

# Department of Pediatrics Research Report

June 2024



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## Child Health Research Trainee Spotlight

In this issue we highlight the winners of the 2024 Child Health Research Trainee Day

### Nahin Shakurun (MSc-Community Health and Epidemiology) 1st Place Graduate Poster Category

Nahin Shakurun placed first in the Graduate Poster Category at the 2024 Child Health Research Trainee Day for her project titled, “Mood states of children and youth in Saskatchewan in the second year of COVID-19 pandemic: Insights from See Us, Hear Us 2.0 study”.

Nahin’s study aimed to examine the current mood states and associated factors in children and youths in Saskatchewan two years into the pandemic. Using data from a cross-sectional study of Saskatchewan children aged 8-18 years and their parents/caregivers the participants reported eight negative mood symptoms (“moderate” to “extreme”) according to the CRISIS scale ranging from 23-38%. Recognizing eight different dimensions of mental health symptoms in children and youth the findings underscore the importance of proactive mental health support, tailored interventions for specific age groups, gender identities,

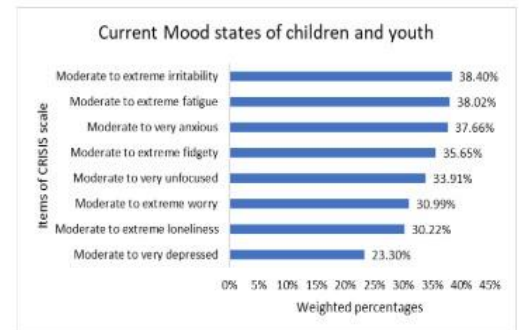


Figure 1: Current mood states of Children and youth

ethnicities and addressing the adverse effects of the pandemic-related disruptions on mental and well-being of school children in Saskatchewan.

### Megan Gallagher (Pediatric Resident)

#### 1st Place Resident Poster Category

Dr. Megan Gallagher placed first in the Resident Poster Category at the Child Health Research Trainee Day for her project titled, “Intermittent Pulse Oximetry Protocol in Bronchiolitis: A Quality Improvement Initiative”. She also was the top pediatric resident who participated in the National Pediatric Resident Research Competition. This

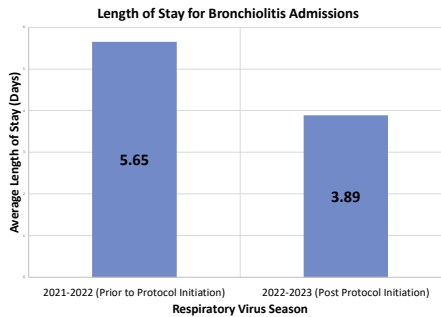
quality improvement initiative took place on the pediatrics inpatient ward at the Jim Pattison Children’s Hospital. It involved developing a protocol detailing oxygen support weaning guidelines for patients admitted with bronchiolitis, with the hope that when implemented safely, intermittent pulse oximetry may prove to be an important tool in shortening admission length. This protocol demonstrated a decrease in length of stay from the 2021-2022 season.

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Thanks to Dr. Darryl Adamko (Pictured handing out certificates to trainees) for moderating the 2024 Child Health Research Trainee Day

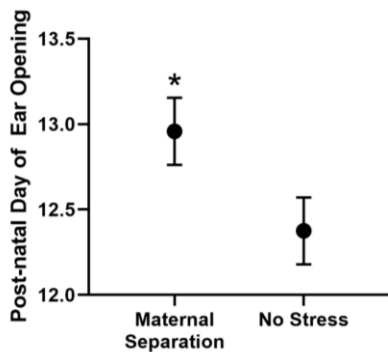
Trainee Research, continued from pg. 1

There was no increase in return visits to the emergency room at the Jim Pattison Children’s Hospital after discharge, which was used as a safety indicator for this new protocol. This protocol currently remains in use, and work is ongoing to expand this protocol to support respiratory therapy-initiated weaning of high flow nasal canula support.



**Khoi Tran (Undergraduate-Psychology)  
1st Place Undergraduate Category 1**

Khoi Tran placed first in the Undergraduate Category 1 at the Child Health Research Trainee Day for her project titled, “Examining The Joint Effects of Malnutrition and Early-Life Stress on the Behavioral and Physical Development of Wistar Rats”. This study aimed to fill this gap in knowledge by examining the joint effects of malnutrition and early life stress on physical and behavioral development in a Wistar rat model. Physical development was assessed by tracking developmental milestones such as body weights, eye opening, ear opening, and fur development, as well as performance on physical tests such as the righting reflex, negative geotaxis, and grip strength in male and female pups. Behavioral development was assessed through ultrasonic vocalizations (USVs) and the open field test in pups. Mixed factorial ANOVAs revealed that protein-deficient pups consistently weigh significantly less than control pups. Maternally separated pups had significantly delayed ear opening, performed worse on measures of grip strength, and emitted significantly fewer USVs than control pups, suggesting impaired communication. Overall, these findings underscore the importance of both diet and stress in ensuring healthy physical, behavioral, and social development of rat offspring.



**Alishba Muzaffar (Undergraduate-Psychology)  
1st Place Undergraduate Category 2**

Alishba Muzaffar placed first in the Undergraduate Category 2 at the Child Health Research Trainee Day for her project titled, “Pediatric Pain Management during Non-Invasive Procedures: Caregiver Perspectives”. This study explores caregivers' knowledge and expectations regarding pediatric pain management in, focusing on minor procedural pain through qualitative interviews conducted with caregivers at Jim Pattison Children’s Hospital.



Caregivers were asked about their expectations from healthcare professionals, their satisfaction levels with current communication and collaboration practices, and their insights on information, education, and decision-making processes related to pediatric pain management. Caregivers offered valuable suggestions for improving pediatric pain management, advocating for improved dissemination of information, collaborative decision-making, and tailored interventions that address the unique needs of children undergoing painful procedures.

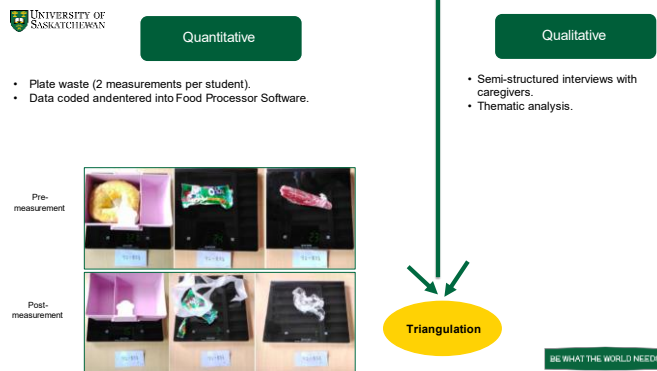
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Natalia Alaniz Salinas (PhD-Community Health and Epidemiology)  
1<sup>st</sup> Place Oral Presentations Category

Natalia Alaniz Salinas place first in the Oral Presentation category for her project titled, “The Whats and Whys of School Lunches: A mixed-methods study of the nutritional value of lunches eaten by elementary students during schooldays and their caregivers’ attitudes and practices towards school lunches.”

Her research studied the nutritional value of school lunches of elementary students, explored their caregivers’ attitudes and practices towards these lunches, and related these attitudes and practices with what children eat for lunch at school. Using a mixed-method research design she used descriptive quantitative component using plate waste methodology to assess nutritional contribution and nutrient density of lunches, followed by a naturalistic phase, involving interviews which explore caregivers’ attitudes and practices regarding lunches. Lunches’ nutritional contribution fell below Canadian references for most critical nutrients for childhood, such as calcium and vitamin D. Parents reported that preparing school lunches was a stressful chore. Various factors affected them, such as nutrition, cost, portability, and time constraints. Public policies could play a crucial role in addressing this issue, such as a universal school lunch program.



Congratulations to our Second-Place trainees for each category. To read more about the event please check out the [2024 Abstract book!](#)

Monica Ouellet  
Undergraduate - Medicine



Rafique Khan  
PhD-Kinesiology



Makayla Robinson  
Undergraduate-Engineering



Zahra Ghafouri  
PhD-Kinesiology



Drs. Magdalena Koziak &  
Piranavi Jeyagaran - Pediatric  
Residents



**THANKYOU**  
Our Presenters  
Our Judges  
The Department of Pediatrics, Research Office  
The College of Medicine, University of Saskatchewan  
The Jim Pattison Children’s Hospital Foundation of Saskatchewan

## Advocacy in Action: A Trainee's Unique Approach to Research Translation through Animated Video



In the vast expanse of the Canadian wilderness, all-terrain vehicles (ATVs) provide a means of adventure and exploration.

This year, **Dr. Alyssa Zucchet**, Pediatric Resident couldn't attend the Child Health Research Trainee Day in person. Instead of a traditional PowerPoint presentation she chose to translate her research into an animated video. Her creative solution was well received and is now available for other stakeholders eager to learn about her findings! The title of her study was, "[Reducing the risk of all-terrain vehicle \(ATV\)-related harm in Saskatchewan children: A retrospective chart review of patients presenting to hospital from 2016-2021](#)"

### National Pediatric Resident Research Competition

On May 2<sup>nd</sup>, 2024 Department of Pediatrics hosted the 36<sup>th</sup> National Pediatric Resident Research Day. We hosted 13 residents from across Canada. It was a wonderful opportunity to highlight Pediatrics in Saskatchewan! Many Pediatric faculty contributed their time and efforts to this event. Drs. Munier Nour, Keefe Davis, and Wendie Marks judged the 4-hour competition. Drs. Greg Hansen and Tanya Holt presented the keynote presentation at the competition where they shared their research experiences and provided encouraging examples of how to build a research portfolio. The presentation was motivating and received a lot of positive feedback. Dr. Alan Rosenberg gave a talk at the awards dinner to a captive audience, leaving the residents invigorated and inspired to achieve scholarly pursuits for years to come.

Dr. Mark Inman an alumnus of the national event who as the designated host and MC of this year's event provided expert advisement on all aspects from catering, hotels, presenters, and venues. Thanks for elevating the event to a new standard for years to come. The top 3 resident presentations included: 1st: Elya Quesnel (Montreal) – Presenting Symptoms of Pediatric Ischemic Stroke Across Ages. 2nd: Christine Lukac (Calgary) – Hospitalizations for Acute Respiratory Diseases Among Children in Alberta, Canada before and during the COVID-19 Pandemic 3rd: Alexandra Cohen (Ottawa) - The Intestinal Microbiome but not Clinical Presentation is Impacted by Lactose Malabsorption in Children with Inflammatory Bowel Disease.





## 2024 Child Health Research Trainee Day Standings

### Poster Presentations

| Category   | Name  | Title  | Authors  | Position        |
|--|---|--|--|-----------------|
| <b>Graduate</b><br><br>Judges: Drs. Wendie Marks & Susan Bobbitt                   | Nahin Shakurun<br>MSc-Community Health and Epidemiology | Mood states of children and youth in Saskatchewan in the second year of COVID-19 pandemic: Insights from See Us, Hear Us 2.0 study     | Shakurun Nahin, Adeyinka Daniel Adedayo, Hinz Tamara, Muhajarine Nazeem  | 1 <sup>st</sup> |
|  | Zahra Ghafouri<br>PhD-Kinesiology                       | Thyroid stimulating hormone is negatively associated with cortical bone volume and micro-architecture in children with type 1 diabetes | Zahra Ghafouri, Munier Nour, Saija Kontulainen   | 2 <sup>nd</sup> |
| <b>Resident</b><br><br>Judges: Drs. Darryl Adamko & Tim Bradley                    | Megan Gallagher<br>Pediatric Resident                   | Intermittent Pulse Oximetry Protocol in Bronchiolitis: A Quality Improvement Initiative  | Megan Gallagher; Ayisha Kurji; John Melville   | 1 <sup>st</sup> |
|  | Magdalena Koziak & Piranavi Jeyagaran                   | Hemoglobin A1C Measurement via Dry Blood Spot in Youth At-Risk for Type 2 Diabetes in Saskatchewan                                     | Magdalena Koziak, Piranavi Jeyagaran, Tova Dybvig, Linda Kessler, Tanya Conacher, Alicia Oliver, Reanna Chief, Ashley DeBusschere, Nail Imran, Daphne Yau. | 2 <sup>nd</sup> |
| <b>Undergraduate Category 1</b><br><br>Judges: Drs. Keefe Davis & Athena McConnell | Khoi Tran<br>Undergraduate-Psychology                   | Examining The Joint Effects of Malnutrition and Early-Life Stress on the Behavioral and Physical Development of Wistar Rats            | Khoi Tran, Wendie Marks, Afzal Javed   | 1 <sup>st</sup> |
|  | Makayla Robinson<br>Undergraduate-Engineering           | Does Finite Element Modeling Simulating a Fall on the Outstretched Hand Differentiate Children with and without Type 1 Diabetes?       | Makayla Robinson, Yuwen Zheng, Munier Nour, Saija Kontulainen, J.D. Johnston   | 2 <sup>nd</sup> |
| <b>Undergraduate Category 2</b><br><br>Judges: Drs. Daphne Yau & Oluwafemi Oluwole | Alishba Muzaffar<br>Undergraduate - Psychology          | Pediatric Pain Management during Non-Invasive Procedures: Caregiver Perspectives   | Alishba Muzaffar, Tracey Carr, Johnathan Melville  | 1 <sup>st</sup> |
|  | Monica Ouellet<br>Undergraduate - Medicine              | Best Practice for Transition from Pediatric Complex Pain Care: A Scoping Review  | Monica Ouellet, Amanjot Kaur, Susan Tupper, Janet Gunderson, Krista Baerg  | 2 <sup>nd</sup> |

## 2024 Child Health Research Trainee Day Standings

### Oral Presentations

| Category   | Name  | Title  | Authors  | Position        |
|--|---|--|--|-----------------|
| Judges: Drs. Krista Baerg & Mark Milne               | Natalia Alaniz Salinas<br>PhD-Community Health and Epidemiology | The Whats and Whys of School Lunches: A mixed-methods study of the nutritional value of lunches eaten by elementary students during schooldays and their caregivers' attitudes and practices towards school lunches. | Natalia Alaniz-Salinas - Supervisor:<br>Dr. Rachel Engler-Stringer   | 1 <sup>st</sup> |
|  | Rafique Khan<br>PhD-Kinesiology                                 | Effect of acute isometric handgrip exercise on vascular function in children and emerging adults with congenital heart disease   | M. Rafique Khan, Natasha G. Boyes, Adam M. S. Luchkanych, Ibrahim Al-Mouaiad Al-Azem, Thomas J. Jurrissen, Marta Erlandson, Kristi D. Wright, Charissa Pockett, T. Dylan Olver, and Corey R. Tomczak | 2 <sup>nd</sup> |
| Top Pediatric Resident Research Presentation Overall |   |  |  |                 |
|  | Megan Gallagher   | Intermittent Pulse Oximetry Protocol in Bronchiolitis: A Quality Improvement Initiative  | Megan Gallagher; Ayisha Kurji; John Melville   | 1 <sup>st</sup> |

### UPCOMING EVENT

Thursday, June 13

# Synchrotron Imaging to Advance Health Research

An information and workshop event to introduce opportunities for applying synchrotron science to advance human health research

[RSVP today!](#)

### PROGRAM

12:00 Arrival at CLS and security check-in  
 12:15 Lunch  
 12:30 Introduction to the event  
 12:40 Introduction to synchrotron science and CLS technologies  
 1:15 Guided tours of the CLS  
 2:00 Attendees discuss with synchrotron scientists how synchrotron imaging can help address their respective research questions  
 2:45 Open discussion, questions, and next steps  
 3:00 Adjournment

### 2024 April – June Publications

- **D'Alessandro PR**, McGrady ME, Nagata JM, Norris RE, Pressey JG. [Body Image Concerns in Adolescent and Young Adult Oncology Patients within Six Months of Upfront Diagnosis](#). J Adolesc Young Adult Oncol. 2024 May 29. doi: 10.1089/jayao.2024.0024. Epub ahead of print. PMID: 38808497.
- **Baerg K**, Anderson T, Thiessen H. Six ways to get a grip on patient and family centered care during the undergraduate medical years. Canadian Medical Education Journal. 2024 Feb 28; doi: <https://doi.org/10.36834/cmej.71342>
- “[Managing Pain in Children 3<sup>rd</sup> edition](#)” edited by Alison Twycross, Jennifer Stinson, William Zempsky, and Abbie Joran recently published by Wiley. The book has a multidisciplinary focus for doctors, nurses, physiotherapists and psychologists. **Dr. Baerg** is co-author of chapter 8, “The prevention and treatment of neuropathic and visceral pain” (Krista Baerg and Guilia Mesaroli).

## Publication

Check out the [Department of Pediatrics new Google Scholar Page](#). Here you can find publications from all faculty and trainees from the department



Putting Saskatchewan Pediatrics on the map: [The American Pediatric Society](#) mentions Dr. Terry Klassen



## JPCHF and USask Partner in Support of Pediatric Education and Research



Through their largest investment to date, Jim Pattison Children's Hospital Foundation (JPCHF) has committed \$2 million over five years to create the Jim Pattison Children's Hospital Foundation Pediatric Research Fund at the Department of Pediatrics based in the College of Medicine at the University of Saskatchewan (USask). Under this new partnership, the fund will support the work of APS member

**Dr. Terry Klassen**, the newly appointed Provincial Pediatric Department Head, to advance knowledge and care in pediatrics throughout the province. It will help to advance provincial pediatric research and move towards a Learning Health System. [Read More](#)

## Pediatrics In the news

SASKATOON | News

### Sask. hospital welcomes Canada's first portable pediatric MRI machine

"For patients who are on life support, bringing them to an MRI scanner is fraught with difficulties — including pushing them across the hallway with the possibilities of them being disconnected," Pediatric Intensivist Dr. Gregory Hansen said.

<https://saskatoon.ctvnews.ca/sask-hospital-welcomes-canada-s-first-portable-pediatric-mri-machine-1.6887251>



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 Email: [Tova.dybvig@usask.ca](mailto:Tova.dybvig@usask.ca)