Pediatric Hematology & Oncology Research at USask: Building a Landscape for a Brighter Future

The Division of Pediatric Hematology/Oncology at the University of Saskatchewan are a group of dedicated clinicians and researchers striving to improve the lives of young patients facing cancer and blood disorders in Saskatchewan. Their diverse array of research areas encompasses therapeutic trials, pharmacogenomics, registry studies, and a deep focus on specific subfields. **Dr. Katie Felton** is a pediatric hematologist oncologist who joined the University of Saskatchewan faculty in September 2019. She completed her Bachelor of Science degree at Simon Fraser University, followed by a Master of Science degree in Medical Genetics at the University of Alberta. She received her medical school certification from the Cummings School of Medicine, University of Calgary. This was followed by a pediatrics residency at the University of Saskatchewan and sub-specialty residency training in pediatric hematology/oncology at the University of Alberta. Each member of the team brings their unique interests to the table. Dr. Felton focuses on neuro-oncology, collaborating with the Canadian Pediatric Neuro-Oncology Network, while exploring cancer predisposition.

**Dr. Paul D’Alessandro** is a pediatric oncologist hematologist who joined the University of Saskatchewan faculty in April 2023. He completed a Bachelor of Science in Life Sciences from Queen's University in Kingston, Ontario followed by a Master of Science degree in Immunology from the University of Oxford. He received his medical degree from Dalhousie University in Halifax, Nova Scotia. After three years of general surgery training at University of British Columbia, he transferred into and completed a pediatrics residency and a subsequent fellowship in pediatric hematology/oncology. Prior to joining USask he completed a clinical fellowship in the Division of Oncology at Cincinnati Children's Hospital with a focus on adolescent/young adult oncology and solid tumors. Dr. D’Alessandro is interested in fertility preservation, aiming to bring female fertility options to Saskatchewan. His interests also include adolescent/young adult oncology, solid tumors, early phase trials and medical humanities/patient narratives.

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Since January 2022, Dr. Saima Alvi has joined the Jim Pattison Children’s Hospital as a Pediatric Hematologist/Oncologist. Dr. Saima Alvi received her undergraduate and post graduate training in pediatrics and fellowship in pediatric Hematology/Oncology in Pakistan. Dr. Alvi completed a clinical fellowship in Pediatric Hematology/Oncology and Bone Marrow Transplant from BC Children’s Hospital. This was followed by joining The Hospital for Sick Children Toronto, in Hematology/Oncology/ Bone Marrow Transplant that further enhanced her expertise in this field. Dr. Alvi then moved to Saskatchewan and worked with Pediatric Oncology at Saskatchewan Cancer Agency for five years. Dr. Alvi leads the Precision Oncology for Young People (PROFYLE) collaboration, a nationwide initiative for universal sequencing that can revolutionize the treatment of relapse and difficult-to-treat cancers. Some of her research interests include Childhood Cancer Survivorship and Late Effects, Quality Improvement Projects in Pediatric Hematology/Oncology, and Supportive Care in Pediatric Oncology. Dr. Georgina Martin joined the USask Hematology/Oncology team in Sept 2021. She received her Bachelor of Science from McGill University. She then went on to complete her medical degree from UBC. She completed her pediatric residency at USask in 2018 followed by a pediatric Hematology/Oncology subspecialty residency at Alberta Children’s Hospital. Dr. Martin’s current research interests include exploring pancytopenia rates in congenital syphilis. Dr. Bilal Marwa joined the USask Hematology/Oncology team in 2023. He completed his pediatric residency at the Mayo Clinic. He then completed a Pediatric Hematology/Oncology subspecialty residency at Dalhousie University. Dr. Marwa is a member of the Canadian Sarcoma Network. Dr. Sarah Tehseen has been at USask in the Department of Pathology and Laboratory Medicine since 2018. She received her MBBS from Aga Khan University, Karachi Pakistan. Her Pediatric Residency was at the Children’s Hospital of Michigan. She completed her Pediatric Hematology/Oncology fellowship at Aflac Cancer and Blood Disorders Center/Emory University Atlanta USA. She also completed her Master of Science in Clinical Research at Emory University Laney Graduate school. She went on to do a Transfusion Medicine Fellowship at the Blood Center of Wisconsin/The Medical College of Wisconsin. Finally, Dr. Roona Sinha the most senior member of the team is a pediatric hematologist oncologist who joined the USask in January 2012. She completed her undergraduate and medical school studies at the University of Ottawa. This was followed by a pediatrics residency at the University of Alberta and then fellowship training in pediatric hematology oncology at the University of British Columbia. She also has a Master of Health Professions Education from Maastricht University in the Netherlands. Drs. Tehseen and Sinha are heavily involved in hematology education projects, enhancing resources for patients and families navigating the complex care of sickle cell disease. The overarching goal shared by Dr. Felton, her colleagues and the field of pediatric oncology is to cure all children with cancer. Over the past half-century, substantial progress has been achieved, with leukemia therapy success rates skyrocketing from a mere 10-20% to over 90% in most cases. Yet, the journey is far from over.

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The team is dedicated to not only increasing cure rates but also minimizing the toxicities associated with therapy. The division participate in therapeutic trials through the Children’s Oncology Group (COG) and SickKids. Their involvement ensures that children in Saskatchewan have access to the latest treatments, providing hope for improved outcomes and, in some cases, the potential for a cure. Through their collaboration with BC Children’s Hospital, Dr. Felton and her colleagues investigate patient-specific risks associated with chemotherapy, allowing them to counsel patients and families about potential side effects. This personalized approach empowers physicians to make informed decisions, ultimately reducing the risks of heart disease, hearing loss, or myelosuppression related to therapy. The team conducts various registry studies and biobanking initiatives, such as Project Every Child, renal biology, neuroblastoma biology, and the bone marrow failure registry. These efforts not only support current research but also lay the groundwork for future investigations, offering hope for the next best treatment options. This work primarily benefits the children and their families. The pediatric oncology and hematology staff offer hope for improved outcomes and a better quality of life, either through therapeutic options or prolonged palliative care. Furthermore, the opportunity for every child with cancer to contribute to a COG biobank ensures that future research may unveil the next breakthrough treatment. The team’s contributions extend beyond individual cases, enriching the collective knowledge in pediatric hematology/oncology. By sharing their experiences and data, they enhance the care provided to patients and families, benefiting communities and healthcare systems at regional, national, and international levels.

Through participation in therapeutic trials, pharmacogenomics projects, and a broad spectrum of registry studies, they provide hope, better outcomes, and a brighter future for young patients and their families living in Saskatchewan.

Continued on pg. 3…
Congratulations to the winners of the Undergraduate Research Showcase:

1st Place in the ‘Pediatrics Group’ category awarded to Indiana Best for presenting “UTI Diagnostic Criteria and Antimicrobial Use in Neonates in NICU”
Supervisor: Drs. Rupeena Purewal and Asma Nosherwan

2nd Place in the ‘Pediatrics Group’ category awarded to Monica Ouellet for presenting “Best Practice for Transition from Pediatric Complex Pain Care: A Scoping Review”
Supervisor: Dr. Krista Baerg
Measuring Research Success, a Snapshot of 2023

It has been an exciting year of growth for research in the Department of Pediatrics. 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 2019 to 2023. The report measured internal and external funding, number of awards, and publications. Using data from the OVDR research productivity report and SciVal (output and usage data from Scopus, the world’s largest abstract and citation database for peer-reviewed publications.), the department was able to provide an overview of Research Funding, Publications and Citations, Collaborations, and Interdisciplinary research.

<table>
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<tr>
<th>Funding Source Category</th>
<th>Fiscal Year 2020/2021</th>
<th>Fiscal Year 2021/2022</th>
<th>Fiscal Year 2022/2023</th>
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<td>Non Tri-Agency</td>
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<td>Tri-Agency</td>
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<td>$1,150,721</td>
<td>$1,821,223</td>
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Research Funding & Awards

In the 2022/2023 fiscal year, Department of Pediatrics researchers were awarded a total of $1,821,223. Tri-Agency funding has increased from $103,473 to $981,819 from 2020/2021 fiscal year to 2022/2023 fiscal year. Department of Pediatrics researchers have seen steady increases in the total number of awards received, from 29 in 2020/2021 to 34 in 2022/2023 (Figure 4.2 from the OVDR Research Productivity Report) The number of unique faculty award recipients has increased as well, with 16 individual awardees in 2022/2023.

Publications and Citations

The OVDR productivity report also measured the number of publications per department, per year. The Department of Pediatrics has seen general increases in annual publication counts since 2017 with a peak in 2018 (Figure 4.3 from the OVDR Research Productivity Report). Citations continue to grow year after year with 2,192 citations in 2022. To further explore this metric, the Department of Pediatrics faculty list was uploaded into SciVal.

As the number of publications increased in the department it was exciting to note that the field weighted citation impact is increased yearly and that 30 of these publications authored by faculty of the Department of Pediatrics are among the Top 10% most cited publications worldwide. This refers to the number of publications by a selected journal that are highly cited. This has increased from last year.
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 11.8% represented University of Saskatchewan collaboration, 49.4% represented national collaboration, and 37.2% represented International collaboration. The top ten collaborating institutes include partnerships across Canada.

What’s next? The department continues to strive for excellence both in academic and societal impact. Many faculty in the department have advocated for the children of Saskatchewan by using their voice to speak out on improved public health measures that directly impact the wellbeing of children and their families.

Congratulations to 2023 CoMRAD Awardees from Department of Pediatrics. (check out full list here)

Congratulations to Dr. Alan Rosenberg and his team on being awarded a 2023 College of Medicine Research Awards (CoMRAD) for the study, “Demystifying the Etiopathogenesis of Juvenile Idiopathic Arthritis by Applying Quantum Computing to Analyze Antinuclear Antibodies”. The CoMRAD provides seed funding (up to $30,000) for novel pilot and/or feasibility studies that will facilitate future applications to provincial, national, and global funding opportunities.
## Coming Events

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
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<tbody>
<tr>
<td>Dec 14</td>
<td><strong>Pediatric Grand Rounds</strong>: Dr. Sarah Tehseen</td>
</tr>
<tr>
<td>Jan 11</td>
<td><strong>Pediatric Grand Rounds</strong>: Dr. Aviva Goldberg – Organ Donation</td>
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<tr>
<td>Jan 18</td>
<td><strong>Pediatric Grand Rounds</strong>: Dr. Elaine Wirrell - Lowry Inaugural Lecture</td>
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<td>Jan 25</td>
<td><strong>Pediatric Grand Rounds</strong>: Dr. Todd Alexander</td>
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<td>Feb 1</td>
<td><strong>Pediatric Grand Rounds</strong>: Dr. Roona Sinha</td>
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<td>Feb 8</td>
<td><strong>Pediatric Grand Rounds</strong>: Dr. Janette Mailo</td>
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<tr>
<td>Feb 10</td>
<td><strong>Pediatric Grand Rounds</strong>: Mark Palmert - Type 1 and 2 diabetes, transgender adolescents, and optimizing the use of resources and diagnostic tests within the endocrine clinics.</td>
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Check out **Dr. Wendie Marks** on the recent episode of Researchers Under the Scope.

University of Saskatchewan, College of Medicine Office of Vice-Dean of Research

**Dr. Wendie Marks: Researching Complex Connections Between Stress, Nutrition & Health**

By the end of her Grade Eight year in Saskatoon, Wendie Marks was sure about one thing: she knew she wanted to study health and the way early-life development affected the human body.

“I was always kind of the nerdy type.”

Save the Date: Child Health Research Trainee Day

**Department of Pediatrics**

**Virtual Child Health Research Trainee Day**

Please join us on Thursday April 18th, 2024, for this research symposium featuring presentations from residents, graduate students, post-doctoral fellows, and undergraduate students engaged in child health research at USask.

**Abstracts Due Monday April 1, 2024**

**For questions and/or submissions please email them to Tova.dybvig@usask.ca**
2021 Oct – Dec Publications


- Paul R D’Alessandro, MD MSc FRCP, and others. Effect of distance to tertiary centre on enrolment of paediatric patients with relapsed or refractory cancer on early phase clinical trials in British Columbia, Paediatrics & Child Health, 2023.; pxad044, https://doi.org/10.1093/pxad/pxad044

Measuring Research Success, a Snapshot of 2023

Congratulations to Dr. Mehul Jariwala on his contributions towards the updated version of pediatric rheumatology resident guide, 5th Ed. His contribution was part of the vasculitis chapter. The guide is endorsed by CRA (Canadian Rheumatology Association).

This guide was created in 2011 and has been updated by pediatric rheumatologists from across Canada. This educational resource was intended for medical students, residents and fellows who are not specializing in pediatric rheumatology but is often helpful for trainees in rheumatology too. It covers key topics in pediatric rheumatology, including the pediatric rheumatology assessment, differential diagnoses for common presenting complaints, and brief reviews of the clinical presentation, investigations and management of many childhood rheumatic disease. Changes to this fifth edition include the addition of integrated online links to images and videos, as well as descriptions of newer diseases and medications (such as biosimilars). [https://rheum.ca/education/educational-resources/](https://rheum.ca/education/educational-resources/)

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](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: Monika Polewicz
Department of Pediatrics Email: Monika.Polewicz@usask.ca