Cost Utility Analysis of a Digital Peer Navigation Intervention for Patients after Treatment for Prostate Cancer

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INTRODUCTION

- Patients with **prostate cancer** (PC) often lack support and face **barriers to care** when dealing with treatment side effects, thus impairing quality of life[1,2,].
- Patient navigation is the broad term for all types of navigation while peer navigation utilises navigators that are trained peers and are sometimes paid for this position [4]
- **Patient navigation** can improve access to care, provide personalized support and improve quality of life[3]. However, less is known about the impact of peer navigation.

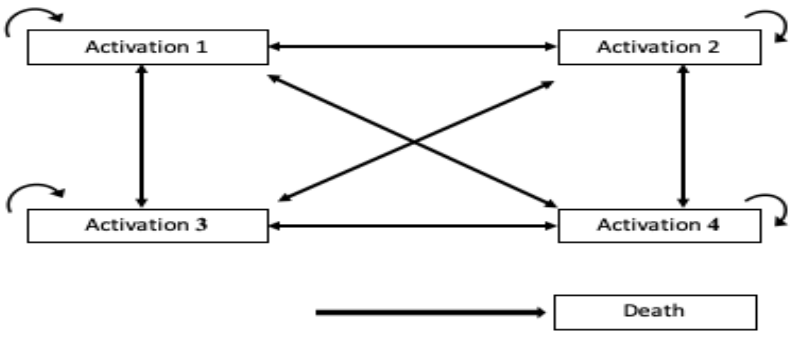
RATIONALE AND OBJECTIVES

- Previous studies have demonstrated the effectiveness of patient navigation involving professional or clinical navigators[3] ; there is minimal economic evidence on peer-led navigation (PN).
- True North Peer Navigation (PN) uses a digital app to match PC patients with a volunteer peer navigator who has experienced PC and is trained to help them access care and support. Its effectiveness has recently been shown in a randomized trial [4.]
- This study aims to evaluate the cost-utility of True North PN compared to an active wait-list control plus, online resource library, from a healthcare payer perspective.

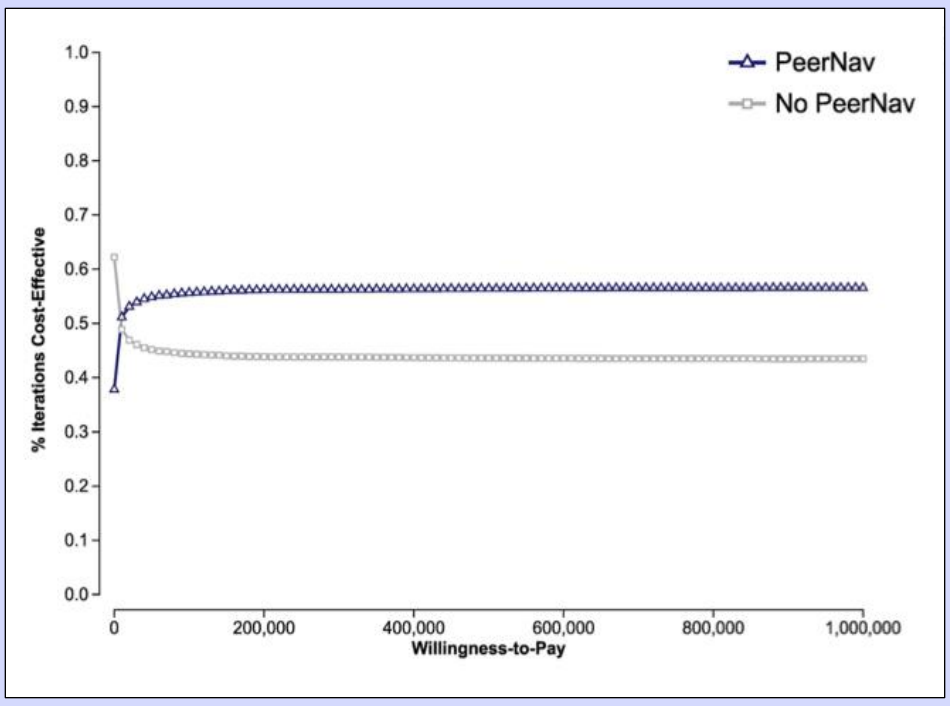
METHODS

- A Markov model was developed to compare the two interventions, consisting of 4 patient activation levels (1 - 4) and a death state.
- The Patient Activation Measure (PAM) is a scale that assesses a person's knowledge, skills, and confidence in managing their health. It reflects 4 progressive stages of activation, from recognising the importance of one's role to sustaining health behaviours even under stress [6] .
- The time horizon was 2 years; this was selected as most side effects get resolved within this timeline with treatments, and the cycle length was 3 months. Costs and outcomes were discounted at an annual rate of 1.5% in line with Canada Drug Agency guidelines.
- Transition probabilities and utilities were informed by an unpublished randomised controlled trial (ID: NCT05041504).
- All costs were sourced from program data and public databases, combining participant-reported healthcare use with unit costs from OHIP, CIHI, and professional associations for physician, surgical, and allied health services.
- One-way deterministic, scenario, and probabilistic sensitivity analyses were performed to evaluate uncertainty and test assumptions.

MODEL AND RESULTS



Condition	Cost ($CAD)	QALYs	ICER ($/QALY)
Intervention	4,882	6.69	
Control	4,565	6.65	
Incremental	317	0.034	9,283



RESULTS

- While True North PN was more costly ($4,882 vs. $4,565 per person), it yielded more QALYs (6.69 vs. 6.65) when compared to the control group, resulting in an ICER of $9,283 per QALY gained.
- The incremental QALY gain (0.034) indicates a small but positive improvement in health outcomes
- The probability that True North PN was cost-effective at a willingness-to-pay threshold (WTP) of $50,000/QALY was 55%.

SUMMARY AND CONCLUSIONS

- A digital peer navigation program is cost-effective from a Canadian healthcare payer's perspective, with an ICER of $9,282/QALY and at a WTP threshold of $50,000/QALY.
- A 55% probability of cost-effectiveness at a $50,000/QALY threshold suggests moderate evidence that True North PN may be cost-effective, uncertainty in the results remain, and further evaluation may be needed before broad implementation.
- Our study adds to a limited but growing body of evidence on the cost-effectiveness of patient navigation programs, outside the US, as all evidence on the cost-effectiveness of patient navigation to date has been conducted in the US. Particularly with volunteer peer navigators.
- Future studies should assess subgroup benefits, validate findings with larger or longer studies, and explore how to integrate digital peer navigation into routine prostate cancer care.

REFERENCES

- Canadian Partnership Against Cancer. Prostate Cancer Control in Canada: A System Performance Spotlight Report. Toronto, ON; 2015
- Chen RC, Basak R, Meyer AM, et al. Association between choice of radical prostatectomy, external beam radiotherapy, brachytherapy, or active surveillance and patient-reported quality of life among men with localized prostate cancer. JAMA - 2017;317(11):1141-1150.
- Chan RJ, Milch VE, Crawford-Williams F, Agbejule OA, Joseph R, Johal J, et al. Patient navigation across the cancer care continuum: An overview of systematic reviews and emerging literature. CA Cancer J Clin. 2023; 73(6):565-589.
- Bender JL, Flora PK, Soheilipour S, Dirlea M, Maharaj N, Parvin L, Matthew A, Catton C, Jamnicky L, Pollock P, Kwan W, Finelli A, Kazanjian A. Web-Based Peer Navigation for Men with Prostate Cancer and Their Family Caregivers: A Pilot Feasibility Study. Current Oncology 2022;29:4285–4299.
- Canadian Partnership Against Cancer, 2012
- Hibbard JH, Stockard J, Mahoney ER, Tusler M. Development of the Patient Activation Measure (PAM): conceptualizing and measuring activation in patients and consumers. Health Serv Res. 2004 Aug;39(4 Pt 1):1005-26. doi: 10.1111/j.1475-6773.2004.00269.x. PMID: 15230939; PMCID: PMC1361049.

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