Comprehensive Research Experience for Medical Students (CREMS)

2022 Supervisor and Project Information Form

Please complete and return via email ONLY to crems.programs@utoronto.ca by February 18, 2022.

Supervisor Information

NOTE: CREMS will not support pre-determined pairings of students and supervisors. Supervisors must agree to open their projects to all students and interview all that are interested.

Name: Sanjay Mahant
Email: Sanjay.mahant@sickkids.ca

Department: Pediatrics
Hospital/Research Institution: Hospital for Sick Children

SGS Department(s) (if applicable):
Institute of Health Policy, Management, and Evaluation

ORCID ID (see https://orcid.org/ - If you do not have an ORCID ID we encourage you to sign up for one):
https://www.sickkids.ca/en/staff/m/sanjay-mahant/

Location of Work:
Peter Gilgan Centre for Research and Learning, Hospital for Sick Children

Field of Research (up to 4 keywords):
Patient-Oriented Research, Hospital Pediatrics, Bronchiolitis, Feeding

Student contact time (number of hours per week YOU are available to the student for any concerns or to review progress):
I will be available daily (open door policy) around questions and project work. With the student we will develop a schedule to meet, usually one to two times per week by zoom. It is critical that we have open communication to address issues as they come up so the project moves forward. Minimum 2 hrs/week.
**Project Title:**
Evaluation of a Feeding Adequacy Scale for Children Hospitalized with Bronchiolitis

**Project Description:**
Including background, aim(s), method(s) and significance of the project. **Maximum 300 words.**

**Background:** Bronchiolitis is the most common and cumulatively expensive condition in children. Our research group is focused on generating scientific knowledge to improve the care and outcomes of children hospitalized with bronchiolitis. We have conducted knowledge synthesis studies, randomized controlled trials, observational studies and qualitative studies addressing bronchiolitis management. A common reason for hospitalization of young infants with bronchiolitis is poor feeding and the need for intravenous or nasogastric fluid therapy. However, there are no validated scales to measure feeding adequacy in children presenting to hospital with bronchiolitis. **Aim:** To evaluate the measurement properties—validity, reliability, discriminatory power and responsiveness to change—of a feeding adequacy scale (FAS), using a visual analog scale, for use in infants hospitalized with bronchiolitis. **Methods:** Prospective multi-centre cohort study using data collected from a randomized clinical trial of hospitalized children with bronchiolitis. The primary trial is published in JAMA Pediatrics 2021 PMID: 33646286. REB approval for this secondary analysis has been obtained (Dec 2021). On each day of the infant’s hospital stay, the primary and secondary caregivers and nurse independently rated the infant’s feeding on the FAS. Measures of the infant’s health status and duration of hospitalization were obtained. Spearman’s rank correlation, intra-class correlation, Ferguson’s delta and Wilcoxon signed rank will be used to assess validity, reliability, discriminatory power and responsiveness to change, respectively. **Significance:** A simple, reliable and valid measure of feeding adequacy may improve clinical decision making around disposition in infants hospitalized with bronchiolitis. Furthermore, it will be important for future studies as a measure of severity of illness or time to clinical improvement.

Is this project remote-capable (in case of new restrictions) or have an alternative remote option?
☑ Yes, remote capable ☐ No
☐ Yes, alternate remote option. Please specify (100 words max): Click or tap here to enter text.

If human subjects are involved, have the appropriate Research Ethics Board approvals been obtained?
☑ Yes ☐ No ☐ Not Applicable

If yes, please list the application submission date:

Do you expect this work will be published?
☑ Yes ☐ No ☐ Uncertain / Other
Research Environment and Student Roles and Responsibilities

Please be specific as possible. Please describe the research environment, including availability of required facilities/equipment/expertise, supervisor’s experience and mentorship plans. Please clearly outline the student role(s) and responsibilities related to the project, potential educational value, and indicate who will serve as the student’s direct report for daily oversight (PI, PHD student, technician, etc.). **Maximum 300 words.**

The student will be embedded in a rich and collegial research environment, the Child Health Evaluative Sciences program at the SickKids Research Institute (http://www.sickkids.ca/Research/Child-Health-Evaluative-Sciences/index.html). The student will be exposed to a variety of research methods and concepts through formal research rounds both within the research program and the hospital clinical division (Pediatric Medicine). The research team will include the student, the PI supervisor, an epidemiologist, a research coordinator, and co-investigator scientists. The student will take the lead on developing the study protocol, work with the supervisor and epidemiologist on the statistical analysis plan, conduct the analysis with close supervision, and draft the manuscript. The student’s direct report will be the PI supervisor and the epidemiologist. The student will gain experience in the design and conduct of observational studies, development of measurement tools, analysis, writing and scientific presentation. A laptop with software will be provided. Because the data for this study is already collected, REB approval for this study is obtained, and there is close supervision of the student with statistical analytic support, we believe the student will be set up for successful completion of this project. The goal of this project is to submit a paper for publication. Our lab is a nice and collegial environment with a track record of successfully mentoring students. We embrace diversity and value learning from students who work in our lab!