

Trial Description Document

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Content Area:

My research program aims to address critical knowledge gaps in pediatric kidney diseases and hypertension (HTN) using routinely collected healthcare data, particularly improving the screening of blood pressure (BP) among Canadian children at a primary care level.

Trainee Goal:

Aims to develop a protocol for a pragmatic trial to determine the effectiveness of this tool in improving BP screening among children in Ontario. Results of this trial will be pivotal for healthcare providers, families, and policymakers, aiding national-level implementation. This program will also enable me to understand trial design elements, ethical considerations, data analysis, and implementation science and foster partnerships with experts necessary to compete for future grant funding.

Background:

Despite the rising prevalence of pediatric hypertension (HTN) and its association with future cardiovascular and kidney disease, blood pressure (BP) screening is not regularly performed in Canadian children at a primary care level. We are developing a risk prediction tool that accurately identifies children at 5 years of age with high BP from the general population. As a next step, we would like to test the effectiveness of this tool in improving BP screening rates among children at a primary care level in Ontario.

Research Question:

Does the introduction of a risk prediction tool in routine clinical practice improve BP screening rates among children at 5 years of age in Ontario primary care practices?
Hypothesis: We hypothesize that blood pressure screening rates will increase after incorporating the risk prediction tool.

Intervention:

Validated risk prediction tool embedded within the electronic medical record (EMR) to enable primary care provider identify children with high BP at 5 years of age.

Methodology:

Clinics will be randomized, and we will train physicians/nurses within those clinics to use the tool and the physicians in the remaining clinics will perform usual care.

Setting:

Primary Care Ontario Practice-Based Learning and Research network (POPLAR), which is a centralized provincial EMR database and includes 7 primary care practices involving >100 clinics and >1000 physicians.

Participants/population:

We are developing a risk prediction tool that accurately identifies children at 5 years of age with high BP from the general population.

Outcomes:

Primary outcome: Annual BP screening rates among children at 5 years of age

Secondary outcomes:

- Follow up of abnormal BP (>95th percentile based on age, sex, and height) within 6 months and 1 year.
- Prevalence of HTN: proportion of children with 3 high BP on consecutive occasions
- Referral to subspecialists: referral to pediatric nephrology, pediatric cardiology for management of high BP.
- Labs and medications prescriptions: ordering of investigations, antihypertensive medications among those confirmed to have HTN.