Biochemistry, Microbiology and Immunology Research Projects Awarded
8.3 Publications, Citations and H-index

The department produced 63 publications in 2020.

Figure 8.3: Department of Biochemistry, Microbiology and Immunology Annual Publication Count

Department of Biochemistry, Microbiology and Immunology publications received 5,487 citations in 2020.

Figure 8.4: Department of Biochemistry, Microbiology and Immunology Annual Citation Count

In 2020, the Department of Biochemistry, Microbiology and Immunology’s 32 research-active faculty achieved a combined 5-year total h-index of 416.
9. Department of Anatomy, Physiology and Pharmacology

9.1 Research Funding

In the 2020/2021 fiscal year, Department of Anatomy, Physiology and Pharmacology researchers were awarded a total of $6,492,388.00.

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

9.2 Research Projects Awarded

In 2020/2021 the Department of Anatomy, Physiology and Pharmacology saw an increase in funded research, with 18 individual award recipients receiving 48 awards.

Figure 9.2: Department of Anatomy, Physiology and Pharmacology Research Projects
9.3 Publications, Citations and H-index

The department produced 77 publications in 2020.

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

Department of Anatomy, Physiology and Pharmacology publications received 4,918 citations in 2020.

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

In 2020, the Department of Anatomy, Physiology and Pharmacology’s 25 research-active faculty achieved a combined 5-year total h-index of 471.
10. Department of Community Health and Epidemiology

10.1 Research Funding

In the 2020/2021 fiscal year, Department of Community Health and Epidemiology researchers were awarded a total of $10,147,823.00.

Figure 10.1: Department of Community Health and Epidemiology Research Funding

10.2 Research Projects Awarded

Researchers in the Department of Community Health and Epidemiology have increased the total number of awards from 22 to 44 between 2016/2017 and 2020/2021. The number of unique faculty award recipients was maintained through this period, with 10 individual awardees in 2016/2017 and 13 in 2020/2021.

Figure 10.2: Department of Community Health and Epidemiology Research Projects Awarded
10.3 Publications, Citations and H-index

The department produced 150 publications in 2020.

Figure 10.3: Department of Community Health and Epidemiology Annual Publication Count

Department of Community Health and Epidemiology publications received 5,375 citations in 2020.

Figure 10.4: Department of Community Health and Epidemiology Annual Citation Count

In 2020, the Department of Community Health and Epidemiology’s 24 research-active faculty achieved a combined 5-year total h-index of 364.
11. Department of Pathology and Laboratory Medicine

11.1 Research Funding

In the 2020/2021 fiscal year, Department of Pathology and Laboratory Medicine researchers were awarded a total of $69,202.00.

Figure 11.1: Pathology and Laboratory Medicine Research Funding

11.2 Research Projects Awarded

In 2020/2021 Department of Pathology and Laboratory Medicine faculty received 12 awards, received by 4 individual award recipients.

Figure 11.2: Department of Pathology and Laboratory Medicine Research Projects Awarded
11.3 Publications, Citations and H-index

The department produced 57 publications in 2020.

Figure 11.3: Department of Pathology and Laboratory Medicine Annual Publication Count

Department of Pathology and Laboratory Medicine publications received 2,211 citations in 2020.

Figure 11.4: Department of Pathology and Laboratory Medicine Annual Citation Count

In 2020, the Department of Pathology and Laboratory Medicine’s 22 research-active faculty achieved a combined 5-year total h-index of 241.
12. Department of Psychiatry

12.1 Research Funding

In the 2020/2021 fiscal year, Department of Psychiatry researchers were awarded a total of $540,078.00.

Figure 12.1: Department of Psychiatry Research Funding

12.2 Research Projects Awarded

In 2020/2021 Department of Psychiatry faculty received 15 awards, received by 7 individual award recipients.

Figure 13.2: Department of Psychiatry Research Projects Awarded
12.3 Publications, Citations and H-index

The department produced 47 publications in 2020.

Figure 12.3: Department of Psychiatry Annual Publication Count

Department of Psychiatry publications received 1,797 citations in 2020.

Figure 12.4: Department of Psychiatry Annual Citation Count

In 2020, the Department of Psychiatry’s 14 research-active faculty achieved a combined 5-year total h-index of 180.
13. Department of Emergency Medicine

13.1 Research Funding

In the 2020/2021 fiscal year, Department of Emergency Medicine researchers were awarded a total of $117,584.00.

Figure 13.1: Department of Emergency Medicine Research Funding

13.2 Research Projects Awarded

In 2020/2021 faculty received 5 awards. The number of unique faculty award recipients has remained relatively stable, with 5 individual awardees in 2020/2021.

Figure 13.2: Department of Emergency Medicine Research Projects Awarded
13.3 Publications, Citations and H-index

The department produced 58 publications in 2020.

Figure 13.3: Department of Emergency Medicine Annual Publication Count

Figure 13.4 shows year-over-year ascending citation counts for Department of Emergency Medicine faculty. Researchers received 978 citations in 2020.

Figure 13.4: Department of Emergency Medicine Annual Citation Count

In 2020, the Department of Emergency Medicine’s 14 research-active faculty achieved a combined 5-year total h-index of 85.
14. School of Rehabilitation Science

14.1 Research Funding

In the 2020/2021 fiscal year, School of Rehabilitation Science researchers were awarded a total of $980,424.00.

Figure 14.1: School of Rehabilitation Science Research Funding

14.2 Research Projects Awarded

In 2020/2021 faculty received 14 awards, received by 6 individual award recipients.

Figure 14.2: School of Rehabilitation Science Research Projects Awarded
14.3 Publications, Citations and H-index

The school produced 40 publications in 2020.

14.3: School of Rehabilitation Science Annual Publication Count

Figure 14.4 shows year-over-year ascending citation counts for School of Rehabilitation Science faculty. Researchers received 1,739 citations in 2020.

Figure 14.4: School of Rehabilitation Science Annual Citation Count

In 2020, the School of Rehabilitation Science’s 14 research-active faculty achieved a combined 5-year total h-index of 146.
15. Department of Obstetrics and Gynecology

15.1 Research Funding

In the 2020/2021 fiscal year, Department of Obstetrics and Gynecology researchers were awarded a total of $14,970.00.

Figure 15.1: Department of Obstetrics and Gynecology Research Funding

15.2 Research Projects Awarded

In 2020/2021 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
15.3 Publications, Citations and H-index

The department produced 29 publications in 2020.

Figure 15.3: Department of Obstetrics and Gynecology Annual Publication Count

Department of Obstetrics and Gynecology publications received 1,270 citations in 2020.

Figure 15.4: Department of Obstetrics and Gynecology Annual Citation Count

In 2020, the Department of Obstetrics and Gynecology’s 14 research-active faculty achieved a combined 5-year total h-index of 114.
16. Department of Medical Imaging

16.1 Research Funding

In the 2020/2021 fiscal year, Department of Medical Imaging researchers were awarded a total of $1,098,164.00.

Figure 16.1: Department of Medical Imaging Research Funding

16.2 Research Projects Awarded

In 2020/2021 Department of Medical Imaging faculty received 8 awards. The number of unique faculty award recipients has remained consistent, with 5 awardees in 2020/2021.

Figure 16.2: Department of Medical Imaging Research Projects Awarded
16.3 Publications, Citations and H-index

The department produced 51 publications in 2020.

**Figure 16.3: Department of Medical Imaging Annual Publication Count**

Department of Medical Imaging publications received 2,270 citations in 2020.

**Figure 16.4: Department of Medical Imaging Annual Citation Count**

In 2020, the Department of Medical Imaging’s 13 research-active faculty achieved a combined 5-year total h-index of 112.
17. Department of Physical Medicine and Rehabilitation

17.1 Research Funding

In the 2020/2021 fiscal year, Department of Physical Medicine and Rehabilitation researchers were awarded a total of $642,795.72.

Figure 17.1: Department of Physical Medicine and Rehabilitation Research Funding

17.2 Research Projects Awarded

In 2020/2021 Department of Physical Medicine and Rehabilitation faculty received 0 awards.

Figure 17.2: Department of Physical Medicine and Rehabilitation Research Projects Awarded
17.3 Publications, Citations and H-index

The department produced 16 publications in 2020.

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

Department of Physical Medicine and Rehabilitation publications received 230 citations in 2020.

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

In 2020, the Department of Physical Medicine and Rehabilitation’s 6 research-active faculty achieved a combined 5-year total h-index of 21.
18. Department of Ophthalmology

18.1 Research Funding

In the 2020/2021 fiscal year, Department of Ophthalmology researchers were not awarded research funding.

Figure 18.1: Department of Ophthalmology Research Funding

18.2 Research Projects Awarded

Over the past four fiscal years Department of Ophthalmology researchers maintained both the number of awards received (1), and the number of faculty award recipients (1).

Figure 18.2: Department of Ophthalmology Research Projects Awarded
18.3 Publications, Citations and H-index

The department produced 1 publication in 2020.

**Figure 18.3: Department of Ophthalmology Annual Publication Count**

Department of Ophthalmology publications received 9 citations in 2020.

**Figure 18.4: Department of Ophthalmology Annual Citation Count**

In 2020, the Department of Ophthalmology’s 3 research-active faculty achieved a combined 5-year total h-index of 5.