

Department of Pediatrics Research Report



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View the online
version of the
Research Report!



From the Vice-Dean Research Office in the College of Medicine: Facing Challenges and Opportunities

Dr. Marek Radomski

A few days following my recruitment to the University of Saskatchewan from the University of Dublin Trinity College in Ireland, I had the pleasure and privilege to be present during The Department of Pediatrics, Child Health Research Trainee Day. This was a really great day and I was impressed by the dedication, enthusiasm, and professionalism of residents and students working on child research.

I would like to share with you some thoughts from the perspective of leading for 4 months the Vice Dean Research Office (VDRO).

As often happens in the cycle of academic life, the University of Saskatchewan and the College of Medicine (CoM) are facing a time of challenges and opportunities.

A transition conceptually supporting engagement of physicians in teaching and research missions of CoM, as well as the forthcoming merger of biomedical departments into two strong units, offers unique opportunities for research interactions between clinicians and biomedical scientists.

The funding of our research activities remains the main challenge. The trials and tribulations of CIHR reviewing and a very low provincial budget in Saskatchewan hardly facilitate competitive and innovative research.

In the VDR Office we recognize this challenge and we have moved to increase funding opportunities for the College of Medicine with competitive granting schemes such as the College of Medicine Research Awards (CoMRAD), which funded 28 projects to the tune of \$693,691. Of note approximately 40% of this funding was awarded to support research of early career researchers.

In addition to CoMRAD, we will be shortly announcing the College of Medicine Graduate studies Awards (CoMGRAD) to support our graduate students. The main objective of CoMRAD and CoMGRAD is to increase the competitiveness of our faculty and graduate students in Tri-Agency competitions.

The VDRO is also spearheading the forthcoming external review of research in the College of Medicine. The site visit will take place at the end of October and will allow reviewing the Strengths, Weaknesses, Opportunities and Threats facing our research in the CoM.

We hope that the external review, in conjunction with the preparation of the Strategic Plan 2017-2022, will provide an impetus and facilitate much needed investment in novel and competitive research in the CoM.

Dr. Marek Radomski is the Vice Dean-Research, College of Medicine



Image of Interest

Dr. Shelley Spurr (RN), Dr. Jill Bally (RN), Dr. Carol Bullin (RN) from the College of Nursing, and Dr. Shahab Khan (ophthalmologist) are currently investigating the possibility of using a portable fundus camera (Optovue) as a novel approach for convenient, earlier, and more accessible vision screening and referral for patients and families living in northern and remote communities in Saskatchewan. This mobile state-of-the-art technology platform allows for quick vision screening and can be used by registered nurses to screen for visual changes related to diabetes. The data can be saved and any images of concern can be securely emailed to the off-site ophthalmologist for further investigation. This project will investigate the usefulness of nurse-led fundus photography as a tool to improve the accessibility and affordability of vision care for all people living in northern Saskatchewan. The nurses captured this image during an examination of the eye using the fundus camera in a northern community in Saskatchewan.

Submitted by Dr. Jill Bally, Assistant Professor, College of Nursing

The Clinical Trial Support Unit in the College of Medicine

Scott Corley

There are many administrative and regulatory hurdles that researchers need to overcome to successfully carry out their research. These hurdles include negotiating contracts and budgets, obtaining approval from the Research Ethics Board, adhering to Tri-Agency guidelines for ethical conduct of research, and for clinical trials, complying with Health Canada regulations.



The Clinical Trial Support Unit (CTSU) was created to help researchers navigate this maze of administrative and regulatory requirements and to help them conduct their research as efficiently as possible while maintaining regulatory compliance. Although the CTSU's title emphasizes clinical trials, the CTSU helps researchers with all kinds of clinical research.

When a researcher comes to the CTSU with a new study, the first order of business is usually to prepare and submit the application for ethical approval to the Research Ethics Board (REB). Preparing the ethics submission includes completing the application and tailoring

the consent form to meet the requirements of the U of S REB. At the same time, if there is a contract involved, negotiations with the study sponsor are begun to make sure the contract includes appropriate protections for the researcher and the university. For example, it is important the researcher and the university are protected against liability risks and the researcher's rights to publish study results are preserved.

If the study involves a budget with a sponsor, negotiation of the budget begins soon after the ethics application has been submitted. Every effort is made to ensure the researcher's costs will be fully covered by the sponsor. Also, if the research will involve the Saskatoon Health Region (SHR), the necessary approvals are obtained and arrangements are made with the applicable SHR departments.

If the researcher is initiating a clinical trial, it is important to comply with the Food and Drug Regulations. Often it will be necessary to obtain approval for the trial from Health Canada by submitting a Clinical Trial Application (CTA). Health Canada indicates its approval by issuing a No Objection Letter (NOL). CTSU personnel have considerable experience completing CTAs. A CTA can be a sizable undertaking.

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Featured Child Health Researcher

Dr. Lannae Strueby

Dr. Lannae Strueby joined the Division of Neonatal-Perinatal Medicine, Department of Pediatrics, at the University of Saskatchewan in 2014. She is originally from Saskatoon, and completed her BSc in Biochemistry, as well as her MD and Pediatric Residency at the University of Saskatchewan. She then went on to complete her Neonatal-Perinatal Medicine Fellowship and Master of Science in Physiology at the University of Alberta. She is involved in both translational and clinical research projects primarily focusing on respiratory illnesses affecting preterm infants. She is also a member of the Prairie Neonatal Research Network aimed at promoting collaboration between the prairie neonatal units on quality improvement and research projects.



One primary area of focus for Dr. Strueby's research is investigation of potential future therapies to prevent or treat bronchopulmonary dysplasia (BPD). BPD, also known as the chronic lung disease of prematurity, is a frequent complication occurring in infants born extremely premature. The pathogenesis of BPD is multifactorial with

inflammation, supplemental oxygen, and mechanical ventilation being identified as key contributors in the disease process. BPD is not just a disease of infancy; it is associated with long-term health consequences including cerebral palsy, cognitive delay, and pulmonary hypertension. Despite the frequency and significance of BPD, current therapies offer limited benefit or have potentially unacceptable side effects. Novel therapies are required to reduce the impact of this disease on the vulnerable preterm population.

Stem cells, specifically mesenchymal stromal cells (MSCs), represent a promising new approach to treating BPD. MSCs are multipotent stem cells that can be obtained from a variety of locations, including the readily available umbilical cord. Dr. Strueby's translational research investigates the potential of MSC-derived therapies to prevent lung injury in a neonatal mouse model of BPD. Her interest in this topic was sparked by Dr. Bernard Thébaud, a senior scientist in regenerative medicine at the Ottawa Hospital Research Institute and Neonatologist at the Children's Hospital of Eastern Ontario. Dr. Strueby completed her MSc project under Dr. Thébaud's supervision and has continued to collaborate with him, and his research team in Ottawa. Together they investigate the therapeutic potential of MSC-derived therapies, including cell-free MSC conditioned media and its individual

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Our Partners: The College of Medicine

The College of Medicine at the University of Saskatchewan has been a generous supporter of child health research in the Department of Pediatrics, and other Departments within the College. The College of Medicine Research Award (CoMRAD), was piloted last year with the intent of supporting research in The College of Medicine. The CoMRAD is meant to provide scoping or pilot funding for novel and innovative research.



**UNIVERSITY OF
SASKATCHEWAN**
College of Medicine

Clinical Investigator Program (CIP) for Residents

The CIP at the University of Saskatchewan is available to residents enrolled in a Royal College accredited residency program who have interest and potential for a career as a clinician investigator or clinician scientist. CIP offers two streams: A Graduate stream for participants enrolled in a graduate (M.Sc. or Ph.D.) program, and a Postdoctoral Stream for residents who already hold a Ph.D. and are interested in undertaking a structured research program. For further information about CIP, please contact Dr. Alan Rosenberg, alan.rosenberg@usask.ca.

Analysis of Health Care Gaps for Newcomers to Canada with Regards to Pediatric Emergency Department Visits

Katelyn Postnikoff

Newcomers to Canada may, due to a number of reasons, use emergency services more often than population statistics would predict. Our study at the Royal University Hospital (RUH) Pediatric Emergency Department (PED) tested this hypothesis.

For the purposes of the study, 'newcomer' was defined as anyone having lived in Canada 5 or fewer years.

Our primary objectives were as follows:

1. To evaluate newcomers' knowledge of, usage of, and satisfaction with Saskatoon health and settlement services; and
2. To provide recommendations for how newcomers' knowledge of, usage of, and satisfaction with health and settlement services may be improved.

A pre-study survey from March 1-April 30, 2016 found that 9.8% of the visitors to the RUH PED were newcomers to Canada.



In comparison, we calculated the percentage of newcomers in the Saskatoon population to be 6.71%, using the 2011 National Household Survey data for immigrants and non-permanent residents.

Subsequently, we interviewed 25 newcomer families that presented to the RUH PED regarding their knowledge of, usage of, and satisfaction with Saskatoon health and settlement services. The majority (64%, n=16) of participants presented with a low severity problem (Canadian Triage Acuity Score 4 or 5). At least 80% were aware of and had used emergency department, walk-in clinic, and family physician services. Awareness of and usage of the HealthLine (811) was relatively low - 16 families had heard about it and 6 had used it. Satisfaction rates were high for the emergency department, family doctor, and HealthLine, but low for walk-in clinics. Comments from participants indicated that the main reason for being less than 'highly satisfied' with family physicians and walk-in clinics was having to wait too long to see the doctor. Highest usage frequency (5 or more times per year) was of family physician services and walk-in clinics, not the emergency department. However, the emergency department was the

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Coming Events

SEPT

**FRI
30**

Children's Hospital Foundation Grant -Letter of Intent Deadline
<https://childrenshospitalsask.ca/grants-forms/>

SEPT

**FRI
30**

SHRF Collaborative Innovation Development Grant-Letter of Intent Deadline
<https://childrenshospitalsask.ca/grants-forms/>

OCT

**THU
6**

Developmental Disabilities and Those New to Canada
Dr. Ghita Wiebe
Pediatric Grand Rounds
11am-12pm
East Lecture Theatre RUH

OCT

**THU
13**

TBA
Dr. Charissa Pockett
Pediatric Grand Rounds
11am-12pm
East Lecture Theatre RUH

OCT

**THU
20**

TBA
TBA
Pediatric Grand Rounds
11am-12pm
East Lecture Theatre RUH

OCT

**THU
27**

TBA
TBA
Pediatric Grand Rounds
11am-12pm
East Lecture Theatre RUH

NOV

**THU
3**

TBA
Dr. Evelyn Rozenblyum
Pediatric Grand Rounds
11am-12pm
East Lecture Theatre RUH

NOV

**THU
10**

TBA
Dr. Nazeem Muhajarine
Pediatric Grand Rounds
11am-12pm
East Lecture Theatre RUH

NOV

**THU
17**

Maternal Mental Health: What is Happening in Saskatchewan?
Dr. Angela Bowen
Pediatric Grand Rounds
11am-12pm
East Lecture Theatre RUH

NOV

**THU
24**

Gestational Diabetes and the Evolution of Type 2 Diabetes Among Saskatchewan First Nations Peoples
Roland Dyck
Pediatric Grand Rounds
11am-12pm
East Lecture Theatre RUH

Recent Publications & Presentations from U of S Child Health Researchers

- Adamko DJ, Saude E, Bear M, Regush S, Robinson JL Urine metabolomic profiling of children with respiratory tract infections in the emergency department: a pilot study BMC Infectious Diseases. 2016;16:439
- Cui A, Quon G, Rosenberg AM, Yeung RS, Morris Q; BBOP Study Consortium. Gene Expression Deconvolution for Uncovering Molecular Signatures in Response to Therapy in Juvenile Idiopathic Arthritis. PLoS One. 2016;11:e0156055.
- Graham BR, Shiff N, Nour M, Hasal S, Huntsman R, Almubarak S. Hashimoto encephalopathy presenting with stroke-like episodes in an adolescent female: A case report and literature review. Pediatr Neurol. 2016;59:62-70.
- Hoover J, Vatanparast H, Uswak G. Risk determinants of dental caries and oral hygiene status in 3-15 year-old recent immigrant and refugee children in Saskatchewan, Canada: A pilot study. J Immigr Minor Health. 2016; Epub ahead of print.
- Inman M, Daneman D, Curtis J, Sochett E, Clarke A, Dunger DB, Deanfield J, Mahmud FH. Social determinants of health are associated with modifiable risk factors for cardiovascular disease and vascular function in pediatric type 1 diabetes. J Pediatr. 2016; Epub ahead of print.
- Le H, Engler-Stringer R, Muhajarine N. Walkable home neighbourhood food environment and children's overweight and obesity: Proximity, density or price? Can J Public Health. 2016;107:5347.
- Mehtar M. Paediatric school-based clinics in Saskatoon: Providing equitable access to paediatric care. Paediatr Child Health. 2016;21:249-51.
- Saban JA, Zappitelli M, Samuel SM, Sood MM, Alexander RT, Arora S, Erickson RL, Kroeker K, Manns BJ, Dart AB. Perceptions of pediatric nephrologists regarding timing of dialysis initiation in children in Canada. Can J Kidney Health Dis. 2016;3:31.
- Spurr S, Bally J, Trinder K, Williamson L. A multidimensional investigation into the predictors of physical activity in Canadian adolescents. J Holist Nurs. 2016; Epub ahead of print.
- Strueby L, Thébaud B. Mesenchymal stromal cell-based therapies for chronic lung disease of prematurity. Am J Perinatol. 2016;33:1043-9.
- Yasinski C, Hayes AM, Ready CB, Cummings JA, Berman IS, McCauley T, Webb C, Deblinger E. In-session caregiver behavior predicts symptom change in youth receiving trauma-focused cognitive behavioral therapy (TF-CBT). J Consult Clin Psychol. 2016; Epub ahead of print.

The CTSU can assist the researcher in managing the data for the study. Data management services include help with case report form design, setup of REDCap clinical data management systems, and creation of data management and monitoring plans.

The CTSU has experienced clinical research nurses who are available to work on studies. The CTSU's research nurses are well-versed in carrying out the day-to-day activities of a clinical study while maintaining regulatory compliance.

With the exception of contract negotiation, the CTSU charges a fee for its services. For industry-sponsored research, it is usually possible to have the fees fully covered in the budget negotiated with the sponsor. Non-industry research typically has tighter budgets, so for these studies, the CTSU offers reduced rates. Contract negotiation services are offered free-of-charge regardless of whether the researcher chooses to use the CTSU's other services.

For more information, researchers can contact the CTSU's director, Scott Corley, at scott.corley@usask.ca or 306-978-8304.

Scott Corley is the Director of the Clinical Trial Support Unit, College of Medicine, University of Saskatchewan

Dr. Lannae Strueby

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components such as exosomes. The potential of these therapies is examined, in part, by analyzing the effect their administration has on the lung vasculature and alveoli of neonatal mice exposed to inflammation, supplemental oxygen, and mechanical ventilation. Early results indicate that treatment with MSC conditioned media or exosomes attenuates lung injury in this multifactorial mouse model of BPD. Harnessing the potential beneficial effects of MSC-derived therapies may lead to the development of new therapies for BPD.

Dr. Lannae Strueby is a Neonatologist and Clinical Assistant Professor in the Dept of Pediatrics, University of Saskatchewan and Saskatoon Health Region

Research Project Opportunities

"Survey of Kawasaki Disease awareness among Saskatchewan physicians"

Study format: Survey

Contact: Dr. Alan Rosenberg, alan.rosenberg@usask.ca

"Relationship of ESR and CRP with inflammatory cytokine biomarkers"

Study format: Database analysis

Contact: Dr. Alan Rosenberg, alan.rosenberg@usask.ca

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:

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Next submission deadline is November 10th, 2016!

Online version of the newsletter:
www.medicine.usask.ca/pediatrics/research/newsletter



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alternate choice for three hypothetical pediatric medical scenarios in the case of untimely access to lower levels of care, and was the service of choice for 24% (n=6) of newcomers in the lowest severity scenario (CTAS 5). With regards to settlement services, the Open Door Society was best known and accessed, compared to the Newcomer Information Center and Global Gathering Place, but most users were highly satisfied with all of these services. When asked about Public Health Immunization and Child Health Clinics, 88% (n=22) said they knew about them, 60% (n=15) had been to one, and 93% (n=14) of users were highly satisfied with the service. Thirty-six percent of families (n=9) cited friends and relatives already living in Saskatoon as a key source of information about the local health system.

In summary, there is not a solitary, comprehensive service or website that newcomers access and are satisfied with that provides for all of their health needs. Each unique service must recognize their role, and do their part to ensure that newcomers have the necessary resources to understand, access, and receive optimal and appropriate health care.

Based on the results of the study and comments from interview participants, we recommend the following:

1. Health services provide newcomers with information about the health system and settlement services, such as the Newcomer Pamphlet Project.
2. Settlement services inform newcomers about the Health Line 811.
3. Provide more information to newcomers regarding Newcomer Information Center and the Global Gathering Place.
4. Walk-in and family physician clinics should review the availability of interpretation services at their sites.
5. Family doctors should review their scheduling process to ensure timely access for all clients who need to be seen the same day with issues that do not need the emergency room.

Supervisor: Dr. Ronald K. Siemens – Pediatric Emergency Medicine

Student Researcher: Katelyn Postnikoff – MD Candidate 2018

Student Co-Researcher: Anastasia Zello – MD Candidate 2018

Research Consultant: Cara Spencer Gress

Katelyn Postnikoff was the recipient of Dean's Summer Research Project funding through The College of Medicine, with Dr. Ron Siemens as her supervisor. The program is intended to foster a spark and ignite a passion for research in our medical students, facilitating an understanding of the vital role research plays in today's health care.

YOUR OPINION PLEASE!

We would appreciate your opinion about the Department of Pediatrics Research Report and suggestions for future editions.

Please complete a brief survey at:

<https://www.surveymonkey.com/s/NQVV6SB>.

Thank you!

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 partner in helping advance research in the Department of Pediatrics. For further information about the CHRTF: <http://www.medicine.usask.ca/pediatrics/research/CHRTF>. To **Donate** to the CHRTF: <http://give.usask.ca/online/chrtf.php>

