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## Measuring Research Success

2019 has been an exciting and transformational year for the Department of Pediatrics most notably, the growth in faculty, the development of new divisions, and the opening of the new Jim Pattison Children's hospital. Along with all of these changes, the department has continued to build its ever-growing research portfolio. The Office of the Vice Dean of Research recently put together a [Research Productivity Report](#) of all the departments in the College of Medicine from 2015/2016 to 2018/2019. The report measured internal and external funding, number of awards, and publications. USask was given a 3 week trial using SciVal which is based on output and usage data from Scopus, the world's largest abstract and citation database for peer-reviewed publications. Using data from the OVDR research productivity report and SciVal, the department was able to provide an overview of Research Funding, Publications and Citations, Collaborations, and Interdisciplinary research. This information will help us plan for future success as well as identify areas that can be elevated.

### Research Funding & Awards

From the OVDR Report it was exciting to see the Department of Pediatrics increased its research-funding amount from \$1,141,490 in 2015/2016 to \$1,326,889 in 2018/2019. Over the last 5 years the

### 11.3 Publications, Citations and H-index

Displayed in Figure 11.3, since 2014, the total number of publications for the Department of Pediatrics has increased from 32 to 58 in 2018. Average publications per faculty have also risen from 2.1 in 2014 to 3.9 in 2018.

FIGURE 11.3: DEPARTMENT OF PEDIATRICS 5-YEAR PUBLICATIONS



Based on 15 verified research-active faculty.

Figure from OVDR Research Productivity Report, 2019

department has been the recipient of 50 research awards including internal and external PI awards, travel awards, and awards from other institutions where CoM faculty are Co-Investigators (OVDR Report).

### Publications and Citations

The OVDR productivity report also measured number of publications per department, per year. Both the number of publications and the average publications per faculty member have increased from the 2015/2016 to 2018/2019 periods. To further explore this metric, the Department of Pediatrics faculty list was uploaded into SciVal. Due to the influx of new faculty over the past 5

years, a home institution filter was included to ensure only publications produced at USask were measured. As the number of publications increased in the department it was exciting to note that 26 of these publications authored by faculty of the Department of Pediatrics are among the [Top 10% most cited publications](#) worldwide (Fig 1 pg.2). This refers to the number of publications by a selected journal that are highly cited. Another interesting metric was Field-Weighted Citations Impact, which is the ratio of citations received relative to the expected world average for the subject field, publication type, and publication year.

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The average [Field-Weighted Citation Impact](#) for the department is 1.42 (Fig 2 pg. 2). Over 1.00 indicates that the entity's publications have been cited more than would be expected based on the global average for similar publications so we are very proud of our departmental performance. How does this stack up to others? Benchmarking is another attribute of SciVal that evaluates research performance in comparison to others in a regional, countrywide, and the worldwide scope. The field-weighted citation (excluding self-citation) was 1.31 for the Department of Pediatrics and 1.14 for the University of Saskatchewan (Fig 3 pg. 2). Comparing the Top 10% citation percentiles (excluding self-citation) Department of Pediatrics was 19.1% and USask was 12.8% within the subject area, medicine (Fig 4 pg. 2).

Fig 1

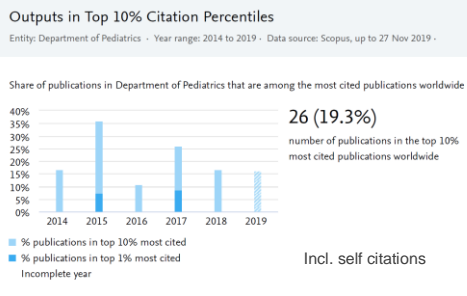


Fig 2

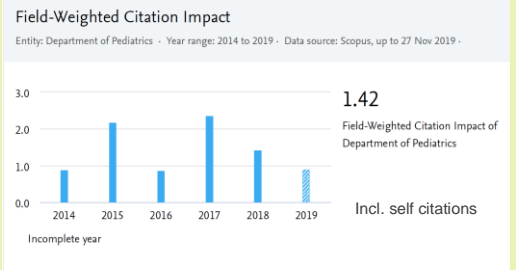


Fig 3

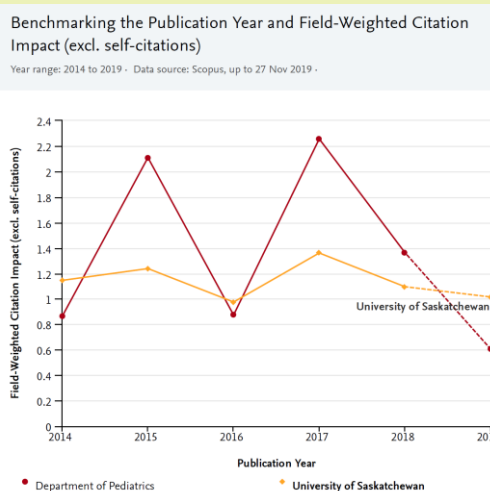
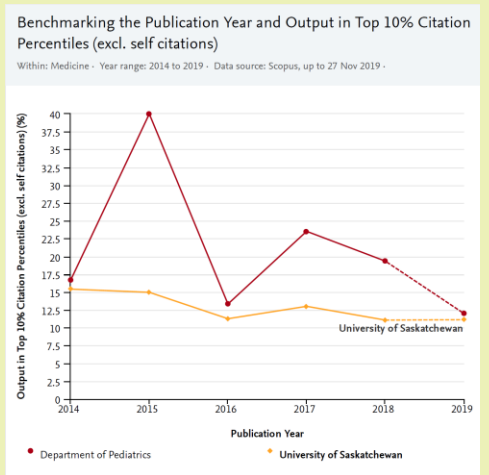


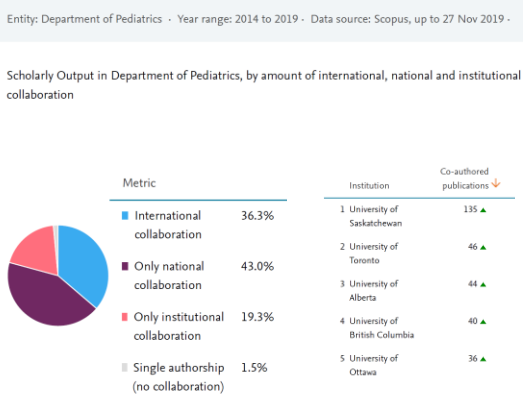
Fig 4



Figures on page 2 are extracted from SciVal Analytics

Collaboration

Fig 5



Collaborations and Interdisciplinary Research

SciVal metrics also showed publications by subject area. The Department of Pediatrics publishes largely in the subject area of medicine. Other areas that reflect where the department has strong interdisciplinary collaborations are nursing, neuroscience, chemistry, biochemistry, and immunology. It also showed, based on scholarly output, that 19.3% represented University of Saskatchewan collaboration, 43% represented national collaboration, and 36.3% represented International collaboration (Fig 5 pg.2). The top ten collaborating institutes include partnerships across Canada where the *number one* collaboration is with USask followed by University of Toronto, University of Alberta, University of British Columbia and the University of Ottawa.

What's next?

It is obvious the Department of Pediatrics thrives on interdisciplinary research and collaboration. From these metrics, we undoubtedly demonstrate the strength of this department. Both Internally at USask, and Nationally and Internationally, the department is involved in cutting edge research collaborations. The ongoing growth and stability of these interdisciplinary and concerted partnerships stem from the creation of SPRING, which encouraged researchers and clinicians in infant, child, and youth research to develop bigger questions. Reflecting on the strategic plans of both the [University Saskatchewan Strategic Plan](#) and the [College of Medicine strategic plan](#), the department is strengthening research capacity through the recruitment of new faculty for current divisions within the department as well as by creating new divisions like metabolics. It is also currently recruiting a Canadian Research Chair Tier 2 for Indigenous Health that aligns with both plans for Indigenization. The [University rankings](#) is an important metric to guide our journey of becoming the university the world needs. Currently USask is part of the U15 and continues to make strides in global rankings. This is in part due to the ongoing publishing of articles that have encouraging citation impact, increased funding through interdisciplinary research programs, and strong collaborations both locally and globally. What's next for measuring the success of a university? Social Impact. This is best measured against the United Nations Sustainable Development Goals as well community engagement and outreach, and [media mentions](#). This reinforces the need to continue aligning with the USask strategic plan goal of celebrating our stories as well generating new ones.

# What’s your impact? UN’s Sustainable Development Goals (SDGs)

In January 2016, the 17 [Sustainable Development Goals](#) came into effect. These goals intend to improve social, economic, and environmental problems through global partnerships. The success of the 2030 Agenda relies heavily on [Goal 17](#) to be interwoven with each SDG. Partnerships between government, private sector, not for profit, and Higher Education Institutions (HEI) are the key to having a global impact and achieving the 169 targets within the agenda. These 169 targets are measured by 232 indicators, [of which 44 are directly related to children](#). Some of these Child-specific topics include Disability, Health, HIV, Mental Health, Immunization, Migration, Mortality, Nutrition, Protection, and Education.

As a health professional who works with children you are already positively contributing to many of the 44 indicators of global child wellbeing. Beyond your practice, we have many examples of how the Department of Pediatrics and USask is also contributing:

[Target 3.3: reduce the number of new HIV infections](#). Dr. Ben Tan’s collaborative work with Early Pediatric Initiation Canada Child Cure Cohort helps shed light on SDG3 – Good Health and Well Being.

[Challenges to achieving and maintaining viral suppression among Canadian children living with perinatal HIV infection in the Early Pediatric Initiation Canada Child Cure Cohort](#).

[Target 10.7: Improving government migration policy](#). Dr. Mahli Brindamour’s advocacy efforts as a member of the [Canadian Paediatric Society’s](#) immigrant and refugee-health task force is already affecting SDG10 – Reduce Inequalities. [“What we can do for separated migrant children in the U.S.”](#)

[Target 1.4: Ensuring equal rights and access to basic services to end poverty](#). Dr. Ron Siemen’s [Project Frango](#) aims to improve family incomes and ensure equal economic rights to family owned chicken farms through community oversight of proper financial management thereby contributing to SDG – End Poverty.

[Target 5.A: Equal rights for women](#). Dr. Ron Siemen’s [Project Frango](#) improves gender equality and empowers women and girls by providing the training, support, and financial resources to become independent income earners and to make educated nutritional choices for themselves and their families supporting the goal of SDG – Gender Equality. Dr. Siemen and collaborators from USask’s project, [Alert Community to prepared hospital continuum of care](#), encapsulates multiple Targets in SDG5 and SDG3. This project aims to decrease maternal and neonatal death rates in the Natikiri District of Nampula, Mozambique by developing a sustainable home-to-hospital care continuum integrated into the existing system. There are many more examples than these of how you are all presently achieving the SDG goals. As a global citizen it is important that you contribute, but it is also important to acknowledge how you are doing so.

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How you are contributing to SDG Impact - Examples	
<b>Presenting/Attending</b> -a Grand Rounds presentation on Climate Change -at USask’s <a href="#">3rd Annual People Around the World (PAW 2020) Conference</a> -at USask’s Visiting Professor <a href="#">Global Conversations</a>	✓
<b>Partnering with an NGO</b> (Heart and Stroke, Diabetes Canada, Lung Association, Cancer Society, Arthritis society, AIDs Saskatoon, OUT Saskatoon, <a href="#">International NGOs</a> ) -by applying for one of their funding opportunities -by offering your voice to improve advocacy efforts -by taking part in their initiatives that foster community outreach	✓
<b>Building Synergistic Relationships with the Private Sector</b> -by partnering in clinical trials -by applying for funding opportunities -by accessing their innovative technologies	✓
<b>Collaborating with other HEI’s</b> -By participating as a CO-PI/ Collaborator on a national and/or International research study -through membership on National/International consortiums and committees	✓
<b>Mobilizing Policy</b> -by turning the QI project into policy by reaching out to government -by sitting on interdisciplinary working groups to improve health systems	✓

## Coming Events for 2020

- Jan 9**      [Pediatric Grand Rounds](#) – Dr. Thierry Lacaze
- Jan 15**    [Patients Partnering in Grant Writing - Webinar](#)
- Jan 16**    [Pediatric Grand Rounds](#) Ms. Moody and Ms. VanDusen
- Jan 23**    [Pediatric Grand Rounds](#) – Dr. Adam Kirton
- Jan 23**    [SPOR Module Training \(Saskatoon\)](#)
- Feb 5**      Department of Surgery Indigenous Health Networking Lunch – [RSVP](#) to present or attend by Jan 29
- Feb 6-7**    [People Around the World Conference](#)
- Feb 7**      [Balance & Belonging Speaker Series](#)- Dr. Stryker Calvez
- Mar 6**      [Balance and Belonging Speaker Series](#)- Dr. Imogen Coe
- March 11-12**    Neuroscience Research Symposium - [Abstracts submitted by Jan 17](#)
- March 24-26**    [Gathering for miyomahcihowin and miyoo naa kaa twayh ta mihk](#)
- April 2**      **SAVE THE DATE** – Child Health Research Trainee Day

...SDG's continued from page 3

USask and other HEI's are measuring SDG impact as part of Times Higher Education (THE), world university ranking system. The SDG impact for USask is measured through your contributions to publications, presentations, education, grants, UnivRS profiles, and knowledge mobilization activities. Because the 2030 agenda is a global priority, aligning your research with SDGs will increase your funding, publishing, and presentation opportunities. Therefore, it is important to identify your research's contribution to SDGs by using SDGs-related keywords when submitting papers to journals and conferences.

Special Thanks to [Meghna Ramaswamy](#) - Director, International Research and Leila Tang International Research Specialist for their contributions to this article. To learn more about SDG's and how you can get more involved please contact [Leila](#).

For more information about Research and SDGs please read: [Interdisciplinary Research Teams for the Sustainable Development Goals](#), co-authored by Meghna Ramaswamy and Darcy D. Marciniuk.



### 3 steps to making impact at work!

For more check out



1. Bike, walk or take public transport to work. Save the car trips for when you've got a big group.
2. Mentor young people. It's a thoughtful, inspiring and a powerful way to guide someone towards a better future.
3. Organize a No Impact Week at work. Learn to live more sustainably for at least a week: [un.org/sustainabledevelopment/be-the-change](https://un.org/sustainabledevelopment/be-the-change).

## Holiday Reading: Checkout some of the department's publications from 2019!

Do we need a new classification of juvenile idiopathic arthritis? **Real-World Effectiveness of Common Treatment Strategies for Juvenile Idiopathic Arthritis: Results from a Canadian Cohort.** Identification of Novel Adenosine Deaminase 2 Gene Variants and Varied Clinical Phenotype in Pediatric Vasculitis. Patterns of joint involvement in juvenile idiopathic arthritis and prediction of disease course: A prospective study with multilayer non-negative matrix factorization. **Children with Enthesitis Have Worse Quality of Life, Function, and Pain, Irrespective of their Juvenile Arthritis Category.** Predicting Which Children with Juvenile Idiopathic Arthritis Will Not Attain Early Remission with Conventional Treatment: Results from the ReACCh-Out Cohort. **Clinical presentation, immunologic features, and hematopoietic stem cell transplant outcomes for IKKB immune deficiency.** Prospective Determination of the Incidence and Risk Factors of New-Onset Uveitis in Juvenile Idiopathic Arthritis: The Research in Arthritis in Canadian Children Emphasizing Outcomes Cohort. **Correction to: Impact of intensive care unit supportive care on the physiology of Ebola virus disease in a universally lethal non-human primate model.** Thoracic electrical impedance tomography to minimize right heart strain following cardiac arrest. **Optic Nerve Sheath Diameter for Preterm Infants: A Pilot Study.** Pediatric early warning score and deteriorating ward patients on high-flow therapy. Pulmonary Thromboses in Pediatric Acute Respiratory Distress Syndrome. **Strategies and Challenges in Method Development and Validation for the Absolute Quantification of Endogenous Biomarker Metabolites Using Liquid Chromatography-Tandem Mass Spectrometry Position Statement on the Use of Medical Cannabis for the Treatment of Epilepsy in Canada.** **Neonatal seizures: diagnosis and management.** **Are Ketamine Infusions a Viable Therapeutic Option for Refractory Neonatal Seizures?** Dosage Related Efficacy and Tolerability of Cannabidiol in Children With Treatment-Resistant Epileptic Encephalopathy: Preliminary Results of the CARE-E Study. **Implementation and Evaluation of a Diabetic Ketoacidosis Order Set in Pediatric Type 1 Diabetes at a Tertiary Care Hospital: A Quality-Improvement Initiative.** Utilizing Pediatric Scoring Systems to Predict Disposition During Interfacility Transport. **Characteristics and short-term outcomes of neonates with mild hypoxic-ischemic encephalopathy treated with hypothermia.** **Comments on "Perioperative glucocorticoid stress dosing: a survey of anesthesiologists and general internists".** Reanalysing genomic data by normalized coverage values uncovers CNVs in bone marrow failure gene panels. **Challenges to achieving and maintaining viral suppression among Canadian children living with perinatal HIV infection in the Early Pediatric Initiation Canada Child Cure Cohort.** **Genomics of Early Cardiac Dysfunction and Mortality in Obese *Drosophila melanogaster*.** Non-invasive assessment of aortic stiffness and blood pressure in young Turner syndrome patients. **Cardiovascular Magnetic Resonance Provides Evidence of Abnormal Myocardial Strain and Primary Cardiomyopathy in Marfan syndrome.** **Health-Related Quality of Life in Children and Young Adults with Marfan Syndrome.** A Simulation Study to Assess the Effect of Analytic Error on Neonatal Glucose Measurements Using the Canadian Pediatric Society Position Statement Action Thresholds. **Seizure freedom improves health-related quality of life after epilepsy surgery in children.** Perioperative care of congenital adrenal hyperplasia - a disparity of physician practices in Canada. **Single-center experience with Beta-propeller protein-associated neurodegeneration (BPAN); expanding the phenotypic spectrum.** **Managing pain and distress in children undergoing brief diagnostic and therapeutic procedures.** **Partnering For Pain: a Priority Setting Partnership to identify patient-oriented research priorities for pediatric chronic pain in Canada.**

## Holiday Giving!

**Support research by supporting these great funders – Take part in fundraising events and/or donate**  
**The Children's Health Research Trust Fund** **Jim Pattison Children's Hospital Foundation** **USask Research Funds** **Breath**  
**The Lung Association** **Diabetes Canada** **Arthritis Society** **LupusSk**

The Children's Health Research Trust Fund (CHRTF) was established in 1983 to help raise funds to support child health research at the University of Saskatchewan. As all donated funds are endowed, the CHRTF has continued to grow to become an important part in helping advance research in the Department of Pediatrics. For further information about the CHRTF and to donate:

<https://donate.usask.ca/online/chrtf.php>



### Our Partners:

The Jim Pattison Children's Hospital has historically provided strong support for child health research in Saskatchewan. The recent \$50 million donation from Jim Pattison allows for a steady stream of revenue to help meet research and programming needs for generations to come. Groundbreaking opportunities for pediatric researchers in Saskatchewan are on the horizon!



### Contact us

For more information about The Department of Pediatrics Research, SPRING, or to contribute content to the Department of Pediatrics Research Report, please contact: Tova Dybvig Department of Pediatrics Royal University Hospital 103 Hospital Drive Saskatoon, SK Canada S7N 0W8 Phone: 306-844-1229 Email: Tova.dybvig@usask.ca