



# Empowering Indigenous People and Communities in Health and Health Care through the Personal Empowerment Programs (PEP)

**Rob Rutledge, MD and Gabriela Ilie, PhD**  
Associate Professors



Congress of Aboriginal People (CAP)

Anti-Racism in Health Care



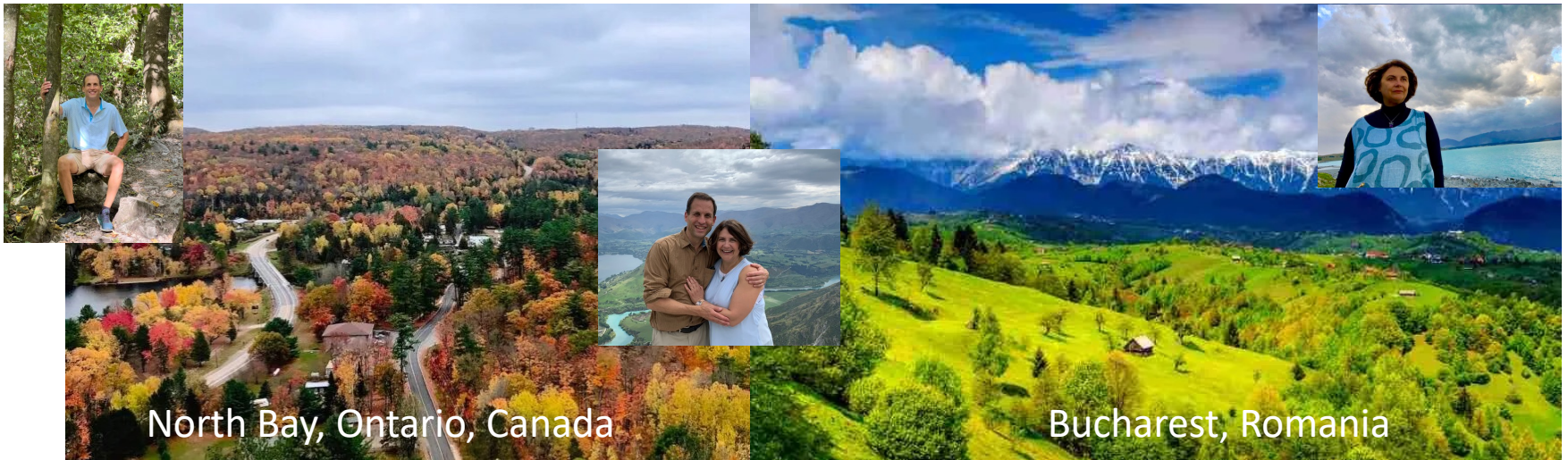


Dalhousie University operates and is located in the unceded territories of the Mi'kmaq, Wolastoqey, and Peskotomuhkati Peoples. We are privileged to live and work here.

These sovereign Nations hold inherent rights as the original peoples of these lands, and we each carry collective obligations under the Peace and Friendship Treaties. Section 35 of the Constitution Act, 1982 recognizes and affirms Aboriginal and Treaty Rights in Canada. **We are all Treaty People.**



# Rob and Gabriela



North Bay, Ontario, Canada

Bucharest, Romania



# Agenda



1. Medical System – how to get the best care
2. Uncovering unmet needs in vulnerable populations
3. Personal Empowerment Programs (PEP) for cancer and beyond
4. Creating Communities of Empowerment

Congress of Aboriginal People – Anti-Racism in Health Care

Dr. Rob Rutledge, [Rob.Rutledge@nshealth.ca](mailto:Rob.Rutledge@nshealth.ca), Dr. Gabriela Ilie, [gabriela.ilie@dal.ca](mailto:gabriela.ilie@dal.ca), [pcpep.org](http://pcpep.org)



**DALHOUSIE**  
UNIVERSITY

FACULTY OF MEDICINE

Tara and me





## The Medical System....

- **Impersonal and transactional (and racist which erodes trust)**
  - Equity and access issues!
  - Fragmented care delivery
- **Primary focus on physical and biological care, problem-based and reactive, acute-care and illness centered**
- **Demographic pressures, rising complexity and costs**
- **Limited emphasis on patient and community empowerment**
  - Patients often positioned as passive recipients rather than active partners
  - Self-management, lifestyle change, and education underutilized
- **Let us focus on Empowerment – at the personal level**





# What is Complete Cancer Care



- Understanding what's happening to you
- Getting the best from the medical system
- Empowering yourself with healthy lifestyle
  - Exercise, diet, sleep, meditation, relaxation techniques
- Healing the mind
- Connecting with community
- Remembering spirit





## How to get the Best Care from the Medical System

- The Medical System is a human institution – and the providers are human
  - Expressing respect and gratitude usually is helpful
- You can learn set of skills, knowledge, and attitude which will maximize the quality of care you receive
- Each of us are different as are our providers
  - Adapt your approach
- Use what works for you
  - Include your rational mind and your intuition

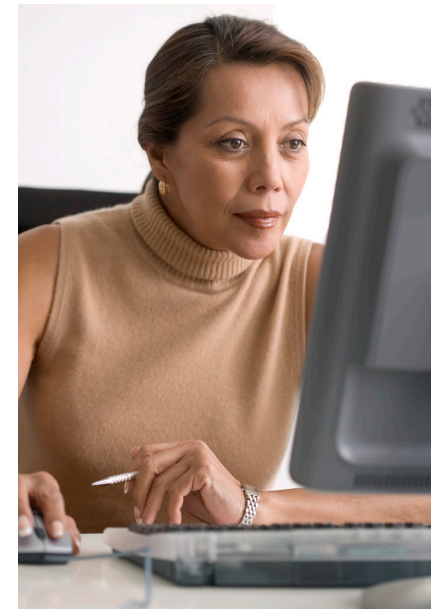




# Purpose of Information



- Learn to speak the language of the medical system
- Increase your sense of control and well-being
- Help you make the best medical decisions
- Too much information?
  - If information gathering is making you tired
  - If you find conflicting information
- Sources of reliable information – Not for Profits
- You are preparing for your appointments with your physician – to understand and for shared decisions





# Learn to Advocate for Yourself



- Preparing for each doctor's visit
- Be proactive at the appointment
- Contacting your doctor/nurse if you have questions or concerns
- Drawing on extra services if needed
- Asking for a second opinion if needed





## Bringing support is a strength, not a weakness



- Bring a trusted person (family member, friend, Elder)
- Their role can include:
  - Taking notes
  - Asking questions when you feel overwhelmed
  - Speaking up if you are dismissed or interrupted
- Let staff know who this person is to you
- You have the right to have someone with you unless there is a clear safety reason not to





# Before your Doctor's Visit



- Create a concise summary of symptoms
- Bring a list of current medications and allergies
- Write down your questions before the visit
- Someone should accompany you
  - Decide who will make record of the visit
- You may create a file with all your test results
  - You can get a copy by visiting medical records





# Ask for Clear Explanations

**It is okay to say:**

“I don’t understand. Can you explain that differently?”

“What does that mean for me?”

**Ask:**

What are my options?

What happens if I wait or choose not to do this?

What side effects should I expect?

**You can ask providers to slow down or repeat information**





## At the Visit – You are the most important person in the room



- Be honest and open
- Wait until the summary then ask all your questions
- Take notes or record the interview
- Find out what to expect
- Know what to do for each side effect
  - When do I need to act?
  - Who you should call in case of problems?





## After the Visit

- Keep a journal and list of results
- If need be, ask for a family conference
- You or a 'family member' may be able to do the talking
- Call to clarify information or ask for appointment
- You are entitled to a second opinion





# Getting More Care



**Multiple services are available in medical system**

**Nutrition**

**Psychology**

**Home care nursing**

**Indigenous navigation**

**Spiritual care**

**Palliative Care Team**

**Social worker can help coordinate if needed**

**Ask your nurse or doctor**

**Talk to an expert**



Anti-Racism in Health Care



**DALHOUSIE**  
UNIVERSITY

FACULTY OF MEDICINE



## Disrespect and dismissal are *not* part of care

- **If something doesn't feel right, you can say:**
  - “I feel like my concerns aren't being taken seriously”
  - “I need more time for this conversation”
- **If it feels unsafe or disrespectful:**
  - Ask to speak with a nurse, social worker, or patient advocate
- **You are allowed to ask for:**
  - A different provider
  - A second opinion





# How it all started

## 2006: Catalyst of Change Frank and Debbi

scrutinize a medical system focused on treating the disease rather than the whole person.

## 2010: Guiding Light

The Soillse Research Fund is established by Frank and Debbi, managed by the Dalhousie Medical Research Foundation, to light the way towards enhancement of the quality of life of cancer patients.

## 2016: Empowering Research

Dr. Gabriela Ilie joins as the DMRF Endowed Soillse Research Scientist in Prostate Cancer Quality of Life Research, marking a pivotal step in advancing knowledge and solutions in this field.



# A Silent Epidemic of Mental Distress in Prostate Cancer Survivors across the world

**Prevalence of Psychological Distress in Men Without Cancer:** 9% of Canadian men screen positive for anxiety or depression (Brunckhorst et al., 2021).

**Maritime Prostate Cancer Survivors:** 20% of 500 PCa survivors screened positive for psychological distress; 18% had treatment regret (Ilie et al., 2020; Bradley et al., 2019; White et al., 2020).

**Atlantic Path Survey:** 6,585 men: PCa history linked to 2-3 times higher odds of anxiety and depression (Ilie et al., 2020; 2021).

**Canadian Longitudinal Study on Aging:** 25,183 men: PCa history linked to 2-3 times higher odds of depression (Moodie et al., 2021).

**Danish Nationwide Study:** 25,126 men: 2-4 times higher rates of prescribed depression medication 18 years post-PCa diagnosis (Friberg et al., 2021).

**USA Long-Term Follow-Up Study:** 18,134 PCa patients: Higher risk of mental health disorders and increased hazard ratios for death with depression diagnosis up to 16 years post-diagnosis (Hu et al., 2024).



**DALHOUSIE**  
UNIVERSITY

FACULTY OF MEDICINE

# A Silent Epidemic of Mental Distress in Prostate Cancer Survivors across the world



**Prevalence of Psychological Distress in Men Without Cancer:** 9% of Canadian men screen positive for anxiety or depression (Brunckhorst et al., 2021).

**Maritime Prostate Cancer Survivors:** 20% of 500 PCa survivors screened positive for psychological distress; 18% had treatment regret (Ilie et al., 2020; Bradley et al., 2019; White et al., 2020).

**Atlantic Path Survey:** 6,585 men: PCa history linked to 2-3 times higher odds of anxiety and depression (Ilie et al., 2020; 2021).

**Canadian Longitudinal Study on Aging:** 25,183 men: PCa history linked to 2-3 times higher odds of depression (Moodie et al., 2021).

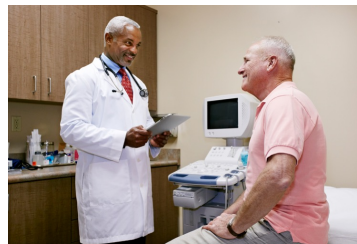
**Danish Nationwide Study:** 25,126 men: 2-4 times higher rates of prescribed depression medication 18 years post-PCa diagnosis (Friberg et al., 2021).

**USA Long-Term Follow-Up Study:** 18,134 PCa patients: Higher risk of mental health disorders and increased hazard ratios for death with depression diagnosis up to 16 years post-diagnosis (Hu et al., 2024).

# Designing the PC-PEP Intervention

## Treatment Side Effects

Urinary incontinence  
Fatigue  
Erectile Dysfunction...



## Mental Health Issues

Previous history  
Social support  
Intimacy , Sexuality, Relationship  
problems

## Hormone Side Effects

Hot flushes  
Metabolic Syndrome  
Osteopenia...



PCPEP.ORG



## Medical Co-morbidities

Cardiovascular Disease  
Diabetes  
Obesity.....



**DALHOUSIE**  
UNIVERSITY

FACULTY OF MEDICINE

Phase 1 trials → Phase 2 trials → Phase 3 trials → Phase 4 Implementation



# Designing the PC-PEP Intervention

## Daily Videos

Empowering Attitudes to Health and Living  
Focus on Authentic Self  
Self-Compassion

DELIVERED THROUGH STORY TELLING

## Family and Communication

Empowering Communication and Sharing

## Live Monthly Connections

Via Zoom

WHERE WE SEE EACH OTHER  
SHARING KNOWLEDGE AND EXPERIENCE

## Aerobic and Strength exercise Discourage Sedentarism

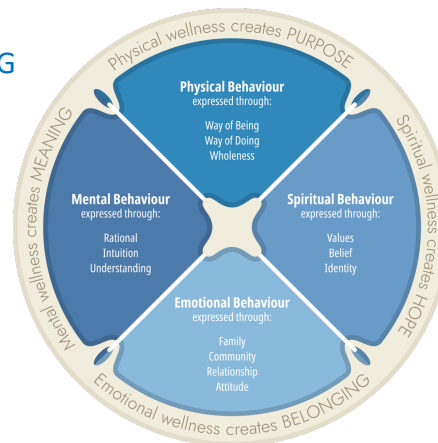
The role of Movement and Physical Coordination in Health and Healing  
4 levels of strength exercise difficulty  
Yoga, Qi-Gong

## Attitudinal Healing

The role of Forgiveness and Spirit in Health and Healing  
26 weeks (released every Sunday)

## Dietary Recommendations

26 weeks of cooking videos and nutrition education  
SHARING KNOWLEDGE AND EXPERIENCE



PCPEP.ORG



**DALHOUSIE**  
UNIVERSITY

FACULTY OF MEDICINE

# 5 seconds: “Here, visit PCPEP.org and sign up!” For Indigenous men: PEPLife.org



[pcpep.org](http://pcpep.org)  
[Home](#) [Film/Documentary – EMPOWER](#) [PC-PEP Man of the Month](#) [About Us](#) [PC-PEP Canada](#)  
[PC-PEP New Zealand](#) [PC-PEP South Africa](#) [Research & Publications](#) [Media & Public Engagement](#)  
[Find My Community](#) [Health-Equity Initiative \(PC-PEP & Movember\)](#) [Contact Us](#)  
[English \(Canada\)](#)

---

**PC PEPEP™** Prostate Cancer Patient EMPOWERMENT PROGRAM

Dalhousie University operates and is located in the unceded territories of the Mi'kmaq, Wolastoqey, and Peskotomuhkati Peoples. We are privileged to live and work here.

We are all Treaty People.

These sovereign Nations hold inherent rights as the original peoples of these lands, and we each carry collective obligations under the Peace and Friendship Treaties. Section 35 of the Constitution Act 1982 recognizes and affirms Aboriginal and Treaty Rights in Canada. We are all

## The Heart of Empowerment [» Go to news main](#)

### The PC-PEP Program

Posted by Dayna Park on November 17, 2025 in [News](#)



Mike and Barb Hull, PC-PEP program participants.

When Mike Hull was diagnosed with prostate cancer, he and his wife Barb found themselves in unfamiliar territory.

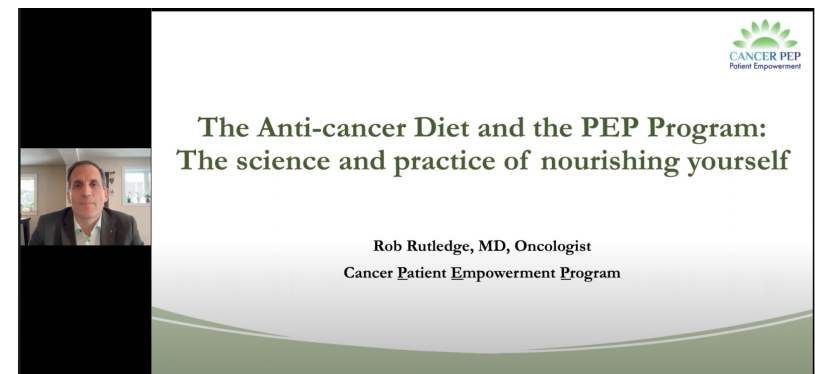
# Education and Resources upon Sign Up

Screening for mental distress with resources

Referral to support groups and other program

Educational Videos:

- How to navigate medical system
- Overview of the Program
- Anti-cancer diet overview
- How to start an exercise program
- Supporting Men in Building Connection and Intimacy
- Opportunity to connect with Mentors or Buddies



## PROSTATE CANCER - PATIENT EMPOWERMENT PROGRAM

DAY 123 - WEDNESDAY ©2022



### Schedule for today:

A. [Watch the Day 123 PEP Video](#) from Rob and Gabriela.

B. [Practice Relaxation Technique](#) for 10 minutes or more. Got to do it, do it!

C. [Pelvic Floor Muscle Training \(kegels\) exercises routine for the day.](#)

D. [Yellow and White Fruits and Vegetables Week](#) – Did you know that eating large amounts of brightly colored fruits and vegetables (yellow, orange, red, green, white, blue, purple), whole grains/cereals, and beans containing phytochemicals may decrease the risk of developing certain cancers as well as diabetes, hypertension, and heart disease.

E. [Aerobic Activity](#)- 30+ minutes. Stand up for your health - Five minutes on the Hour.

F. [Connection](#) - Walking Wednesday. We humans are designed to walk - and connect! Why not slather on some sunscreen and take a walk? Walking, after all, can be a great way to get the daily activity your body needs to fight off cancer. Walking also can help you maintain a healthy body weight. For women, walking lowers hormone levels that increase the risk for breast and endometrial cancers.

G. [Stress Reduction](#) - If you think of all the things you can do to reduce your overall stress levels (beyond everything in this program) choose the strategies you enjoy most. For instance, if you really enjoy singing and it improves your stress level, find a way to sing once a day. In contrast, you may not like journaling so don't try to create a journaling habit even though it may be helpful.

H. [Sleep hygiene](#). Relax with a book or take a soothing bath. Make sure your bedroom is quiet, dark, relaxing, and at a comfortable temperature. Remove electronic devices, such as TVs, computers, and smart phones from the bedroom. Avoid large meals, caffeine, and alcohol before bedtime.

**EXTRA RESOURCES** - [Click here.](#)

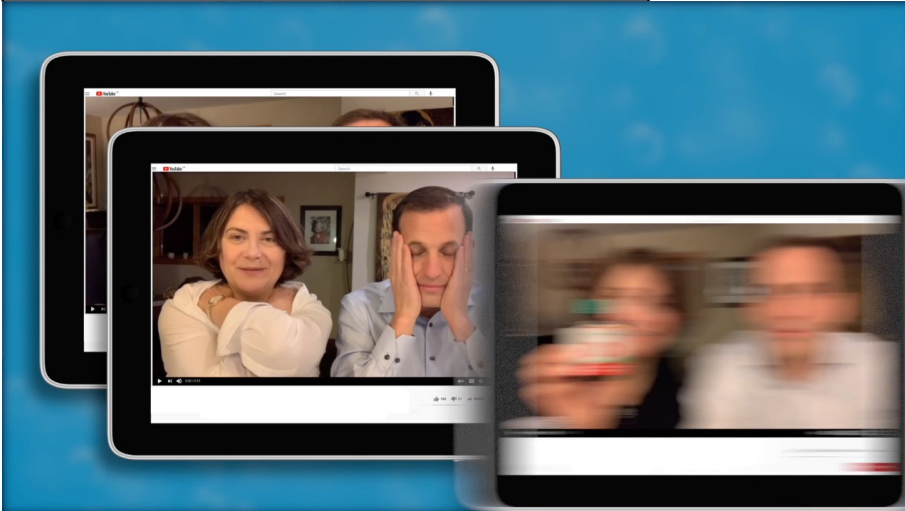
Take care everyone,

Rob Rutledge – cell: 902 489-6423

Gabriela Ilie – cell: 902 989-4114

PEP@nshealth.ca

182 daily emails and PEP videos





## Day 58 Cancer Patient Empowerment Program©



THIS MATERIAL IS COPYRIGHTED BY SPIRIT PEP INC. DO NOT SHARE

### Schedule for today:

**A. Watch the Day 58 PEP Video** from Rob and Gabriela.



**B. Practice Relaxation Technique** for 10 minutes or more. As your mind wanders practice coming back to the exercise over and over:  
<https://youtu.be/jEi5UGop7Ck>

**B. Practice Relaxation Technique** for 10 minutes or more. As your mind wanders practice coming back to the exercise over and over:  
<https://youtu.be/jEi5UGop7Ck>



**C. Fruits Week** - Raspberries and strawberries high in water means lower in calories. Think lots of colours in your food.



**D. Strength Training Workout 'A'.** Click on one of the links below. Keep pushing so you have a nice post-workout feeling. **Remember to stay within your limits!**

**Level 1** - 15 seconds work followed by 30 seconds rest is for those newly back to strength training. [View here](#)

**Level 2** - has same exercises with 20 seconds of work with 20 seconds of rest. [View here](#)

**Level 3** - is 30 seconds of work and followed by 15 seconds rest. [View here](#)

**Level 4** - is most intense with 45 seconds of work followed by 12 seconds rest for each exercise. [View here](#)

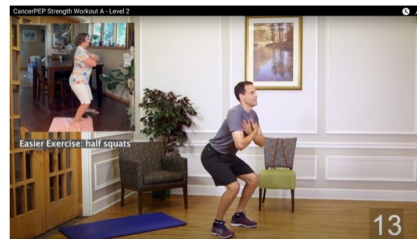
**Optional Yoga** as an alternative to the Workout A is available here:

**Easy yoga** - [click here](#)

**Intermediate yoga** - [click here](#)

**Advanced Yoga** - [click here](#)

**QiGong (pasword: 6868):**  
<https://cancerpep.com/qi-gong/>



### E. Connection - Encouragement & Connection

Take a few moments to reflect on the power of encouragement—both for yourself and for those around you.

Before reaching out to your PEP Partner or a loved one, pause and reflect:

- What is something kind or uplifting you can say to them today?
- How has their support or presence positively impacted your journey?
- What encouragement do you need right now, and how can you offer that same kindness to yourself?

Write down or **think about one thing you appreciate about yourself** and one thing **you appreciate about the person** you are reaching out to.

When you connect, share a genuine word of encouragement—a reminder of their strength, growth, or something they've done well. Notice how it feels to give and receive support.

Encouragement builds resilience, deepens connection, and reminds us we are never alone on this journey.



**Extra Resources:**  
[CLICK HERE](#) - The password for these resources is 6868. Please do not share this password with anyone.

Check out what the Cancer PEP team has been up to:



[Media Page](#)

Interested to know more about the research behind the program?



[Research Page](#)

# Prescribed Aerobic Exercise

- 30+ minutes per day, 6+ days per week
- Any activity – think fun!
- Not sitting for long periods



**DALHOUSIE**  
UNIVERSITY

FACULTY OF MEDICINE

# Home-based Strength Training



- 2 sets of 30min videos
- 4 levels of difficulty
- Safe

# Dietary Recommendations



**Eat Food (not chemicals), Mostly Plants, Not Too Much**

**Swap in healthier foods**

**Decrease Red Meat**

**Increase Fruits and Veggies**

**Time Restrictive Eating**

**Vitamin D**

**Food sharing with loved ones**

**Stay hydrated**

**Share food/a meal with others**



**DALHOUSIE  
UNIVERSITY**

FACULTY OF MEDICINE

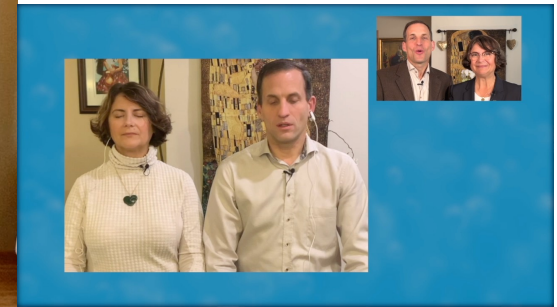
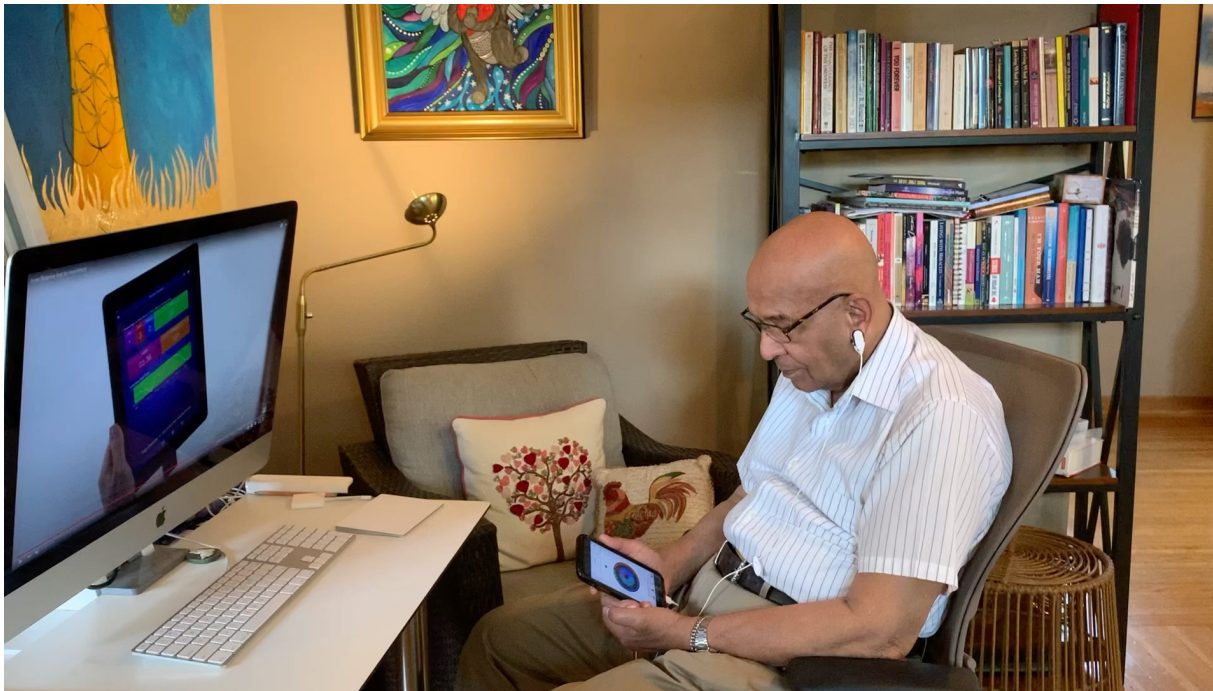
# Pelvic floor Muscle training (Kegels for Prostate Cancer)

## Arm Physiotherapy for breast cancer



- 3 times a day x 10 minutes
- Videos with instructions
- Text Reminders
- Progressive training over 26 weeks

# Relaxation Technique with Bio-Feedback



**DALHOUSIE**  
UNIVERSITY

FACULTY OF MEDICINE

# Prescribed Intimacy and Connection exercises



- **Daily** video discussion
- **Prescribed Exercises:**
  - E.g., Walking Wednesday
- Presentations on Intimacy and Sexuality, group discussions, Facebook dialogue
- **Love Languages** and **Types of Intimacy**
- **The Role of Forgiveness**
- **Emotional Needs**
- Honoring your Tradition and Culture

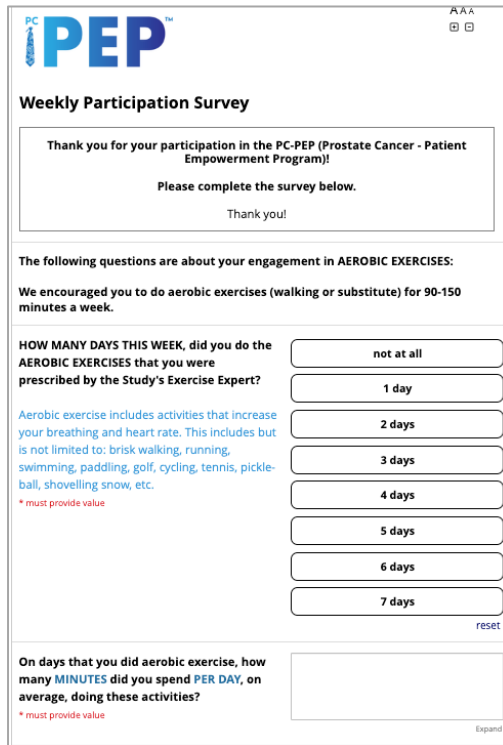
# Social Support

## Human-To-Human Connection – Monthly since 2020

- **Monthly LIVE** zoom **video** conference
- **Ongoing Scientific Updates**
- Small and large group discussion
- **Buddy System** – weekly phone call
- **Mentors**
- **Facebook** group
- **Live** recorded **events**



# Weekly Compliance Surveys!



The screenshot shows a web browser window with the PC-PEP logo in the top left. The page title is "Weekly Participation Survey". A thank-you message is displayed: "Thank you for your participation in the PC-PEP (Prostate Cancer - Patient Empowerment Program)! Please complete the survey below. Thank you!". Below this, instructions state: "The following questions are about your engagement in AEROBIC EXERCISES: We encouraged you to do aerobic exercises (walking or substitute) for 90-150 minutes a week." The first question is "HOW MANY DAYS THIS WEEK, did you do the AEROBIC EXERCISES that you were prescribed by the Study's Exercise Expert?". It features a vertical list of buttons: "not at all", "1 day", "2 days", "3 days", "4 days", "5 days", "6 days", and "7 days". A "reset" link is at the bottom right of this section. A note defines aerobic exercise: "Aerobic exercise includes activities that increase your breathing and heart rate. This includes but is not limited to: brisk walking, running, swimming, paddling, golf, cycling, tennis, pickleball, shovelling snow, etc." and includes a red asterisk: "\* must provide value". The second question is "On days that you did aerobic exercise, how many MINUTES did you spend PER DAY, on average, doing these activities?". It has a text input field and a red asterisk: "\* must provide value". An "Expand" link is at the bottom right of this section.

- Every Sunday online survey -5 minutes, over 26 weeks
- Measures the frequency and length of time of each activity:
- Aerobic exercise, strength, kegels, meditation, diet, intimacy/connection
- Acts as a reminder / keeps men accountable



**DALHOUSIE**  
UNIVERSITY

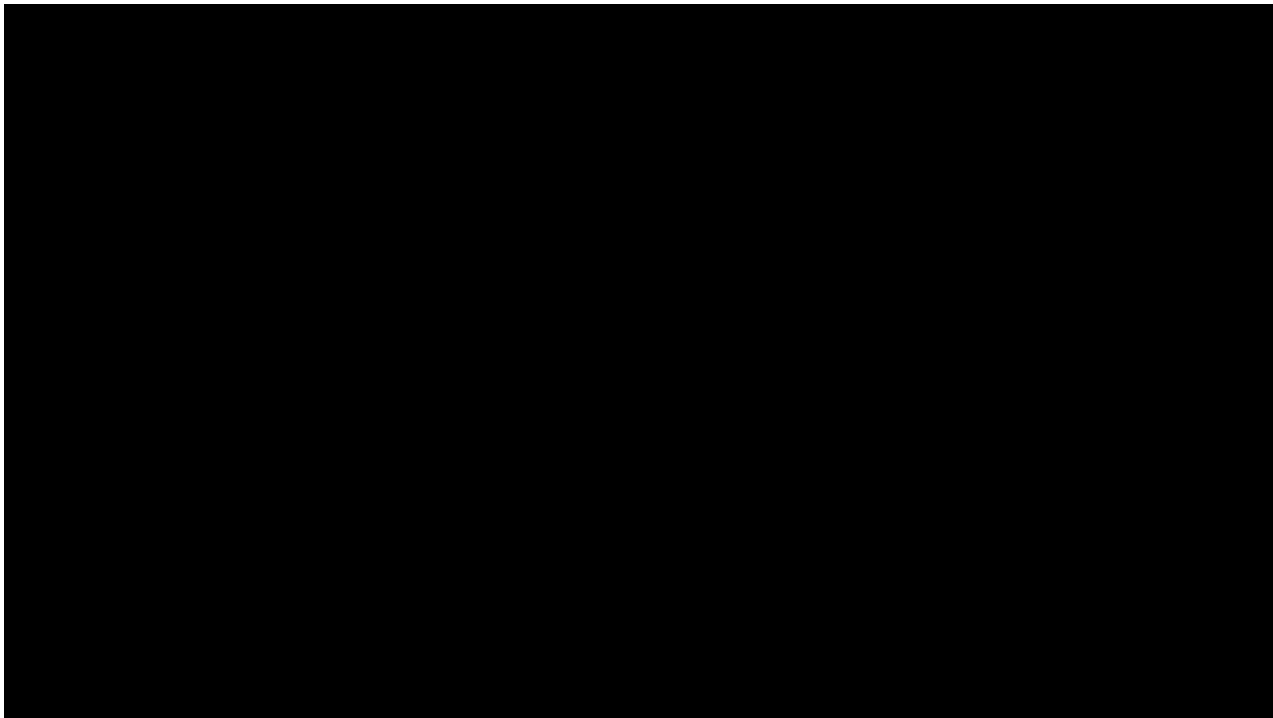
FACULTY OF MEDICINE

## Mike and Barb Hull, NSCAP Board Member



**DALHOUSIE**  
UNIVERSITY

FACULTY OF MEDICINE





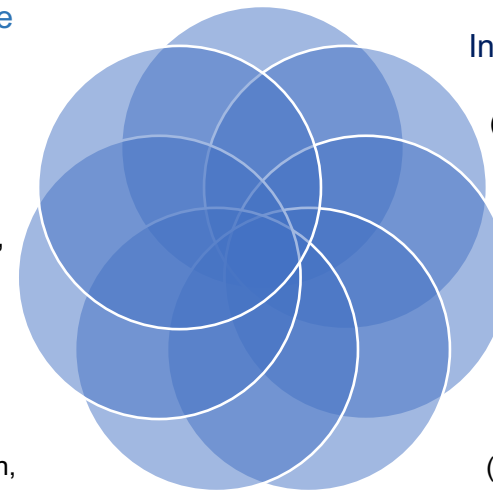
Reduces Cost to the  
Medical System  
(Nuyens et al., in  
preparation, 2024)

Reduced Mental Distress,  
Improved Quality Adjusted  
Life Years

Better Stress Reduction  
Management

(Ilie et al., European Urology,  
2023; Foley et al., in preparation,  
2024; Burge et al., 2024)

Improved Urinary & Sexual Symptoms  
& Improved Quality of Life  
(Lawen et al., Cancers, 2023)



Sustained Relationship  
Satisfaction

Increased attendance to local  
support group  
(Burgher et al., Curr Onc, 2024)

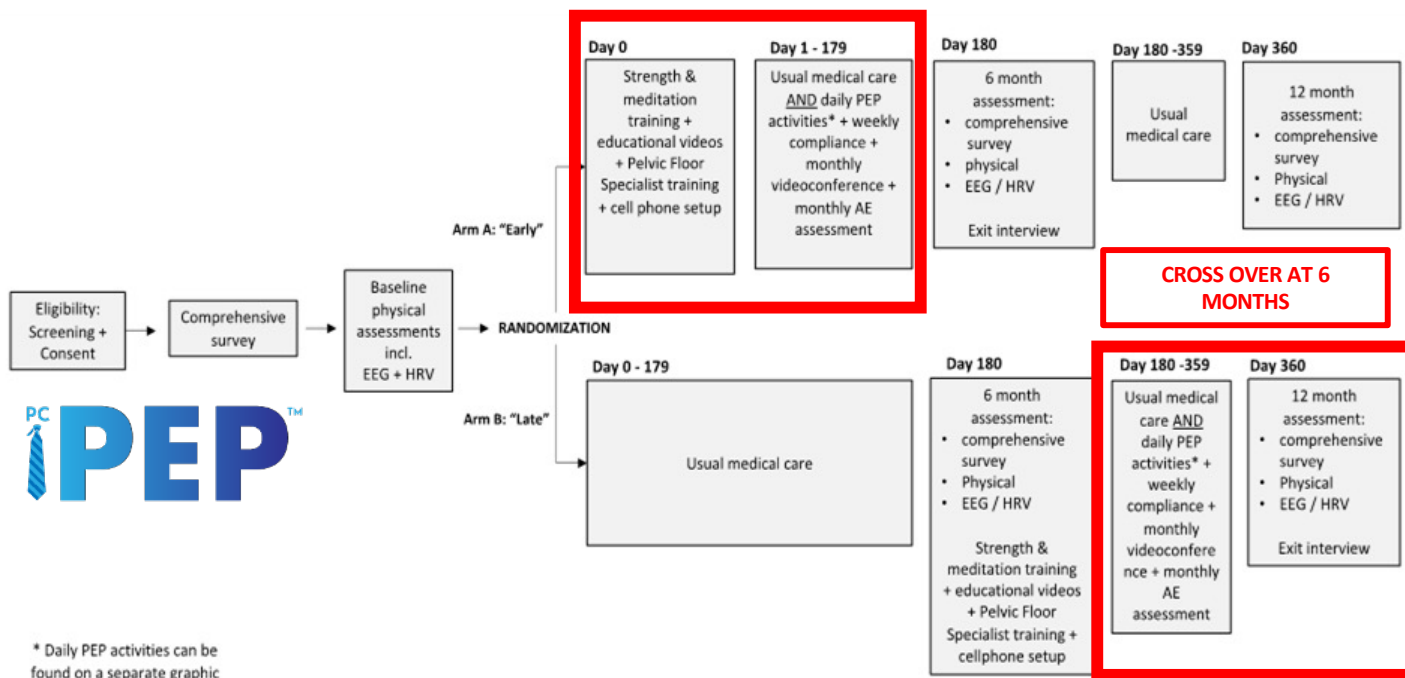
Improved Physical Fitness  
Reduced Weight  
(McNevin et al., Curr Onc, 2024)

Less Treatment Regret,  
(Bradley et al., 2019, Ilie et al.,  
Curr Onc, 2023)

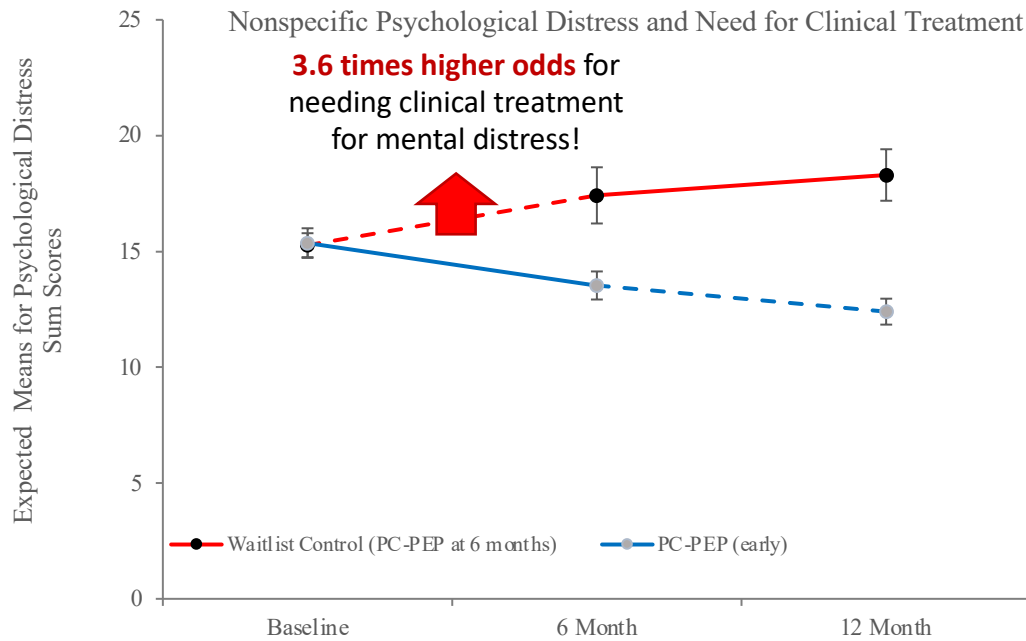
Increased Self-Efficacy  
& Perceived Illness Control  
(MacDonald, et al., Cancers, 2024)

# PC-PEP Phase 3 RANDOMIZED Trial

(n=128 Prostate Cancer with curative cancers)



# PC-PEP TRIAL Primary Outcome results



EUROPEAN UROLOGY 83 (2023) 561–570

available at www.sciencedirect.com  
journal homepage: www.europeanurology.com



Prostate Cancer

## A Comprehensive 6-mo Prostate Cancer Patient Empowerment Program Decreases Psychological Distress Among Men Undergoing Curative Prostate Cancer Treatment: A Randomized Clinical Trial

Gabriela Ilie<sup>a,b,c,\*</sup>, Ricardo Rendon<sup>b</sup>, Ross Mason<sup>a</sup>, Cody MacDonald<sup>b</sup>, Michael J. Kucharzyk<sup>a</sup>, Nikhilesh Patil<sup>a</sup>, David Bowes<sup>a</sup>, Greg Bailly<sup>a</sup>, David Bell<sup>a</sup>, Joseph Lawen<sup>a</sup>, Michael Ha<sup>a</sup>, Derek Wilke<sup>a</sup>, Peter Massaro<sup>a</sup>, Jeffery Zahavich<sup>a</sup>, George Kephart<sup>a</sup>, Robert David Harold Rutledge<sup>c</sup>

<sup>a</sup>Department of Urology, Dalhousie University, Halifax, Nova Scotia, Canada; <sup>b</sup>Department of Community Health and Epidemiology, Dalhousie University, Halifax, Nova Scotia, Canada; <sup>c</sup>Department of Radiation Oncology, Dalhousie University, Halifax, Nova Scotia, Canada; <sup>d</sup>Department of Kinesiology, Dalhousie University, Halifax, Nova Scotia, Canada

### Article info

Article history:  
Accepted February 3, 2023

Associate Editor:  
Todd M. Morgan

Statistical Editor:  
Andrew Vickers

**Keywords:**  
Prostate cancer  
Curative  
Mental health  
Psychological distress  
Depression  
Anxiety  
Survivorship  
Patient activation  
Patient education and empowerment intervention  
Quality of life

### Abstract

**Background:** Although survival rates for newly diagnosed prostate cancer patients are very high, most of them will likely suffer significant treatment-related side effects, depression, or anxiety, affecting their quality of life.

**Objective:** The aim of this study was to examine the effects of a 6-mo online home-based physical, mental, and social support intervention, the Prostate Cancer Patient Empowerment Program (PC-PEP), on preventing psychological distress among men undergoing curative prostate cancer treatment.

**Design, setting, and participants:** In a crossover randomized clinical trial of 128 men aged 50–82 yr scheduled for curative prostate cancer surgery or radiotherapy (± hormone treatment), 66 received the 6-mo PC-PEP intervention and 62 were randomized to a waitlist-control arm and received the standard of care for 6 mo, and then PC-PEP to the end of the year. The PC-PEP intervention consisted of daily e-mails with video instructions providing education, patient activation, and empowerment on healthy living including physical and mental health, dietary recommendations, social support, physical and pelvic floor fitness, stress reduction using a biofeedback device, social connection and intimacy, and social support.

**Outcome measurements and statistical analysis:** The primary outcome was nonspecific psychological distress (clinical cutoff  $\geq 20$ ) measured at baseline, and at 6 and 12 mo using the Kessler Psychological Distress Scale (K10).

**Results and limitations:** At 6 mo, patients in the waitlist-control group had 3.59 (95% confidence interval: 1.12–11.51) times higher odds for nonspecific psychological distress and need for psychological treatment than men who received the PC-PEP intervention.

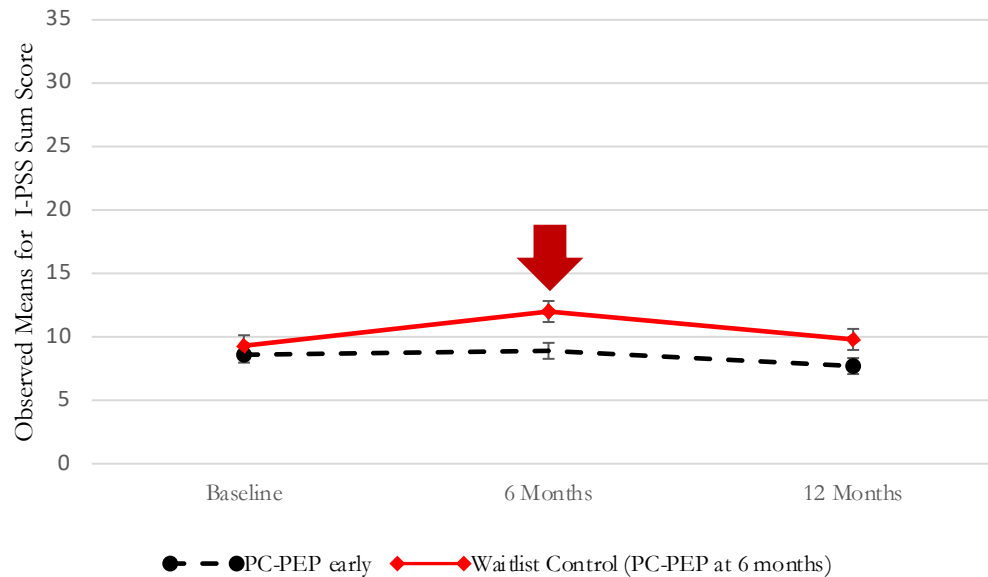


**DALHOUSIE**  
**UNIVERSITY**

FACULTY OF MEDICINE

# PCPEP Results Secondary Outcomes: Urologic symptoms (Lawen et al., Cancers, 2024)

I-PSS (International Prostate Symptom Score) Sum Score  
(higher scores worse symptoms)



## Article Six-Month Prostate Cancer Empowerment Program (PC-PEP) Improves Urinary Function: A Randomized Trial

Tarek Lawen<sup>1</sup>, Gabriela Ilie<sup>1,2,3,4,5,6</sup>, Ross Mason<sup>1</sup>, Ricardo Rendon<sup>1</sup>, Jesse Spooner<sup>1</sup>, Emmi Champion<sup>1</sup>, Jessica Davis<sup>1</sup>, Cody MacDonald<sup>2</sup>, Michael J. Kucharczyk<sup>4,5</sup>, Nikhilesh Patil<sup>2</sup>, David Bowes<sup>2</sup>, Greg Bailly<sup>1</sup>, David Bell<sup>1</sup>, Joseph Lawen<sup>1</sup>, Derek Wilke<sup>2</sup>, George Kephart<sup>1,5,6</sup> and Robert David Harold Rutledge<sup>2</sup>\*

- Department of Urology, Dalhousie University, Halifax, NS B3H 4R2, Canada
- Department of Radiation Oncology, Dalhousie University, Halifax, NS B3H 4R2, Canada
- Department of Community Health and Epidemiology, Dalhousie University, Halifax, NS B3H 4R2, Canada; codymacdonald@dal.ca (C.M.)
- Department of Oncology, Queen's University, Kingston, ON K7L 3N6, Canada
- School of Health Administration, Dalhousie University, Halifax, NS B3H 4R2, Canada
- School of Nursing, Umeå University, 901 87 Umeå, Sweden
- Correspondence: gabriela.ilie@dal.ca; Tel.: +1-902-480-4114

**Simple Summary:** In this research, we explore the effectiveness of a unique home-based 6-month comprehensive program designed to empower prostate cancer patients during their treatment. The Prostate Cancer-Patient Empowerment Program (PC-PEP) aims to enhance the quality of life for men undergoing curative treatment for prostate cancer, focusing on improving urologic function. Through a blend of physical activities, dietary education and recommendations, stress management, and social support, PC-PEP offers an innovative approach to patient care. This study rigorously assesses the impact of PC-PEP through a detailed 6-month comparison with standard care, evaluating its potential to significantly improve patient-reported outcomes. Our findings hold the promise of reshaping patient care strategies, presenting a potentially valuable addition to clinical practices for men battling prostate cancer, with the hope of improving not just their physical well-being but also their overall quality of life.



**Citation:** Lawen, T.; Ilie, G.; Mason, R.; Rendon, R.; Spooner, J.; Champion, E.; Davis, J.; MacDonald, C.; Kucharczyk, M.J.; Patil, N.; et al. Six-Month Prostate Cancer Empowerment Program (PC-PEP) Improves Urinary Function: A Randomized Trial. *Cancers* **2024**, *16*, 958. <https://doi.org/10.3390/cancers16050958>

**Academic Editor:** Henkko Isomäki  
Received: 1 February 2024  
Revised: 26 February 2024  
Accepted: 21 February 2024  
Published: 27 February 2024



Copyright: © 2024 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>).

**Abstract:** Purpose: This is a secondary analysis examining a six-month home-based Prostate Cancer-Patient Empowerment Program (PC-PEP) on patient-reported urinary, bowel, sexual, and hormonal function in men with curative prostate cancer (PC) against standard of care. Methods: In a crossover clinical trial, 128 men scheduled for PC surgery (n = 62) or radiotherapy with/without hormones (n = 66) were randomized to PC-PEP (n = 66) or waitlist-control and received the standard of care for 6 months, and then PC-PEP to the end of the year. PC-PEP included daily emails with video instructions, aerobic and strength training, dietary guidance, stress management, and social support, with an initial FPMT nurse consultation. Over 6 months, participants in the PC-PEP received optional text alerts (up to three times daily) reminding them to follow the FPMT video program, encompassing relaxation, quick-twitch, and endurance exercises; compliance was assessed weekly. Participants completed baseline, 6- and 12-month International Prostate Symptom Score (IPSS) and Expanded Prostate Cancer Index Composite (EPIC) questionnaires. Results: At 6 months, men in the PC-PEP reported improved urinary bother (IPSS, p = 0.004), continence (EPIC, p < 0.001), and irritative/obstruction function (p = 0.038) compared to controls, with sustained urinary continence benefits at 12 months (p = 0.002). Surgery patients in the waitlist-control group had 3.5 (95% CI: 1.2, 10, p = 0.024) times and 2.3 (95% CI: 0.82, 6.7, p = 0.11) times higher odds of moderate to severe urinary problems compared to PC-PEP at 6 and 12 months, respectively. Conclusions: PC-PEP significantly improves lower urinary tract symptoms, affirming its suitability for clinical integration alongside established mental health benefits in men with curative prostate cancer.

Cancers **2024**, *16*, 958. <https://doi.org/10.3390/cancers16050958>

<https://www.mdpi.com/journal/cancers>

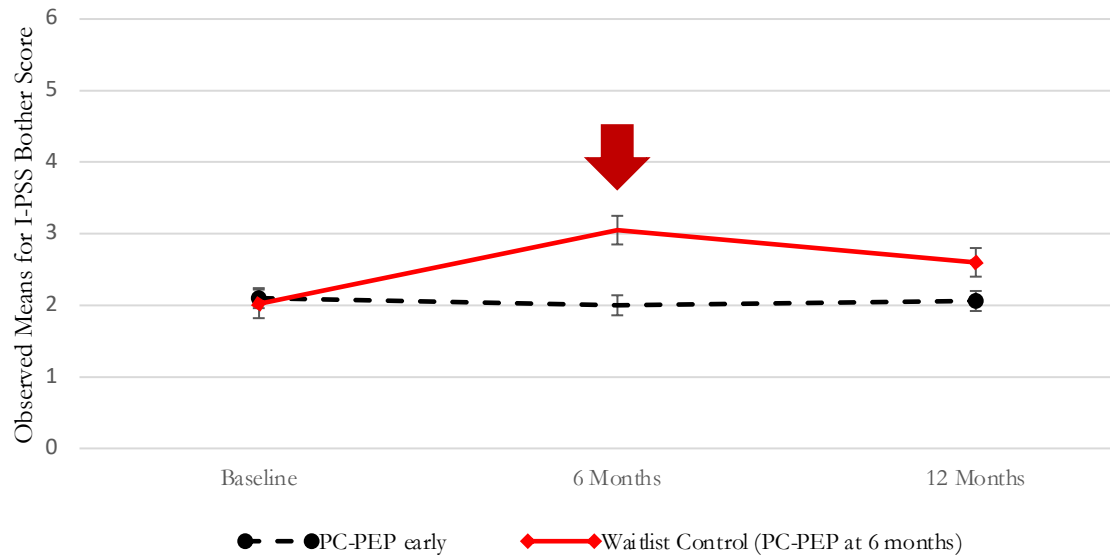


**DALHOUSIE  
UNIVERSITY**

FACULTY OF MEDICINE

# PCPEP Results Secondary Outcomes: Urologic symptoms (Lawen et al., Cancers, 2024)

## I-PSS (International Prostate Symptom Score) Bother Score (higher scores worse symptoms)



**cancers** MDPI

Article  
**Six-Month Prostate Cancer Empowerment Program (PC-PEP) Improves Urinary Function: A Randomized Trial**

Tarek Lawen <sup>1</sup>, Gabriela Ilie <sup>1,2,3,4,\*</sup>, Ross Mason <sup>1</sup>, Ricardo Rendon <sup>1</sup>, Jesse Spooner <sup>1</sup>, Emmi Champion <sup>1</sup>, Jessica Davis <sup>1</sup>, Cody MacDonald <sup>5,6</sup>, Michael J. Kucharczyk <sup>4,6</sup>, Nikhilesh Patil <sup>7</sup>, David Bowes <sup>7</sup>, Greg Bailly <sup>1</sup>, David Bell <sup>1</sup>, Joseph Lawen <sup>1</sup>, Derek Wilke <sup>7</sup>, George Kephart <sup>8,9</sup> and Robert David Harold Rutledge <sup>2</sup>

<sup>1</sup> Department of Urology, Dalhousie University, Halifax, NS B3H 4R2, Canada  
<sup>2</sup> Department of Radiation Oncology, Dalhousie University, Halifax, NS B3H 4R2, Canada  
<sup>3</sup> Department of Community Health and Epidemiology, Dalhousie University, Halifax, NS B3H 4R2, Canada; codymacdonald@dal.ca (C.M.)  
<sup>4</sup> Department of Oncology, Queen's University, Kingston, ON K7L 3N6, Canada  
<sup>5</sup> School of Health Administration, Dalhousie University, Halifax, NS B3H 4R2, Canada  
<sup>6</sup> School of Nursing, Umeå University, 901 87 Umeå, Sweden  
<sup>7</sup> Correspondence: gabriela.ilie@dal.ca; Tel.: +1-902-989-4114

**Simple Summary:** In this research, we explore the effectiveness of a unique home-based 6-month comprehensive program designed to empower prostate cancer patients during their treatment. The Prostate Cancer-Patient Empowerment Program (PC-PEP) aims to enhance the quality of life for men undergoing curative treatment for prostate cancer, focusing on improving urologic function. Through a blend of physical activities, dietary education and recommendations, stress management, and social support, PC-PEP offers an innovative approach to patient care. This study rigorously assesses the impact of PC-PEP through a detailed 6-month comparison with standard care, evaluating its potential to significantly improve patient-reported outcomes. Our findings hold the promise of reshaping patient care strategies, presenting a potentially valuable addition to clinical practices for men battling prostate cancer, with the hope of improving not just their physical well-being but also their overall quality of life.

**Abstract Purpose:** This is a secondary analysis examining a six-month home-based Prostate Cancer-Patient Empowerment Program (PC-PEP) on patient-reported urinary, bowel, sexual, and hormonal function in men with curative prostate cancer (PC) against standard of care. **Methods:** In a crossover clinical trial, 128 men scheduled for PC surgery (n = 62) or radiotherapy with/without hormones (n = 66) were randomized to PC-PEP (n = 66) or waitlist-control and received the standard of care for 6 months, and then PC-PEP to the end of the year. PC-PEP included daily emails with video instructions, aerobic and strength training, dietary guidance, stress management, and social support, with an initial PMT nurse consultation. Over 6 months, participants in the PC-PEP received optional text alerts (up to three times daily) reminding them to follow the PMT video program, encompassing relaxation, quick-twitch, and endurance exercises; compliance was assessed weekly. Participants completed baseline, 6, and 12-month International Prostate Symptom Score (IPSS) and Expanded Prostate Cancer Index Composite (EPIC) questionnaires. **Results:** At 6 months, men in the PC-PEP reported improved urinary bother (IPSS, p = 0.004), continence (EPIC, p < 0.001), and irritation/obstruction function (p = 0.006) compared to controls, with sustained urinary continence benefits at 12 months (p = 0.002). Surgery patients in the waitlist-control group had 3.5 (95% CI: 1.2, 10, p = 0.024) times and 2.3 (95% CI: 0.82, 6.7, p = 0.11) times higher odds of moderate to severe urinary problems compared to PC-PEP at 6 and 12 months, respectively. **Conclusions:** PC-PEP significantly improves lower urinary tract symptoms, affirming its suitability for clinical integration alongside established mental health benefits in men with curative prostate cancer.

check for updates

Citation: Lawen, T.; Ilie, G.; Mason, R.; Rendon, R.; Spooner, J.; Champion, E.; Davis, J.; MacDonald, C.; Kucharczyk, M.J.; Patil, N. et al. Six-Month Prostate Cancer Empowerment Program (PC-PEP) Improves Urinary Function. *Cancers* **2024**, *16*, 958. <https://doi.org/10.3390/cancers16050958>

Academic Editor: Henshi Ivanovski

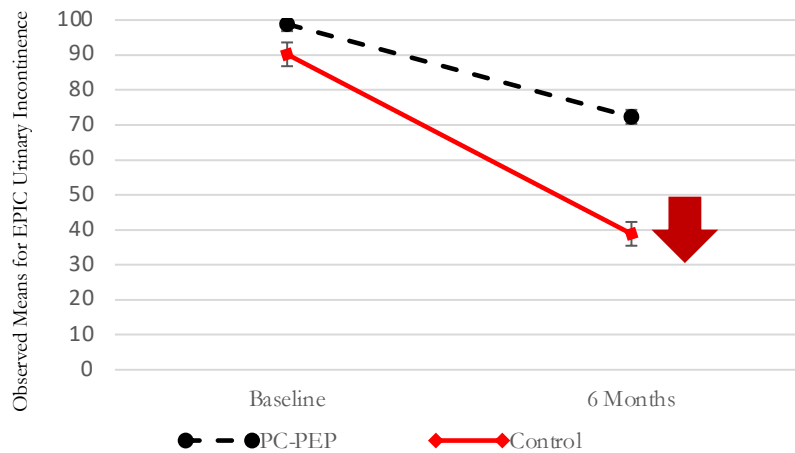
Received: 1 February 2024  
 Revised: 20 February 2024  
 Accepted: 21 February 2024  
 Published: 27 February 2024

Copyright: © 2024 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>).

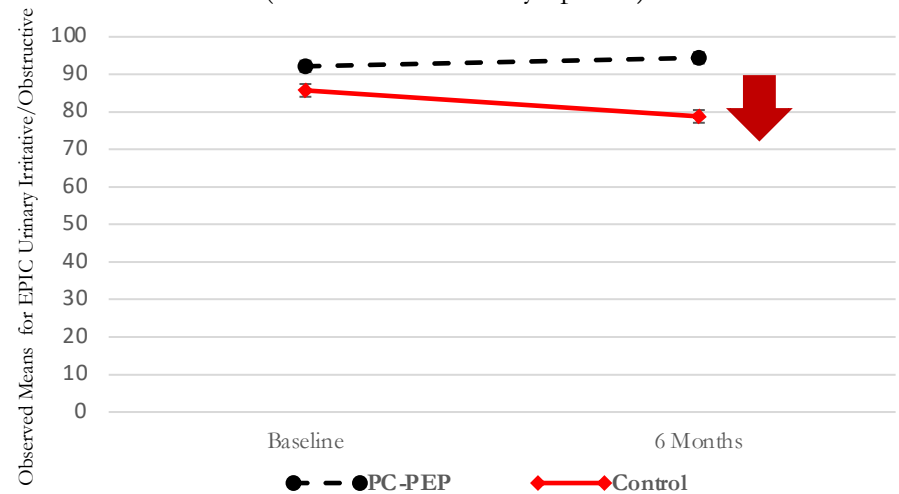
Cancers **2024**, *16*, 958. <https://doi.org/10.3390/cancers16050958> <https://www.mdpi.com/journal/cancers>

## PCPEP Results Secondary Outcomes: Urologic symptoms (Lawen et al., Cancers, 2024)

EPIC (Expanded Prostate Cancer Index Composite)  
Urinary Incontinence - **Surgery group, n=62**  
(lower scores worse symptoms)



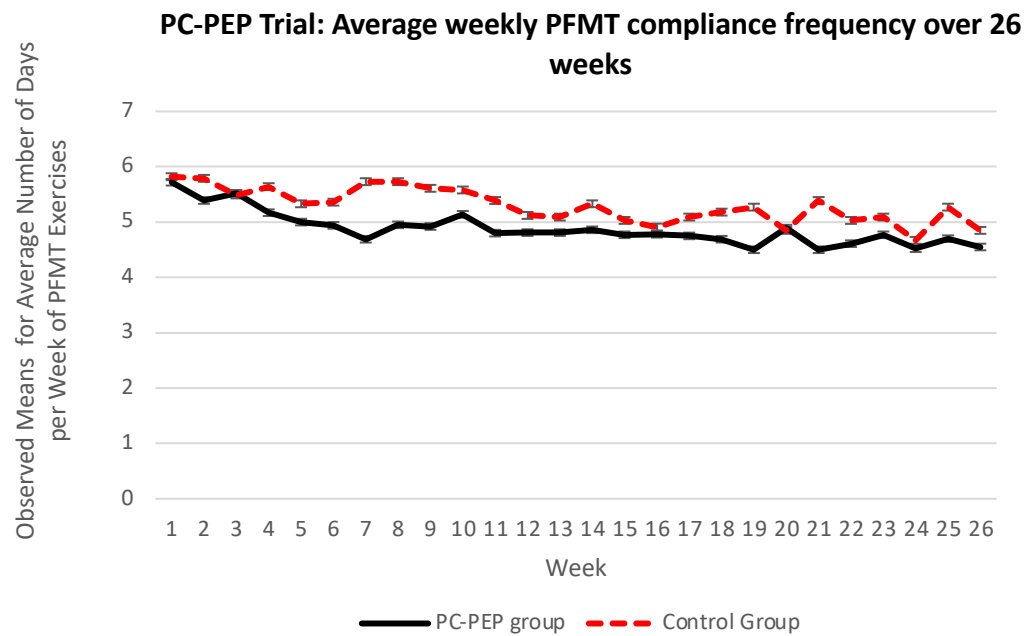
EPIC (Expanded Prostate Cancer Index Composite)  
Urinary Irritative/Obstructive - **Surgery group, n=62**  
(lower scores worse symptoms)



DALHOUSIE  
UNIVERSITY

FACULTY OF MEDICINE

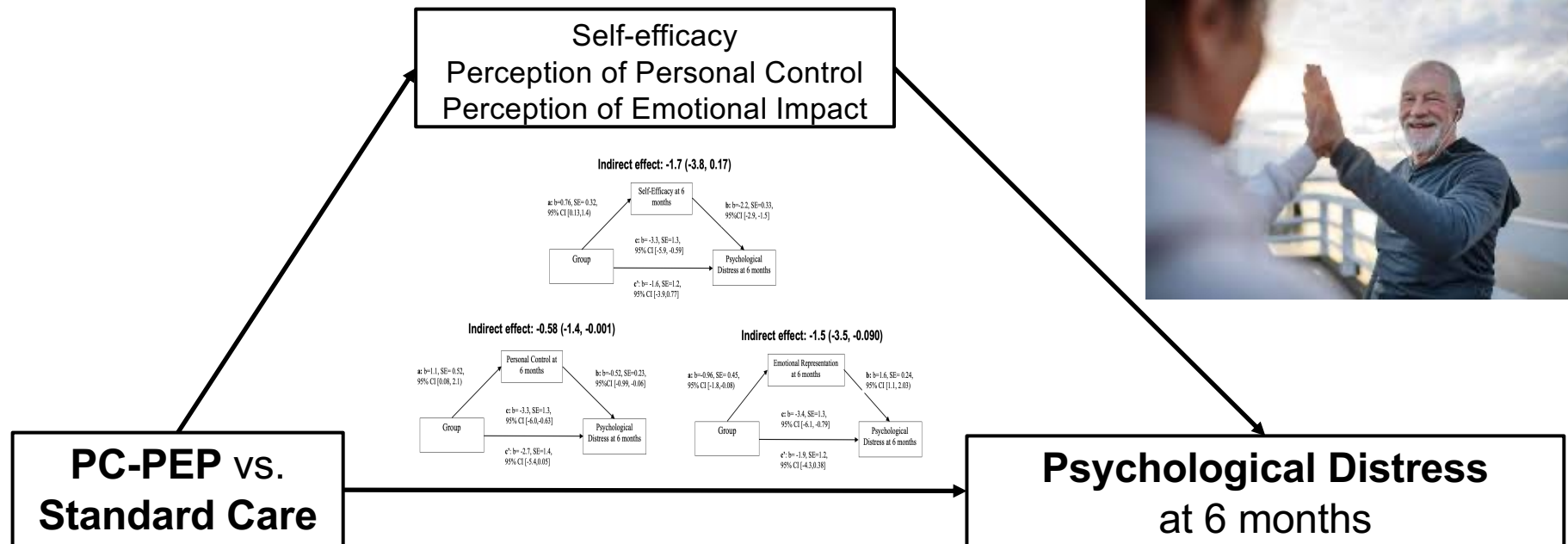
## PCPEP Results Secondary Outcomes: Urologic symptoms (Lawen et al., Cancers, 2024)



**DALHOUSIE**  
UNIVERSITY

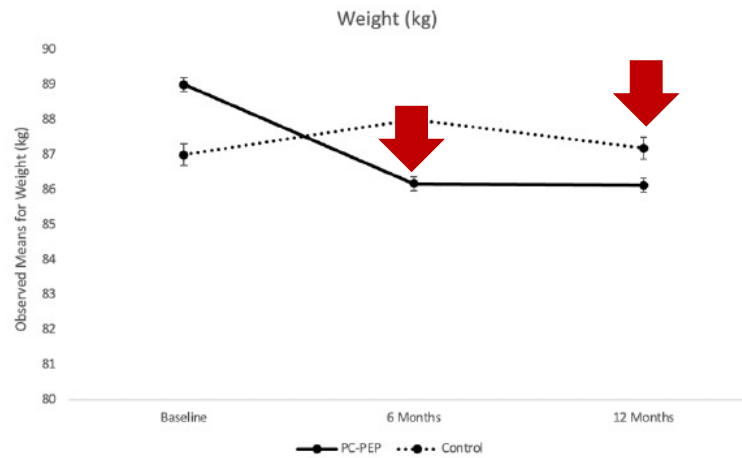
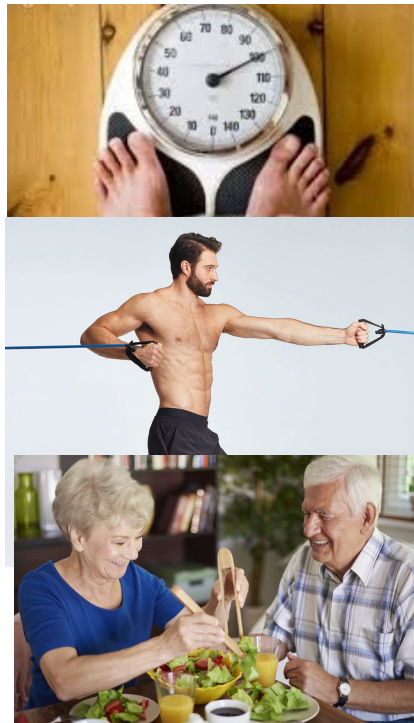
FACULTY OF MEDICINE

# Self Efficacy, Perception of Personal Control, and Perception of Emotional Impact Mediate the Effect of the PC-PEP Intervention on Reducing Psychological Distress (Macdonald et al., 2024)



# PCPEP Results: Weight Loss at 6 months and 1 year post Intervention

(MacNevin et al., Current Oncology, 2024, Special Issue)



## PC-PEP, a Comprehensive Daily Six-Month Home-Based Patient Empowerment Program Leads to Weight Loss in Men with Prostate Cancer: A Secondary Analysis of a Clinical Trial

Wyatt MacNevin <sup>1</sup>, Gabriela Hie <sup>1,2,3,4</sup>, Ricardo Rendon <sup>1</sup>, Ross Mason <sup>1</sup>, Jesse Spomer <sup>1</sup>, Emily Chedrawe <sup>1</sup>, Nikhilesh Patel <sup>1</sup>, David Bowes <sup>1</sup>, Greg Bailey <sup>1</sup>, David Bell <sup>1</sup>, Derek Wilke <sup>1</sup>, Jeffrey B. L. Zahavich <sup>4</sup>, Cody MacDonald <sup>4</sup> and Robert David Harold Rutledge <sup>1</sup>

<sup>1</sup> Department of Urology, Dalhousie University, Halifax, NS B3H 4R2, Canada  
<sup>2</sup> Department of Community Health and Epidemiology, Dalhousie University, Halifax, NS B3H 4R2, Canada  
<sup>3</sup> Department of Radiation Oncology, Dalhousie University, Halifax, NS B3H 4R2, Canada  
<sup>4</sup> Department of Kinesiology, Dalhousie University, Halifax, NS B3H 4R2, Canada

\* Correspondence: gabriela.hie@dal.ca; Tel.: +1 (902) 494-4114

**Abstract:** Background: The Prostate Cancer—Patient Empowerment Program (PC-PEP) is a six-month daily home-based program shown to improve mental health and urinary function. This secondary analysis explores weight loss in male PC-PEP participants. Methods: In a randomized clinical trial with 128 men undergoing curative prostate cancer (PC) treatment, 66 received ‘early’ PC-PEP, while 62 were assigned to the ‘late’ waitlist-control group, receiving 6 months of standard-of-care treatment followed by 6 months of PC-PEP. PC-PEP comprised 192 daily emails with video-based exercise and dietary (predominantly plant-based) education, live online events, and 30 min strength training routines (using body weight and elastic bands). Weight and height data were collected via online survey (baseline, 6 months, and 12 months) including medical chart reviews. Adherence was tracked weekly. Results: No attrition or adverse events were reported. At 6 months, the early PC-PEP group experienced significant weight loss, averaging 2.7 kg ( $p < 0.0001$ ) compared to the waitlist-control group. Weight loss was noted in the late intervention group of PC-PEP, albeit less pronounced than in the early group. Early PC-PEP surgery patients lost on average 1.4 kg ( $SE = 0.65$ ) from the trial’s start to surgery day. High adherence to exercise and dietary recommendations was noted. Conclusions: PC-PEP led to significant weight loss in men undergoing curative prostate cancer treatment compared to standard-of-care.

**Keywords:** prostate cancer; curative treatment; exercise intervention; radical prostatectomy; radiation; weight loss; Body Mass Index; physical fitness; behavioral intervention; weight management



Citation: MacNevin, W.C., Hie, G., Rendon, R., Mason, R., Spomer, J., Chedrawe, E., Patel, N., Bowes, D., Bailey, G., Bell, D., et al. PC-PEP, a Comprehensive Daily Six-Month Home-Based Patient Empowerment Program Leads to Weight Loss in Men with Prostate Cancer: A Secondary Analysis of a Clinical Trial. *Current Oncology* 2024, 31, 1667–1688. <https://doi.org/10.3390/curonc31011667>

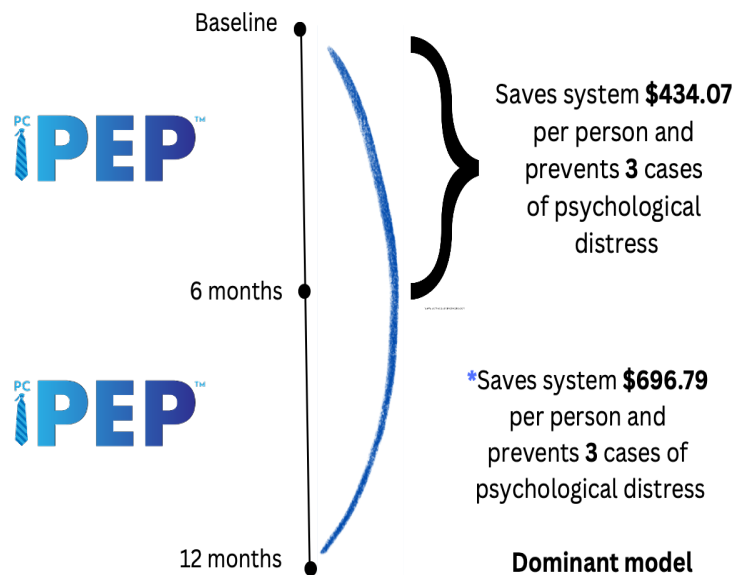
Received: 22 February 2024  
 Revised: 13 March 2024  
 Accepted: 20 March 2024  
 Published: 29 March 2024



Copyright: © 2024 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>).

# A cost effectiveness analysis of PC-PEP based on Provincial Medical billings (n=120)

Nuyens et al., CUAJ, 2025



These figures **do not capture potential indirect benefits** such as **reduced caregiver burden, improved workplace productivity, and fewer emergency healthcare visits**, suggesting that **the true economic value of PC-PEP** may be even greater.

Savings higher if exclude HRV monitor

~ **10,000 patients**  
Per year savings to medical system:  
~ **6,600,000 CAD** annually

## Clinical & Psychosocial Outcomes; Equity & Global Transferability

- **Satisfaction:** 8.3 / 10;
- **6 months attrition:** 3.1%;
- **Recommending for clinical integration:** 8.9 / 10
- **Psychological distress:**
  - ↓ **8.7 points K10** at 6 months ( $p < 0.001$ )
- **GBTQ+ men**
  - Worse baseline mental health
  - **Greater improvements over time**
  - **~10% higher retention** at 6 & 12 months

### **Black vs non-Black men**

- Comparable mental health outcomes
- **Improved urinary continence among Black men**

### **Younger (<60) vs older**

- Worse baseline mental health in younger men
- **Greater gains despite similar engagement**



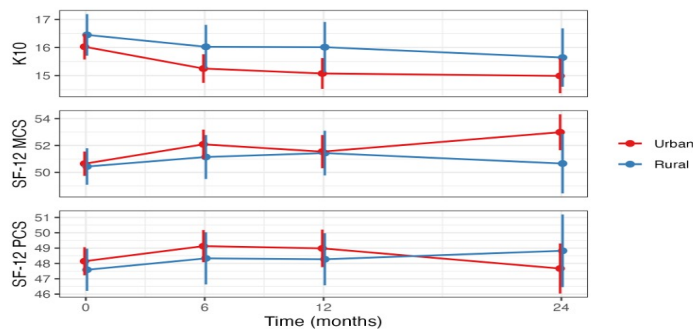
**DALHOUSIE**  
UNIVERSITY

FACULTY OF MEDICINE

- **Urban vs rural**

- Comparable retention and outcomes, demonstrating comparable degrees of usefulness, mental health benefits, and retention.

**PC-PEP** is a feasible, scalable, low-cost digital survivorship model that delivers clinically meaningful and equitable improvements across



# PC-PEP Phase 4 Trial, Canadian Sites and Enrolment worldwide (n = 720)

## PC-PEP Team



**Dr. Gabriela Ilic**  
Principal Investigator  
Dalhousie University  
Halifax, NS, Canada



**Dr. Rob Rutledge**  
Clinical Lead  
Dalhousie University  
Halifax, NS, Canada



### Canadian Investigators



**Dr. Ricardo Rendon**  
Co-Investigator  
Nova Scotia Health  
Halifax, NS, Canada



**Dr. Howard Evans**  
Site Investigator  
Alberta Health Services  
Edmonton, AB, Canada



**Dr. Chris Wallis**  
Site Investigator  
Mount Sinai Hospital  
Toronto, ON, Canada



**Dr. Ross Mason**  
Co-Investigator  
Nova Scotia Health  
Halifax, NS, Canada



**Dr. Kunal Jana**  
Site Investigator  
Saskatchewan Health  
Saskatoon, SK, Canada



**Dr. John Thoms**  
Site Investigator  
NL Health Services  
St. John's, NL, Canada



**Dr. Rob Thompson**  
Site Investigator  
Horizon Health Network  
Halifax, NS, Canada



**Dr. Susan Ellard**  
Site Investigator  
BC Cancer - Kelowna  
Kelowna, BC, Canada



**Dr. Larry Pan**  
Site Investigator  
Health PEI  
Charlottetown, PE, Canada



**Dr. Ernest Chan**  
Site Investigator  
Lakeridge Health  
Ottawa, ON, Canada



**Dr. Mark Corkum**  
Site Investigator  
Ottawa Hospital  
Ottawa, ON, Canada



**Dr. David Bowes**  
Co-Investigator  
Nova Scotia Health  
Halifax, NS, Canada



**Dr. Nikhlesh Patel**  
Co-Investigator  
Nova Scotia Health  
Halifax, NS, Canada



**Dr. Mike Kucharczyk**  
Co-Investigator  
Nova Scotia Health  
Halifax, NS, Canada



**Dr. Greg Bailly**  
Co-Investigator  
Nova Scotia Health  
Halifax, NS, Canada



**Dr. Andrea Kokorovic**  
Co-Investigator  
Nova Scotia Health  
Halifax, NS, Canada



**Dr. Lori Wood**  
Co-Investigator  
Nova Scotia Health  
Halifax, NS, Canada



**Dr. David Bell**  
Co-Investigator  
Nova Scotia Health  
Halifax, NS, Canada

### International Investigators



**Mr. Peter Dickens**  
New Zealand Site Lead  
PC Foundation New Zealand  
Auckland, New Zealand



**Dr. Renée Buttinck**  
Belgium Site Lead  
Ghent University  
Ghent, Belgium



**A/Prof. Eric Chung**  
Site Investigator  
Princess Alexandra Hospital  
Brisbane, Australia



**Dr. Anne Hone**  
Site Investigator  
Austin Health  
Melbourne, Australia



**Dr. Adrian Udrea**  
Romania Site Lead  
Mediapol  
Cluj-Napoca, Romania



**Dr. Waranja Ranasinghe**  
Site Investigator  
Monash Health  
Melbourne, Australia

### Research Citizen Leads, Collaborators, and Staff



**Ross Macdonald**  
Research Citizen Lead  
Outreach, International  
Halifax, NS, Canada



**Bernie Petolas**  
Research Citizen Lead  
Outreach, National  
Halifax, NS, Canada



**John Dermmings**  
Research Citizen Lead  
2+GBTQ Community  
Halifax, NS, Canada



**Pat Macdonald**  
Research Citizen Lead  
Partners and Outreach  
Halifax, NS, Canada



**Liette Connor**  
Urology Nurse  
Nova Scotia Health  
Halifax, NS, Canada



**Kevin Barnett**  
Research Citizen Lead  
Exercise, National  
Halifax, NS, Canada



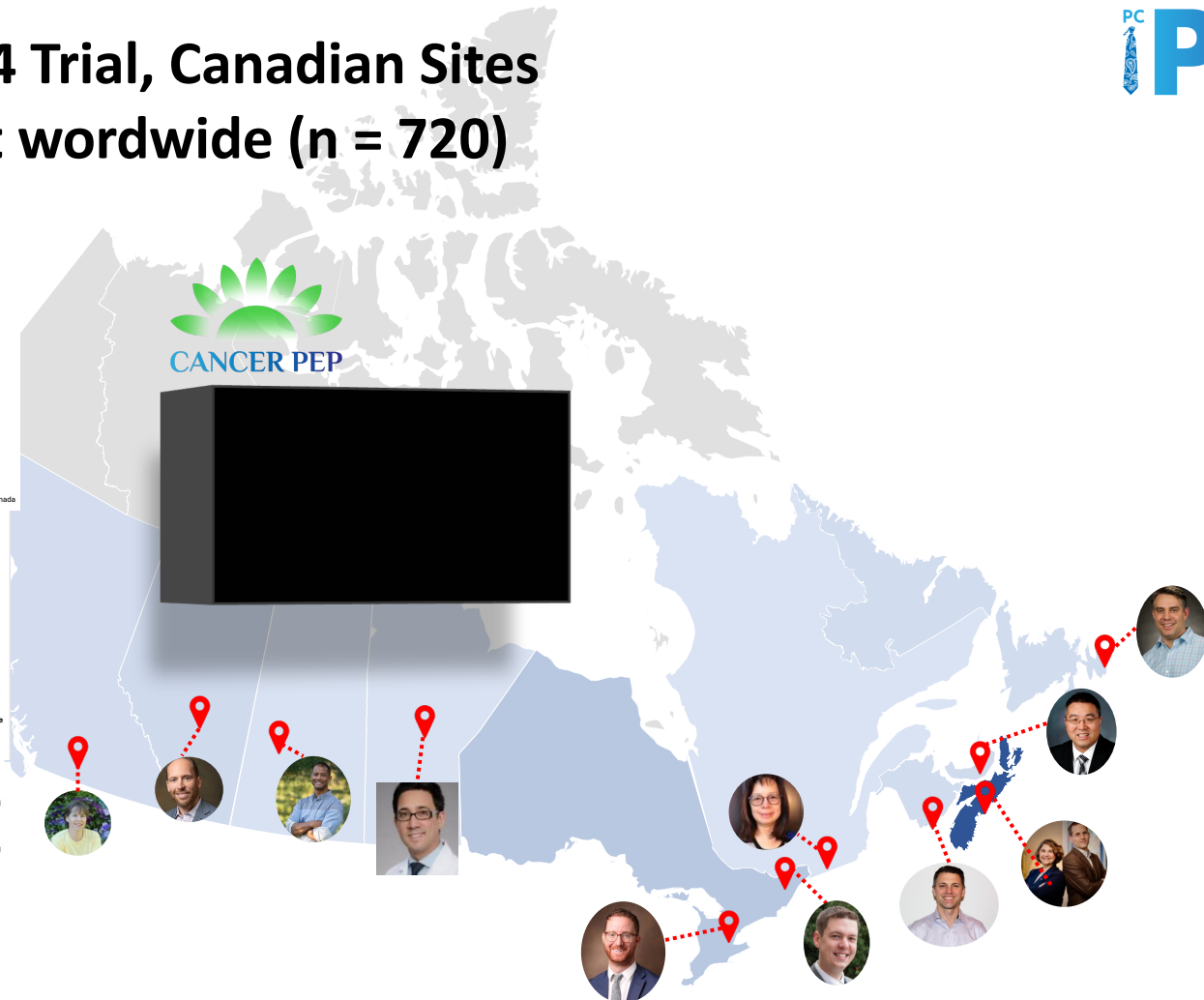
**Cody Macdonald**  
Project Coordinator  
Nova Scotia Health  
Halifax, NS, Canada



**Markos Tsirigotis**  
Program Coordinator  
Dalhousie University  
Halifax, NS, Canada

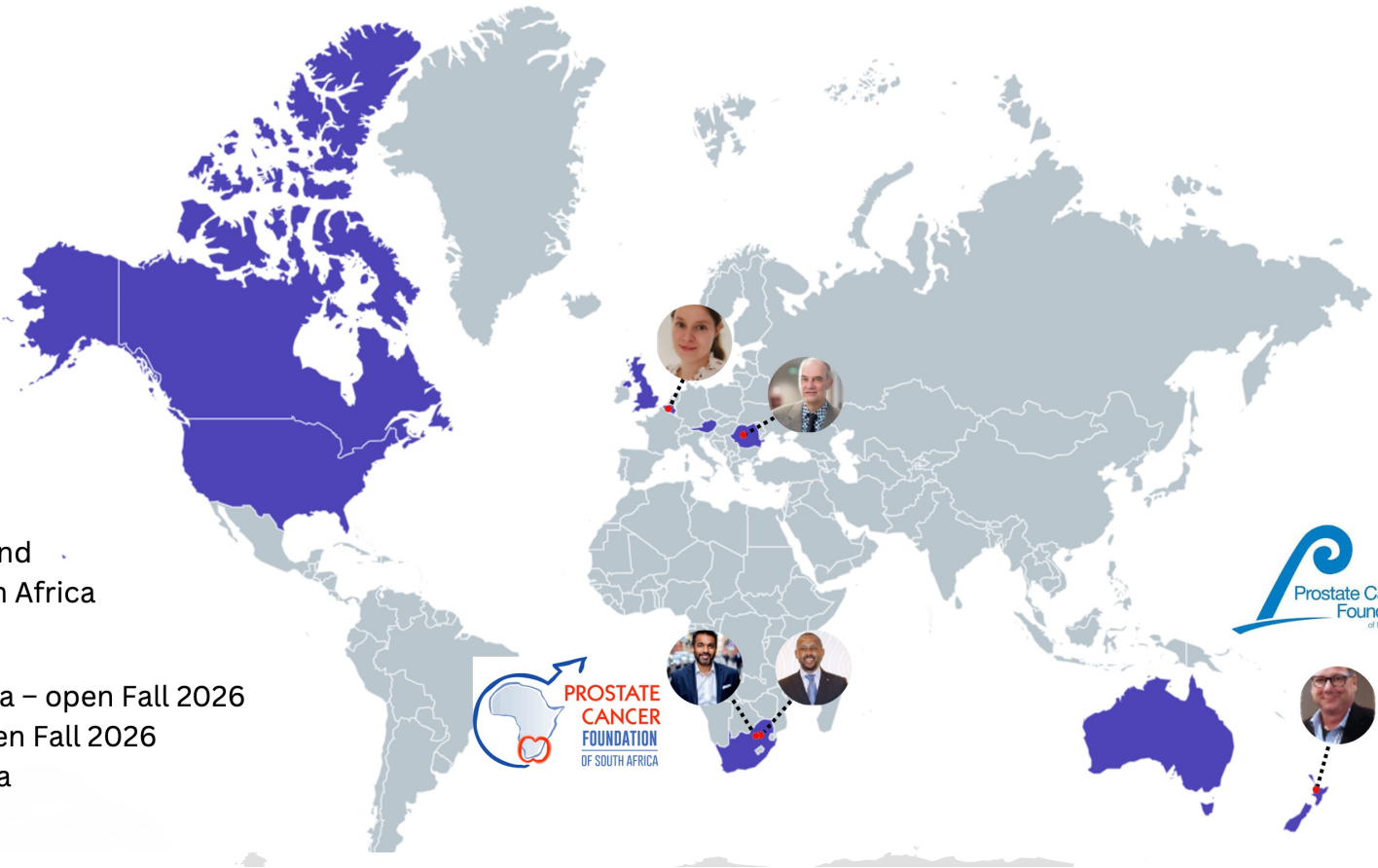


**Calvin Butler**  
Research Assistant  
Dalhousie University  
Halifax, NS, Canada





## PC-PEP Phase 4 Trial Worldwide (Canada, New Zealand, South Africa, and Europe) Enrolment; N = 702



### International Sites

#### Open and Enrolling:

1. Auckland, New Zealand
2. Johannesburg, South Africa

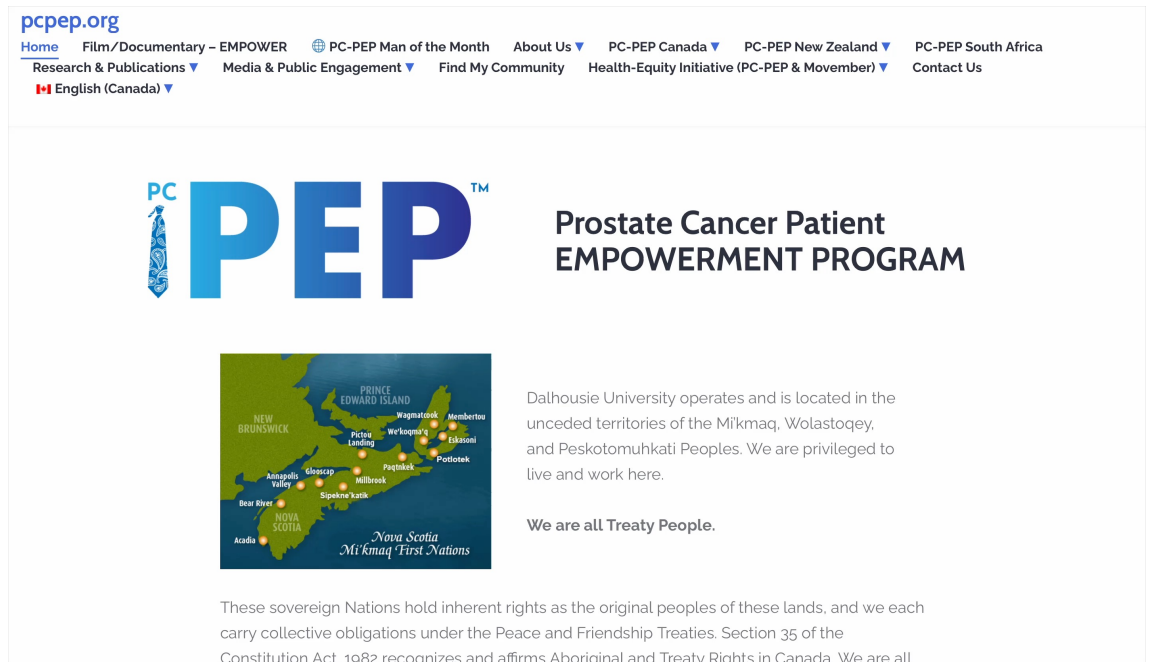
#### Study Start-up Phase:

1. Cluj Napoca, Romania – open Fall 2026
2. Ghent, Belgium – open Fall 2026
3. Pretoria, South Africa



# Health Equity Movember Project

- Indigenous men
- Black men and men of African-Caribbean Descent
- Gay and bisexual community members
- Younger men



The screenshot shows the PCPEP website homepage. At the top, the URL 'pcpep.org' is displayed. Below it is a navigation menu with links for 'Home', 'Film/Documentary - EMPOWER', 'PC-PEP Man of the Month', 'About Us', 'PC-PEP Canada', 'PC-PEP New Zealand', and 'PC-PEP South Africa'. A secondary menu includes 'Research & Publications', 'Media & Public Engagement', 'Find My Community', 'Health-Equity Initiative (PC-PEP & Movember)', and 'Contact Us'. A language selector for 'English (Canada)' is also present.

The main content area features the PCPEP logo, which consists of a stylized 'PC' in a blue and white pattern, followed by 'PEP' in large blue letters. To the right of the logo is the text 'Prostate Cancer Patient EMPOWERMENT PROGRAM'.

Below the logo is a map of Nova Scotia, Canada, with various First Nations territories labeled: New Brunswick, Prince Edward Island, Mi'kmaq, We'kqoq'q, Eskasoni, Pictou Landing, Wapmatook, Membertou, Annapolis Valley, Gloszap, Millbrook, Paqtakek, Pottotek, Bear River, Sipatme'kani, and Acadia. The map is titled 'Nova Scotia Mi'kmaq First Nations'.

To the right of the map, there is a paragraph of text: 'Dalhousie University operates and is located in the unceded territories of the Mi'kmaq, Wolastoqey, and Peskotomuhkati Peoples. We are privileged to live and work here.' Below this is the phrase 'We are all Treaty People.'

At the bottom of the page, there is a paragraph: 'These sovereign Nations hold inherent rights as the original peoples of these lands, and we each carry collective obligations under the Peace and Friendship Treaties. Section 35 of the Constitution Act, 1982 recognizes and affirms Aboriginal and Treaty Rights in Canada. We are all'.

# Trial of CancerPEP for all types of Cancer

**Strong interest from National Cancer Groups for PEP programming**

**CancerPEP similar to PCPEP – more comprehensive daily home-based programming**

- Randomized clinical trial +/- HRV monitor with waitlist control group

➤ **Accrued 104 pan-Canadian patients over week 2 weeks (58 with breast cancer)**



**INTERESTED IN JOINING?**

Please visit: [www.southerncancer.org.nz/cancer-pep](http://www.southerncancer.org.nz/cancer-pep) to learn more about the programme.

If you are interested in signing up please email our CancerPEP On-boarder Zoe Arden, leaving a contact phone number. Zoe will then be in touch to talk you through the steps to get set up and can answer any questions you may have along the way.

**CONTACT US**

W: [www.southerncancer.org.nz/cancer-pep](http://www.southerncancer.org.nz/cancer-pep)  
 E: [CancerPEP@southerncancer.org.nz](mailto:CancerPEP@southerncancer.org.nz)  
 P: 021 465 746

Scan Me

**Southern Cancer Society**  
 Te Kaitiaki Matapuakapuka o Te Waiapuamutu

**CANCER PATIENT EMPOWERMENT PROGRAM**

In collaboration with the Southern Cancer Society of New Zealand

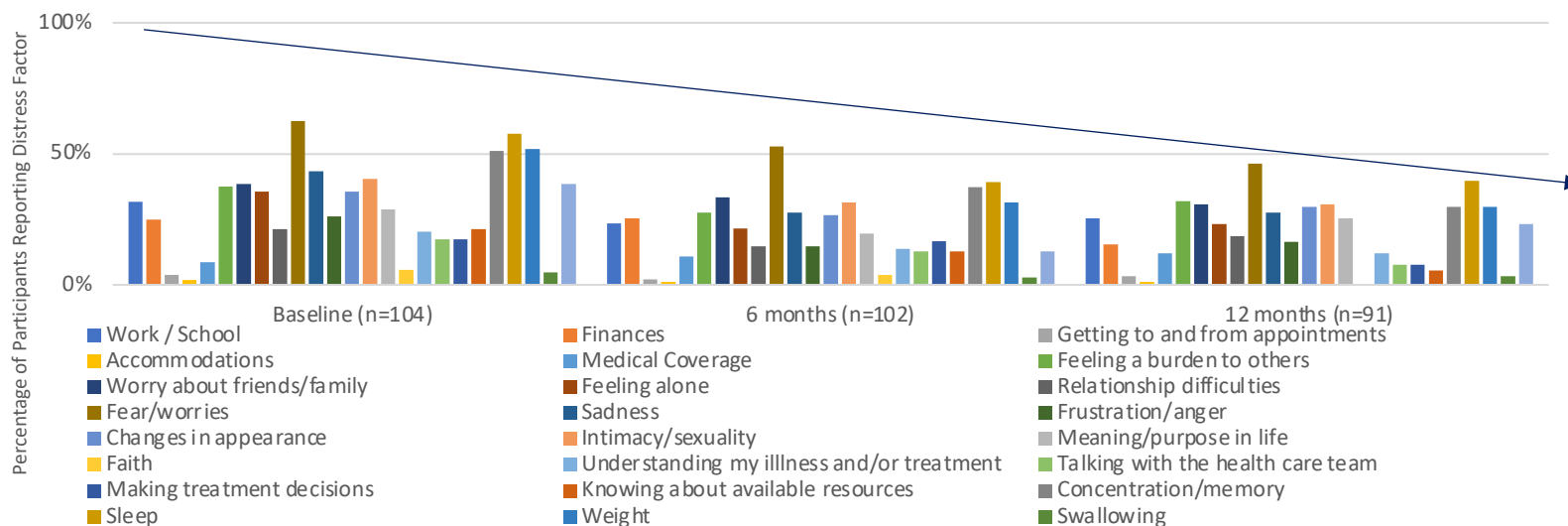
**Southern Cancer Society**  
 Te Kaitiaki Matapuakapuka o Te Waiapuamutu

**CANCER**  
 Patient Empowerment

# CancerPEP *Cancers, 2024*

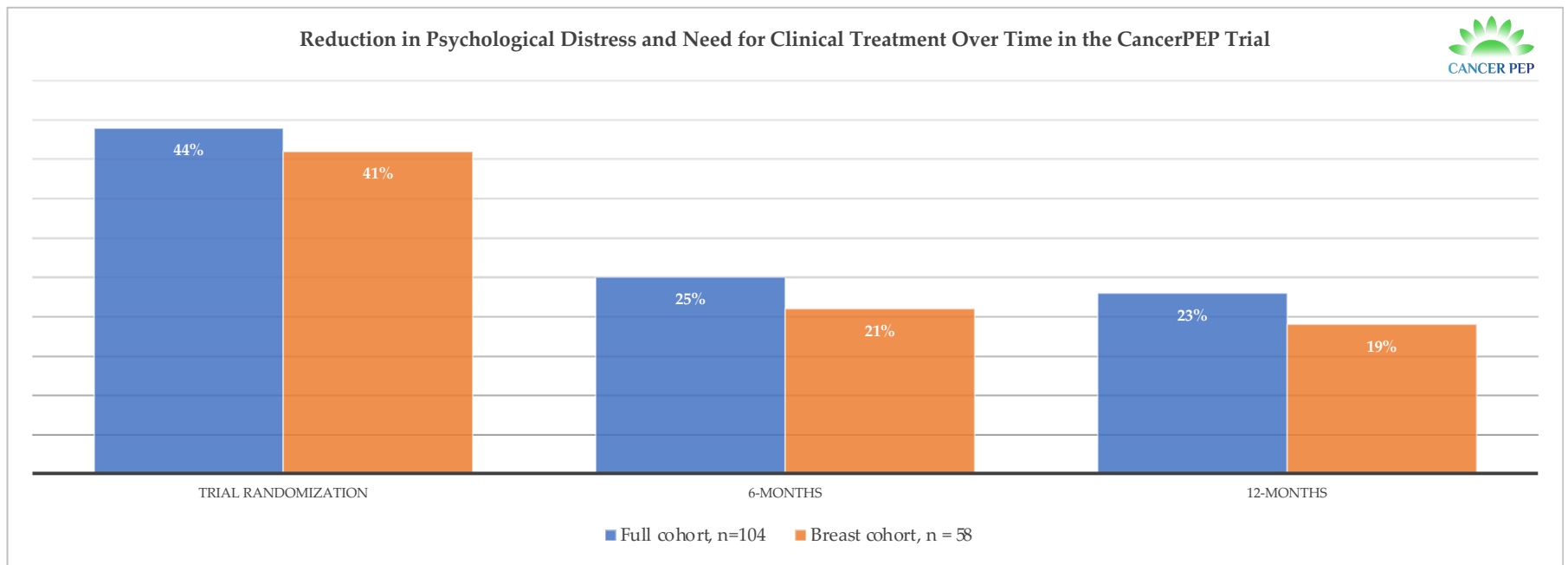
## Mental Health results – 104 Cancer Survivors

Distress Factors Among CancerPEP Participants at Baseline, 6 months, and 12 months (N=104)



# CancerPEP *Ilie et al. Cancers, 2024*

## Mental Health results – 104 Cancer Survivors



## Other Take aways from the CancerPEP program

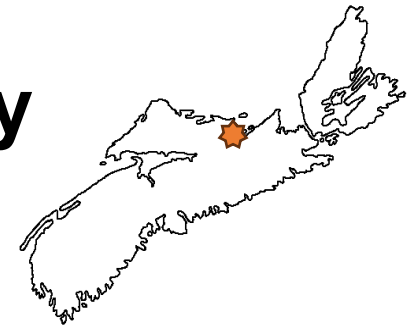
- **Improvement in weight:** Participants demonstrated sustained weight loss (7 lbs), showing the program's potential for chronic disease prevention and long-term health benefits.
- **Reduction in psychological distress:** The K10, GAD-7, CESD scores indicate significant improvement in mental health, validating the program's holistic approach.
- **Behavioral changes:** Participants reported improved dietary habits, sleep and reduced sedentary behavior, highlighting the program's role in promoting sustainable, healthy living



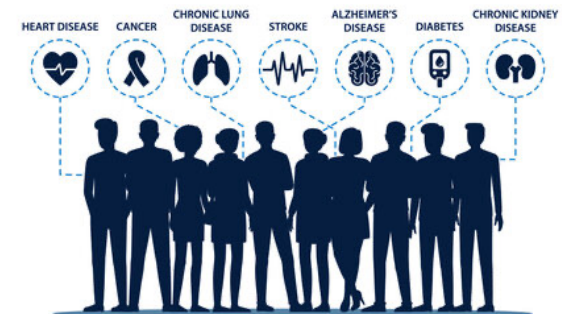
**DALHOUSIE**  
UNIVERSITY

FACULTY OF MEDICINE

# Chronic Conditions in Nova Scotia & Pictou County



- Nova Scotia has one of the highest rates of chronic disease in Canada
  - Approximately 1 in 3 Nova Scotian's are obese<sup>1</sup>
  - 1 in 3 Nova Scotian's have pre-diabetes or diabetes<sup>2</sup>
- Pictou County has higher rates of obesity and behaviours such as smoking, compared to other regions of the province<sup>3</sup>.
- 25% *don't have a primary care provider*.



1) Statistics Canada. Overweight and obese adults, 2019; 2) Diabetes Canada. Canadian Diabetes Cost Model, 2016; 3) Community Foundation of Nova Scotia. Pictou County Vital Signs. 2020

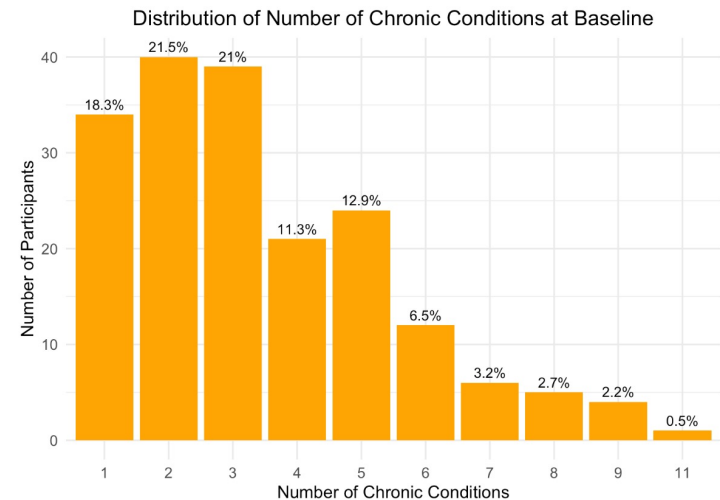


# PictouCountyPEP for Chronic Conditions

(Digital Health, 2025, *accepted*)

- Accrual of 182 adults over 6 weeks in January 2023
  - 85% female, 95% Caucasian, 60% university educated
  - Age: median 60 years old;
  - Income <\$50K: 20%; \$50K-100K: 40%
  - 45% urban, 55% rural

**Number of Chronic Conditions**  
N=182, Pictou County, Nova Scotia



Anti-Racism in Health Care



**DALHOUSIE**  
UNIVERSITY

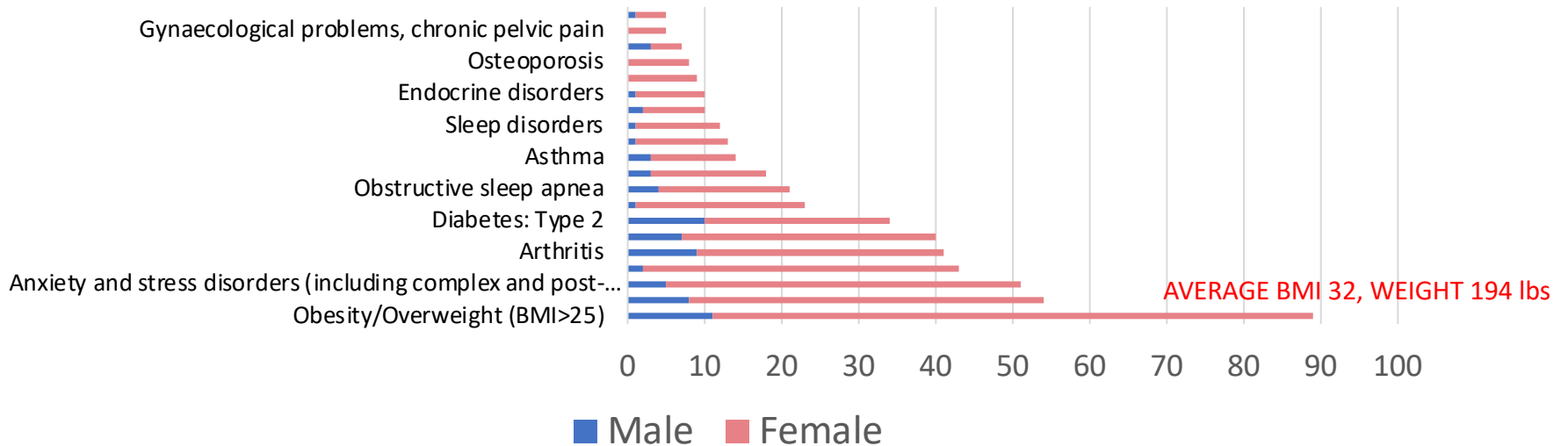
FACULTY OF MEDICINE

# Prevalence of Specific Conditions

N=182, Pictou County, Nova Scotia, Canada



## Primary Chronic Conditions by Sex (n=182)



Anti-Racism in Health Care

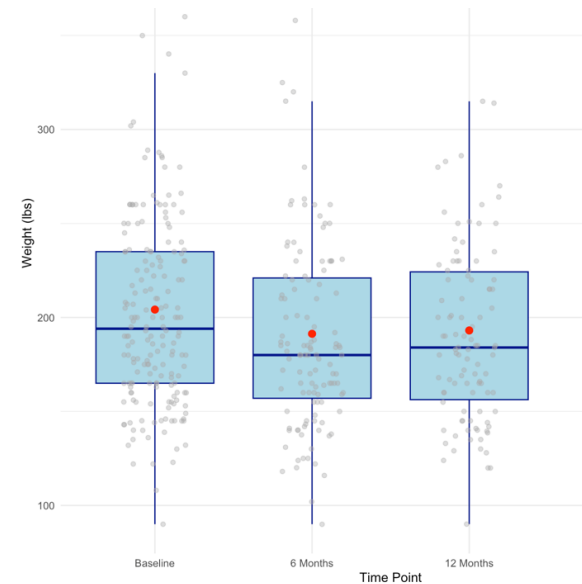


# PictouCountyPEP 12-month Outcomes for chronic medical conditions

## 1. Physical Health Outcomes over 6 and 12 months

**Weight / BMI Reduction:** Participants experienced a significant reduction in weight:

**7.47 lbs at 6 months and  
6.08 lbs at 12 months**

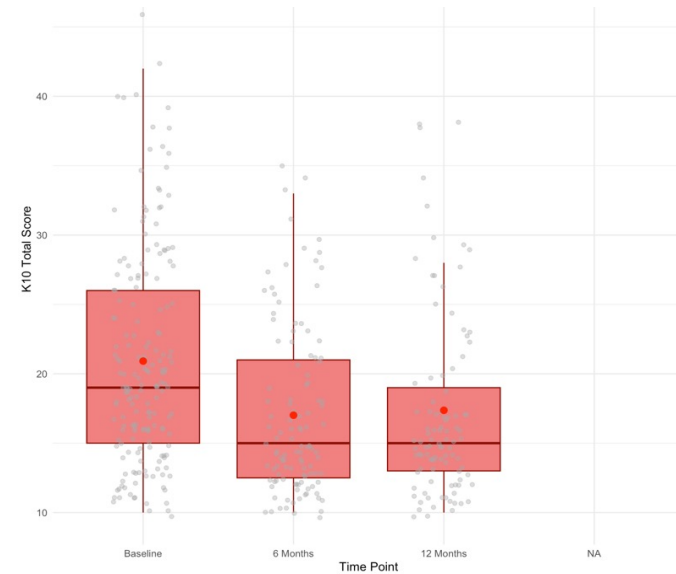


## 2. Mental Health

# K10 Psychological Distress at 0,6,12 months

Average distress levels down

**2.84 points at 6 months**  
**and 2.44 points at 12 months.**  
**23% of people meaningful improvement**



# PictouCountyPEP 12-month Outcomes for chronic medical conditions

## Dietary Behavior Change

**Dietary Quality (REAPS Score):** Participants demonstrated **improvements in diet quality**, with a 3.14-point increase at 6 months and 2.13 points at 12 months

## Sleep Quality

**Sleep Improvements:** Participants saw **improvements in sleep quality**, as reflected in a reduction of 1.36 points at 6 months and 1.28 points at 12 months

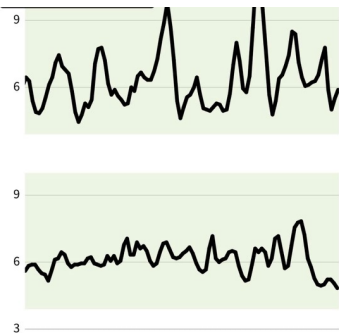
## Sedentary Behavior

**Reduced Sedentary Hours:** The intervention significantly reduced sedentary behavior, with weekday sedentary time decreasing by 0.81 hours at 6 months ( $p = 0.021$ ), and this was partially maintained at 12 months.

# Patient Testimonials: PictouCountyPEP

“Something I am proud of/so pleased with....the top image is my blood glucose reading the day before I started PEP. The bottom is after 2 weeks of the program with loads of fruits, veggies and grains. To say I feel so much better is an understatement!”

– *Pictou County PEP Participant*



Thank you for incorporating these very mindful practices to our program, I really find these an essential part of starting my day. Love is so powerful and choosing love can be quite liberating

– *Pictou County PEP Participant*



Watch our documentary, *Empower* at [pcpep.org/empower](http://pcpep.org/empower)



Dr. Rob Rutledge, [Rob.Rutledge@nshealth.ca](mailto:Rob.Rutledge@nshealth.ca), Dr. Gabriela Ilie, [gabriela.ilie@dal.ca](mailto:gabriela.ilie@dal.ca), [pcpep.org](http://pcpep.org)  
Anti-Racism in Health Care



**DALHOUSIE**  
UNIVERSITY

FACULTY OF MEDICINE



## Vision

Growing the Program

- **Making the program more easily available to Indigenous men**
- **More** appropriate for Indigenous men
- **Empower men and their communities with the knowledge and practical information on how to engage in cancer prevention and how to navigate the medical system when diagnosed**

Anti-Racism in Health Care

Dr. Rob Rutledge, [Rob.Rutledge@nshealth.ca](mailto:Rob.Rutledge@nshealth.ca), Dr. Gabriela Ilie, [gabriela.ilie@dal.ca](mailto:gabriela.ilie@dal.ca), [pcpep.org](http://pcpep.org)



**DALHOUSIE**  
UNIVERSITY

FACULTY OF MEDICINE



## Offering the Program to all Canadian Indigenous Communities



- Community Presentations – many possible topics like prostate cancer, all cancer, mental health, diet / healthy habits+
- Prostate Cancer: Enrol for free at [pcpep.org](http://pcpep.org)
- Other cancer types: colon, lung, bladder, kidney, CML – all free programs
- For chronic medical conditions (+ for everyone) – we are proposing a pilot of 20-30 indigenous people to evaluate then modify the program ([PEPLife.org](http://PEPLife.org))
- We would like one volunteer for each community to pilot the program, and free for all indigenous people to join (could be a community activity)
- Contact: [Rob.Rutledge@nshealth.ca](mailto:Rob.Rutledge@nshealth.ca) or [info@peplife.org](mailto:info@peplife.org)



# Thank you!

## •All PEP Patients and Research Citizens:

- Heartfelt thanks to all PEP patients, Research Citizens, and Citizen Leads for their invaluable contributions. Pictou County Prostate Cancer Support Association, Prostate Cancer Support Association

## •Dalhousie Research Medical Foundation / Dalhousie Faculty of Medicine Advancement Office

- Sincere appreciation for their ongoing support.



Thank you!





**Thank you!**

**Dr. Rob Rutledge**  
[Rob.Rutledge@nshealth.ca](mailto:Rob.Rutledge@nshealth.ca)

(902) 489-6423

**Dr. Gabriela Ilie**

[Gabriela.Ilie@dal.ca](mailto:Gabriela.Ilie@dal.ca)

(902) 989-4114

**Thank you!**

NCNS/CAP  
for the  
opportunity  
to Present