Canadian Cancer Society – Awarded Implementation Research Grants

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Prostate MRI in Biopsy-Naive Patients: Implementation in a Publicly Funded Health Care System

Background. New Ontario guidelines will recommend pre-biopsy MRI as a standard of practice for prostate cancer diagnosis. However, MRI is an expensive, limited resource that is not equally available across healthcare facilities and health regions/jurisdictions.

Objective. To develop a risk-based strategy to identify biopsy-naïve patients that can benefit most from MRI from those who should proceed straight to biopsy, and evaluate the strategy's potential effectiveness to reduce the number of scans needed.

Specific Aims.
1. Create an evidence-based risk-adjusted decision algorithm to help decide which patients should get MRI.
2. Assess the uptake of MRI (overall number and risk profile) in biopsy-naïve patients after the introduction of the new guidelines at three hospitals.

We will apply the decision algorithm (Aim 1) using different risk thresholds to the information on real-world MRI usage (Aim 2) to estimate number of MRIs that could be avoided, clinical benefit in clinically relevant cancers detected/missed, and relative time to diagnosis.

3. Describe physician and patient preferences regarding the use of prostate MRI for biopsy-naïve patients.

To inform future implementation of the strategy, we will survey physicians across Canada about their views on implementation of the MRI guidelines and interview a sample of patients from each site in Aim 2 about their preferences for receiving MRI.

Importance. This work will develop and assess the potential usefulness of a risk-adapted approach to identify appropriate candidates for pre-biopsy MRI that will ensure that those who could benefit from MRI are given priority.

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Community preferences for prostate cancer outcomes: measuring community preference weights for the Patient-Oriented Prostate Utility Scale (PORPUS)

Background: Many effective, but costly, technologies for prostate cancer (PCa) are being developed, but will only be adopted in Canadian health systems if they are shown to be cost-effective. "Utility" is a global measure of health-related quality of life (HRQL) that describes preference for a health state, and is essential to conduct robust cost-effectiveness analyses. Generic utility questionnaires lack vital PCa-specific domains (i.e. urinary, sexual, bowel) and therefore may not be valid for policy-level decision-making.

We previously created a PCa-specific utility instrument with a value set derived from PCa patients, the Patient Oriented Prostate Utility Scale-Utility (PORPUS-UP). However, for resource allocation decision-making, guidelines for cost-effectiveness analysis recommend the use of community preferences.

Objectives: i) Derive utility weights for PORPUS health states from 200 community members. ii) Compare patient- and community-generated scores for selected health states. iii) Compare preferences derived from men and women.

Methods: We will elicit utilities for PCa health states from 200 non-PCa community members in individual interviews using the Time Trade-Off method. Using regression methods (the statistical inference approach), we will develop a preference set for our utility instrument (PORPUS-Uc), based on community preferences. We will compare PORPUS-UP and PORPUS-UC utilities, and preference sets of men and women.

Impact: Quality, as well as quantity, of life are important in decision-making. Through this implementation research project, a community preference set for the PORPUS will allow us to improve cost-effectiveness and policy analyses in PCa, and potentially improve access to new technologies and treatments for PCa patients.

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Participating in Tai Chi to Reduce Anxiety and Keep up Physical Function: Implementing a Prehabilitation Intervention for Radical Prostatectomy

Aim and Objectives: The aim is to test the implementation of an online Tai Chi intervention to improve peri- and post-RP health and well-being in prostate cancer patients. The objectives are to:
1) Use mixed-methods to assess the factors related to the strategy of implementation from multi-stakeholder perspectives guided by the Consolidated Framework for Implementation Research.
2) Test the effect of the intervention to reduce peri- and post-RP anxiety and improve peri- and post-RP

physical function and general and disease specific patient-reported outcomes.
3) Test the effect of the intervention in improving post-RP surgical outcomes.

Study Design and Methods: A single-centre, two-armed quasi-experimental study is proposed. Sixty prostate cancer patients scheduled for RP at the Calgary Prostate Cancer Center will be recruited and assigned to a control or intervention group. Any support person (>18 years) identified by the patient as the primary caregiver will be invited to participate. After completing the baseline health questionnaire, control group participants will receive Prostate Cancer Canada printed materials about prostate cancer management. Intervention group participants will receive orientation for an eight-week Tai Chi intervention that includes a 60-minute instructor-led group session two days/week, and a 15-minute home-based daily practice on the other five days, both with online teaching modules. Qualitative implementation factors will be measured through semi-structured interviews. Patient-reported outcomes and physical function measures will be assessed at baseline, surgical day and three-month post-RP.

Impact: Data generated on the implementation barriers and facilitators will inform the standardization and scaling up of this prehabilitation model.