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# BMJ Open

## The HAT TRICK program for improving physical activity, healthy eating and connectedness among overweight, inactive men: Study protocol of a pragmatic feasibility trial

Journal:	<i>BMJ Open</i>
Manuscript ID	bmjopen-2017-016940
Article Type:	Protocol
Date Submitted by the Author:	20-Mar-2017
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<b>Primary Subject Heading</b>:	Public health
Secondary Subject Heading:	Sports and exercise medicine, Public health
Keywords:	Men's health, masculinity, physical activity, dietary behaviors, social connectedness, overweight/obese

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Manuscripts

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3 1 **The HAT TRICK program for improving physical activity, healthy eating and**  
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6 2 **connectedness among overweight, inactive men: Study protocol of a pragmatic**  
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9 3 **feasibility trial**  
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44 **ABSTRACT**

45 **Introduction:** Physical activity, healthy eating, and maintaining a healthy weight are associated  
46 with reduced risk of cardiovascular disease, type 2 diabetes and cancer, and improved mental  
47 health. Despite these benefits, many men do not meet recommended physical activity  
48 guidelines and have poor eating behaviors. Many health promotion programs hold little 'manly'  
49 appeal and consequently fail to influence men's self-health practices. Research has revealed  
50 that consideration of 'place' and 'product' that aligns with men's values and interests can  
51 advance health promotion behaviors. HAT TRICK was designed as a 12-week face-to-face,  
52 gender-sensitized intervention for overweight and inactive men focusing on physical activity,  
53 healthy eating and social connectedness, and delivered in collaboration with a major junior  
54 Canadian ice hockey team. The program was implemented and evaluated to assess its  
55 feasibility. This article describes the intervention design and study protocol examining feasibility  
56 and estimated intervention effectiveness of HAT TRICK.

57 **Methods and Analysis:** HAT TRICK participants (N=60) will be men  $\geq 35$  years, residing in the  
58 Okanagan Region of British Columbia, who accumulate  $< 150$ mins of moderate to vigorous  
59 physical activity a week, with a Body Mass Index  $> 25 \text{ kg/m}^2$  and a pant waist size of  $> 38$ ". Each  
60 90-minute weekly session will include targeted health education and theory-guided behavior  
61 change techniques, as well as a progressive group physical activity component. Outcome  
62 measures will be collected at baseline, 12-weeks, and 9-months and include: anthropometrics  
63 physical activity, diet, smoking, alcohol consumption, sleep habits, risk of depression, health-  
64 related quality of life, and social connectedness. Program feasibility and acceptability data (e.g.,  
65 satisfaction, adherence, delivery) will be assessed at 12-weeks.

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3 66 **Ethics and Dissemination:** Ethical approval was obtained from the University of British  
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6 67 Columbia Okanagan Behavioural Research Ethics Board (#H1600736). Study findings will be  
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8 68 disseminated widely through academic meetings, peer reviewed publication, web-based  
9  
10 69 podcasts, social media, plain language summaries and co-delivered community presentations.  
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14 70

15  
16 71 **Keywords:** Men's health; masculinity; physical activity; dietary behaviors; overweight/obese;  
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18 72 social connectedness; community partnerships; feasibility trial  
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23 74 **Trial Registration:** ISRCTN43361357, Registered August 3, 2016  
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28 76 **Strengths and Limitations of the Study:**

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31 77 • HAT TRICK is a gender-sensitized program designed to engage 'hard to reach' men with  
32  
33 78 their health by resonating with and appealing to masculine ideals.  
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35  
36 79 • The HAT TRICK program has the potential to be transferred across a number of male  
37  
38 80 populations and settings, thus further increasing its reach to a large proportion of men.  
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40  
41 81 • This study has a robust evaluation plan, utilizing objective and subjective measures of  
42  
43 82 physical activity, and a variety of measures to assess program feasibility.  
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45  
46 83 • Given the exploratory nature of this feasibility study, it is limited in examining causal  
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48 84 effect in terms of behavior change.  
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## 88 INTRODUCTION

89 Engaging in healthy lifestyle behaviors including physical activity (PA) and healthy eating  
90 to achieve and maintain a healthy body weight, can reduce the risk for developing chronic  
91 diseases such as cardiovascular disease, cancer, type 2 diabetes, depression and premature  
92 mortality [1-4]. Despite the benefits associated with these lifestyle behaviors, a large  
93 proportion of men do not meet the recommended PA guidelines [3, 5] (i.e., at least 150  
94 minutes of moderate to vigorous intensity PA per week) and have poor eating behaviors [6, 7].  
95 Accordingly, the prevalence of overweight and obesity among men is on the rise and continues  
96 to grow at a disproportionate rate to their female counterparts [8]. Complicating matters is the  
97 fact that many men have proved reluctant and/or 'hard-to-reach' in healthy lifestyle and weight  
98 management programs, making disease and illness prevention initiatives difficult [9, 10].

99 Traditionally, a central challenge associated with engaging men in taking more active  
100 care in their health was a perception that attention to one's health ran counter to masculine  
101 ideals of strength, self-reliance and independence [11-14]. Men often associate health  
102 promoting practices as feminine, or a sign of weakness, and consequently threatening to their  
103 status in masculine hierarchies [12, 15]. Thus, many men refrain from engaging in health  
104 promotion behaviors, including attending PA, healthy eating, and weight management  
105 programs [16, 17]. However, Pringle et al. [18] suggested that men's apparent detachment from  
106 healthy behaviors is an indication that typical approaches to health are unappealing and/or  
107 irrelevant to their masculine values and virtues. Previous men-centered PA and healthy eating  
108 related research [19-21] has revealed that careful consideration of 'place', along with a tailored  
109 approach that aligns with men's values and interests, can indeed support increases in health

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3 110 promoting behaviors [22-24]. This work supports the notion that there is value in providing men  
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6 111 with health promotion opportunities in venues where they participate in and/or watch sport  
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9 112 and recreational activities [18, 24, 25].

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11 113 Recent research has highlighted the potential for professional sports teams/clubs to  
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13 114 attract and engage men in healthy lifestyle behaviors [26-28]. Such settings have proved a  
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15  
16 115 powerful draw for men due to familiar, comfortable and/or appealing environments which they  
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18  
19 116 offer and the socio-cultural connections men often make with particular teams and fellow  
20  
21 117 supporters in terms of loyalty, identity and belonging [24, 26, 29, 30]. Furthermore,  
22  
23 118 professional/elite sport clubs and settings offer a unique opportunity to support men's health  
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26 119 because they provide health promoters with a potentially large captive audience of men in an  
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28  
29 120 environment that plays to masculine values and virtues [18, 19, 26, 30].

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31 121 Within this context, the gender-sensitized HAT TRICK program was designed to engage  
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33 122 men with their health by resonating with and appealing to masculine ideals. Its delivery model  
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36 123 is founded on the strong collaboration with the Kelowna Rockets Hockey Team, a major junior  
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39 124 ice hockey team within the Canadian Hockey League (CHL) [31]. Garnering the social-cultural  
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41 125 connections that men often cultivate with particular sports teams can be a 'lynchpin' to  
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44 126 engaging men in healthful behaviors in that this approach recognizes the interests and  
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46  
47 127 preferences of men, while fostering an environment that promotes a sense of identity,  
48  
49 128 camaraderie and healthy living. The over-arching goal of this study is to examine the feasibility  
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51 129 and acceptability of HAT TRICK, and estimate changes in PA behavior, diet, other health related  
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54 130 behaviors (e.g., smoking, alcohol consumption, sleep), risk of depression, health related-quality



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3 131 of life (HRQoL) and social connectedness. The specific objective of this article is to describe the  
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6 132 intervention design and methodological protocols of HAT TRICK.  
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## 10 11 134 **METHODS AND ANALYSIS**

### 12 13 14 135 **Objectives**

15  
16 136 The specific objectives of this study are to:

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19 137 1) Determine feasibility and acceptability of HAT TRICK, a health promotion program

20  
21 138 focused on PA and healthy eating for inactive, overweight men.

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23  
24 139 2) Estimate effectiveness in terms of changes over time in PA, dietary behaviors, weight,

25  
26 140 smoking, alcohol consumption, sleep habits, risk for depression, HRQoL and social

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28  
29 141 connectedness.

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31 142 3) Utilize findings to refine the program and inform the development of a future large scale

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33  
34 143 randomized control trial (RCT).  
35

### 36 144 **Study design**

37  
38  
39 145 This study protocol has been prepared according to Standard Protocol Items:

40  
41 146 Recommendations for Interventional Trials (SPIRIT) [32]. For a completed SPIRIT checklist

42  
43  
44 147 please see Supplementary File 1.  
45

46 148 A quasi-experimental, pre-post test design will be used to evaluate the feasibility and

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48  
49 149 acceptability of a men's health promotion program focused on PA, healthy eating, and social

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51 150 connectedness. Data collection will occur at baseline, 12-weeks, and 9-months follow-up. The

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53  
54 151 study period extends from August 2016 – May 2018. Recruitment will occur in three phases,

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56 152 corresponding with the delivery of three 12-week HAT TRICK sessions: Phase 1 recruitment  
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3 153 period occurred in fall of 2016; phase 2 recruitment period occurred in winter 2017; and, phase  
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6 154 3 recruitment will begin in the summer 2017. Figure 1 provides a flow diagram for the HAT  
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9 155 TRICK protocol. Figure 2 provides Standard Protocol Items: Recommendations for  
10  
11 156 Interventional Trials (SPIRIT) figure.

### 13 157 **Study population, eligibility and recruitment**

16 158 A total of 60 participants (20 participants x 3 groups) will be recruited for this feasibility  
17  
18 159 trial. This sample size is appropriate for feasibility trials which aim to provide an estimate of the  
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21 160 parameters (i.e., identifying/recruiting participants; practicality of delivery, standard deviation  
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23 161 of a primary outcome measure to estimate sample size) needed to design and conduct a  
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26 162 sufficiently powered RCT [19, 33, 34]. To be eligible for the study, participants must be men  
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28 163 over the age of 35 years, reside in the Okanagan Region of British Columbia (BC), Canada,  
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31 164 accumulate less than 150 minutes of PA per week, have a body mass index (BMI) of over  
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33 165 25kg/m<sup>2</sup> and a pant waist size of 38" or greater.

36 166 A variety of recruitment strategies will be utilized, including: 1) communication avenues  
37  
38 167 via the Kelowna Rockets Hockey Team (e.g., poster advertising at home games, Rockets  
39  
40  
41 168 website, newsletters to season tickets holders, game day intercom announcements,  
42  
43 169 recruitment/information booth at home games); 2) local media, including print newspaper and  
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46 170 television and radio broadcasts; 3) email and print communication via local male dominated  
47  
48 171 community organizations (e.g., Okanagan Men's Shed); 4) social media, including Facebook,  
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50  
51 172 Castanet, Kijiji, and Kelowna Now (community events website); and 5) Poster advertisements at  
52  
53 173 local community centers, ice hockey arenas, coffee shops, pubs and bars, and large hardware  
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56 174 and automotive commercial entities (e.g., Canadian Tire). Prior to groups 2 and 3, word of  
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3 175 mouth may be an additional recruitment strategy. Lastly, a project specific website  
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6 176 ([www.hattrick.ok.ubc.ca](http://www.hattrick.ok.ubc.ca)) with additional information about the program, including eligibility  
7  
8 177 criteria and how to sign up, will also be used to recruit participants.  
9

10 178 Interested individuals will be encouraged to contact the research team to confirm their  
11  
12 179 eligibility. Those confirmed eligible will be asked to complete a Physical Activity Readiness  
13  
14 180 Questionnaire (PAR-Q+) [35], a medical screening tool which has been recommended for use in  
15  
16 181 exercise related interventions and RCTs [36]. All completed PAR-Q+ will be reviewed by a  
17  
18 182 Certified Exercise Physiologist [37] and individuals who require further medical screening will be  
19  
20 183 informed and invited to gain medical clearance from a general medical practitioner (i.e., family  
21  
22 184 doctor) in order to participate in the study. Individuals will be accepted on a ‘first come first  
23  
24 185 serve’ basis with additional individuals being placed on a waitlist and contact list for the next  
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26 186 available session.  
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### 33 187 **HAT TRICK Intervention**

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36 188 HAT TRICK focuses on three goals including enhancing PA, healthy eating, and social  
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38 189 connectedness. The program is tailored for men using evidence-based research [24, 38, 39] and  
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40 190 is informed by theoretical underpinnings associated with behavior change [40-42] and  
41  
42 191 masculinities [11, 12, 14]. Gender-related factors influencing men’s health behaviors and health  
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44 192 promotion were considered throughout the design of the program. All resources were  
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46 193 consistent with a masculine look and feel, and provided clear, positive, and direct messaging  
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48 194 around PA, healthy eating, and social connectedness [38, 43].  
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53 195 HAT TRICK consists of 12 weekly, 90-minute face-to-face group sessions delivered at the  
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55 196 local hockey arena, the home facility to the Kelowna Rockets. Each group session includes a  
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3 197 'locker room' component with an ice hockey related-theme used to frame health-related  
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6 198 education and information regarding PA, healthy eating and behavior change techniques (i.e.,  
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9 199 goal setting, self-monitoring, social support), whilst simultaneously promoting enjoyment and  
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11 200 increased social connectedness through an interactive and informal style of learning. For  
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13 201 instance, to enhance social connectedness, facilitators will aim to foster a sense of teamwork  
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15  
16 202 and comradery among the men through group activities and competition. Men will be  
17  
18 203 encouraged to share contact information and meet outside of the program as well as foster  
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21 204 friendly competition by challenging each other meet their physical activity and healthy eating  
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23 205 goals. Participants are introduced to a variety of activities and guided through a progressive PA  
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26 206 program within the facility. Weekly PA and healthy eating challenges are introduced to  
27  
28 207 supplement the education to encourage men to integrate what they learned to their daily life  
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31 208 [44-46]. Table 1 provides a detailed description of the weekly locker room content, PA, and  
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33 209 challenges provided to the men.

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36 210 **Table 1.** Weekly Outline of HAT TRICK

Locker Room Education	Group PA	Weekly Challenge
Week 1: Pre Game		
<ul style="list-style-type: none"> <li>• Program introduction</li> <li>• Why HAT TRICK?</li> <li>• The first step</li> <li>• Take stock of current activities</li> </ul>	<ul style="list-style-type: none"> <li>• Introduction to Fitbits</li> <li>• Hockey area facility tour</li> <li>• Intermission               <ul style="list-style-type: none"> <li>○ Meet and greet with hockey team</li> </ul> </li> </ul>	On every day this week: <ul style="list-style-type: none"> <li>• Record how many steps you do</li> <li>• Record everything that you eat and drink</li> </ul>
Week 2: Face Off		
<ul style="list-style-type: none"> <li>• Change a bit</li> <li>• Break the cycle</li> <li>• Top 5 tips for success</li> </ul>	<ul style="list-style-type: none"> <li>• Activities around hockey arena               <ul style="list-style-type: none"> <li>○ Climb bleachers, walk the loop, seat dips</li> </ul> </li> <li>• Intermission               <ul style="list-style-type: none"> <li>○ Fitbit usage and barriers</li> <li>○ Step recommendations</li> </ul> </li> </ul>	On at least <b>3</b> days of the week: <ul style="list-style-type: none"> <li>• walk an extra 1,500 steps (from baseline value)</li> <li>• Choose water instead of a sugary drink</li> </ul>
Week 3: Power Play		
<ul style="list-style-type: none"> <li>• HAT TRICK to healthy eating:</li> </ul>	<ul style="list-style-type: none"> <li>• Hockey team training gym</li> </ul>	On at least <b>3</b> days of the week:

<ul style="list-style-type: none"> <li>carbs, proteins, and fats</li> <li>• Top 6 healthy eating tips</li> <li>• Power food swaps</li> </ul>	<ul style="list-style-type: none"> <li>○ Fundamental activities with Athletic Trainer</li> <li>○ Circuit-style workout</li> <li>• Intermission</li> <li>○ Discuss week 2 challenge</li> </ul>	<ul style="list-style-type: none"> <li>• walk an extra 1,500 steps (from baseline value)</li> <li>• Start your morning with a healthy breakfast</li> </ul>
Week 4: Tic Tac Toe		
<ul style="list-style-type: none"> <li>• Size: Then and now</li> <li>• Handy portion guide</li> <li>• Top 7 tips for dining out</li> <li>• Rethink beer o'clock</li> <li>• Top 6 tips for keeping the beer gut in check</li> </ul>	<ul style="list-style-type: none"> <li>• Ball hockey game <ul style="list-style-type: none"> <li>○ Two periods of 15 minutes</li> </ul> </li> <li>• Intermission: <ul style="list-style-type: none"> <li>○ Discuss week 3 challenge</li> </ul> </li> </ul>	<p>On at least <b>5</b> days of the week:</p> <ul style="list-style-type: none"> <li>• walk an extra 1,500 steps (from baseline value)</li> <li>• Use the handy portion guide to plan a meal</li> </ul>
Week 5: Long Change		
<ul style="list-style-type: none"> <li>• Active living 101</li> <li>• HAT TRICK to active living</li> <li>• Canada PA Guidelines</li> <li>• Recruit a deep bench</li> </ul>	<ul style="list-style-type: none"> <li>• Hockey team training gym <ul style="list-style-type: none"> <li>○ Fundamental activities with Athletic Trainer</li> <li>○ Circuit-style workout</li> </ul> </li> <li>• Intermission <ul style="list-style-type: none"> <li>○ Discuss week 4 challenge</li> </ul> </li> </ul>	<p>On at least <b>5</b> days of the week:</p> <ul style="list-style-type: none"> <li>• walk an extra 1,500 steps (from baseline value)</li> <li>• Choose water instead of a sugary drink</li> </ul>
Week 6: Neutral Zone		
<ul style="list-style-type: none"> <li>• Energy balance</li> <li>• The 80/20 rule</li> <li>• Top 8 keys to weight loss</li> <li>• Drink wisely</li> </ul>	<ul style="list-style-type: none"> <li>• Exercise at a moderate intensity (3 bouts of 15 minutes)- Include short intervals of higher intensity</li> <li>• Intermission: <ul style="list-style-type: none"> <li>○ Discuss week 5 challenge</li> </ul> </li> </ul>	<p>On at least <b>3</b> days of the week:</p> <ul style="list-style-type: none"> <li>• walk an extra 3,000 steps (from baseline value)</li> <li>• Apply the 80/20 rule</li> </ul>
Week 7: Penalty Kill		
<ul style="list-style-type: none"> <li>• SMART goals</li> <li>• Keep your stick on the ice</li> <li>• Top 6 relapse prevention strategies</li> <li>• Top 6 healthy snacking tips</li> <li>• Rewarding yourself</li> </ul>	<ul style="list-style-type: none"> <li>• "Boot camp" style workout</li> <li>• Intermission: <ul style="list-style-type: none"> <li>○ Discuss week 6 challenge</li> </ul> </li> </ul>	<p>On at least <b>3</b> days of the week:</p> <ul style="list-style-type: none"> <li>• walk an extra 3,000 steps (from baseline value)</li> <li>• Choose healthy snacks options</li> </ul>
Week 8: Odd Man Rush		
<ul style="list-style-type: none"> <li>• Principles of strength training</li> <li>• Circuit training</li> <li>• At home workout</li> <li>• Turning up the heat</li> </ul>	<ul style="list-style-type: none"> <li>• Introduction to at-home bodyweight workout</li> <li>• Intermission: <ul style="list-style-type: none"> <li>○ Discuss week 7 challenge</li> </ul> </li> </ul>	<p>On at least <b>5</b> days of the week:</p> <ul style="list-style-type: none"> <li>• walk an extra 3,000 steps (from baseline value)</li> <li>• Start your morning with a healthy breakfast</li> </ul>
Week 9: Icing		
<ul style="list-style-type: none"> <li>• Top 5 tips for "brocery" shopping</li> <li>• Reading the fine print</li> <li>• The many names for sugar and salt</li> <li>• Product buzz words</li> </ul>	<ul style="list-style-type: none"> <li>• Exercise at moderate-vigorous intensity (3 bouts of 15 minutes)-15 minutes will include high intensity training (HIT)</li> <li>• Intermission:</li> </ul>	<p>On at least <b>5</b> days of the week:</p> <ul style="list-style-type: none"> <li>• walk an extra 3,000 steps (from baseline value)</li> <li>• Apply the 80/20 rule</li> </ul>

	○ Discuss week 8 challenge	
Week 10: Fast Break		
<ul style="list-style-type: none"> <li>• Making healthy trades</li> <li>• The BBQ king</li> <li>• Meals on the fly</li> </ul>	<ul style="list-style-type: none"> <li>• Sport chosen by men (3 periods of 15 minutes)</li> <li>• Intermission: <ul style="list-style-type: none"> <li>○ Discuss week 9 challenge</li> </ul> </li> </ul>	On at least <b>5</b> days of the week: <ul style="list-style-type: none"> <li>• walk an extra 3,000 steps (from baseline value)</li> <li>• Choose healthy snacks options</li> </ul>
Week 11: Set Play		
<ul style="list-style-type: none"> <li>• Sit less</li> <li>• Top 4 stress management tips</li> <li>• Sleep and health</li> </ul>	<ul style="list-style-type: none"> <li>• Resistance training session</li> <li>• Intermission: <ul style="list-style-type: none"> <li>○ Discuss week 10 challenge</li> </ul> </li> </ul>	On at least <b>5</b> days of the week: <ul style="list-style-type: none"> <li>• walk an extra 3,000 steps (from baseline value)</li> <li>• Use the handy portion guide to plan a meal</li> </ul>
Week 12: He shoots, he scores!		
<ul style="list-style-type: none"> <li>• Highlight reel</li> <li>• Dealing with set-backs</li> <li>• What's the next step?</li> </ul>	<ul style="list-style-type: none"> <li>• Family skate and BBQ <ul style="list-style-type: none"> <li>○ Family and friends</li> <li>○ Man of the Match (awards)</li> </ul> </li> <li>• Intermission: <ul style="list-style-type: none"> <li>○ Discuss week 11 challenge</li> </ul> </li> </ul>	Be HAT TRICK healthy. Keep working towards your goals and making small lifestyle changes.

211

212 In these initial deliveries, HAT TRICK will be facilitated by research personnel trained in

213 health promotion and behavior change techniques. However, it is anticipated that for future

214 delivery of the program, external facilitators (e.g., community health promotion 'champions',

215 individuals who have previously gone through the program) will be trained to deliver the

216 program. In addition, hockey team personnel and community experts will be invited as guest

217 speakers/presenters for selected sessions. For example, the Rockets Athletic Therapist will be

218 brought in to lead a strength training session and the Rockets nutritionist specialist will be a

219 guest presenter for some of the nutrition education sessions. Community health professionals

220 will also be involved in leading some of the group sessions. For instance, qualified local fitness

221 professionals will lead the men through a circuit training session and martial arts type

222 workouts, and a local Chef may also assist with presenting and discussing healthier food options

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3 223 when ordering from restaurant menus. Including team 'insiders' and local professionals (i.e.,  
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6 224 Rockets personnel) provides a variety of content and activities for the men, potentially helping  
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8  
9 225 to build community capacity and buy-in, which will be vital to future dissemination and  
10  
11 226 sustainability.

12  
13 227 All participants will be provided with the HAT TRICK 'Playbook', a print resource manual  
14  
15  
16 228 that further summarizes the key messages and signposts the resources to draw on over 12-  
17  
18 229 week program. The 'Playbook' is divided into 12 weeks and corresponds with each weekly  
19  
20  
21 230 theme of HAT TRICK, as outlined in Table 1. It contains educational information, expressed in  
22  
23 231 simple terms using hockey-related metaphors, concerning healthy eating (i.e., information  
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26 232 about macro-nutrients, portion sizes, etc.) and active living (i.e., barriers and benefits to PA,  
27  
28 233 being active at home, etc.), as well as strategies for weight management and behavior change,  
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30  
31 234 such as information concerning social support, self-monitoring, goal setting, and relapse  
32  
33 235 prevention. To assist with self-monitoring, participants will be provided with a Fitbit Charge  
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35  
36 236 HR™ and PA and dietary tracking logs which are embedded in the 'Playbook'. During each week  
37  
38 237 of the program, men will be encouraged and challenged to increase their step count (in  
39  
40  
41 238 graduate increments) and non-walking PA, as well as to engage in healthy eating (e.g.,  
42  
43 239 increasing fruit and vegetable consumption) and record these activities in their 'Playbook'  
44  
45  
46 240 tracking logs.

#### 47 48 241 **Outcome Measures**

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51 242 Quantitative and qualitative data collection methods will be used to assess outcome  
52  
53 243 and feasibility measures. All assessments will take place at the same facility where HAT TRICK  
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56 244 will be delivered and occur at baseline (one week prior to the start of the program), at 12-  
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245 weeks (completion of the program) and at 9-months follow-up (post-baseline). Participants that  
 246 are unable to attend the measurement session will be invited to complete measures at an  
 247 agreed upon time in the Physical Health and Activity Behaviour Lab at the University of British  
 248 Columbia or at an alternative location such as their home. All measures are described in further  
 249 detail below. In addition, Table 2 provides a summary of measures and data collection time  
 250 points.

251 **Table 2.** Summary of measures and data collection time points

Measures	Methods for data collection	Data collection time points
Demographics	Age, ethnicity, education, occupation, income, marital status, co-morbidities	0 (Baseline only)
Anthropometrics	Height, weight, blood pressure, heart rate, waist circumference	0, 12-wks and 9-mths
PA levels	Actigraph GT3X™ accelerometer (over a 7 day-period)	0, 12-wks and 9-mths
	Godin's Leisure Time Exercise Questionnaire (GLTEQ)	0, 12-wks and 9-mths
Sedentary behavior	Actigraph GT3X™ accelerometer (over a 7 day-period)	0, 12-wks and 9-mths
	Marshall Sitting Questionnaire (MSQ)	0, 12-wks and 9-mths
Dietary behavior	The Dietary Instrument for Nutrition Education Questionnaire (DINE)	0, 12-wks and 9-mths
Other health behaviors	7 Day Alcohol Recall	0, 12-wks and 9-mths
	Smoking and tobacco use	0, 12-wks and 9-mths
	Sleep habits	0, 12-wks and 9-mths
Psychological and physical well-being	SF-12V2 Health Survey	0, 12-wks and 9-mths



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	Male Depression Risk Scale (MDRS-22)	0, 12-wks and 9-mths
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	Abbreviated Duke Social Support Index (DSSI-11)	0, 12-wks and 9-mths
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Program satisfaction/acceptability	Satisfaction/acceptability questionnaire	12-wks (post intervention only)
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	Semi-structured telephone interview with participants	12-wks (post intervention only)
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252

253 Demographics and anthropometrics

254 As part of the self-report questionnaire, participants will be asked to report

255 demographic variables including; date of birth, ethnic background, level of education, marital

256 status, chronic disease conditions, main activity, occupation, and household income. Height

257 (cm), weight (kg), waist circumference (cm), blood pressure (mmHg), and heart rate (bpm) will

258 be measured by a research team member, trained to a standard protocol, at all assessment

259 sessions. Weight and height will be measured with the participant standing normally, with feet

260 together and head in the Frankfort plane, using Seca 700 mechanical balance scales and a Seca

261 220 measuring rod (Seca GmbH, Hamburg). Using the National Institutes of Health protocol

262 [47], waist circumference will be measured on the transverse plane at the top of the iliac crest

263 using a measurement tape. Blood pressure and heart rate will be measured two times at two

264 minutes intervals with a Life Source Digital Deluxe One Step Blood Pressure Monitor.

265 Participants will be asked to sit quietly for five minutes prior to the first measurement. Blood

266 pressure will be measured on the left arm with forearm on a table, palm of the hand facing up.

267 Participants will be asked to rest the arm comfortably at heart level, sitting with their back

268 against the chair, legs uncrossed.

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3 269 Physical Activity  
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6 270 PA will be assessed objectively using an Actigraph GT3X™ accelerometer (ActiGraph,  
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8 271 Pensacola, FL) during all waking hours over seven days. The accelerometers will be initialized to  
9  
10 272 record steps, inclination, and acceleration counts in tri-axial mode, using 60-second epochs [48,  
11  
12 273 49]. Participants will be instructed to wear the accelerometer above their right hip and in-line  
13  
14 274 with their right knee facing up, and to remove it during sleeping hours or for any activities  
15  
16 275 where water may be involved. The Actigraph GT3X™ is considered the ‘gold standard’ measure  
17  
18 276 of PA in adults [50] and has shown validity and reliability compared to other commercial  
19  
20 277 devices [51, 52]. Established cutoff points were used to calculate daily minutes of moderate  
21  
22 278 (2,691 – 6,166 counts/min) and vigorous (>6,167 counts/min) physical activity while controlling  
23  
24 279 for the number of days the accelerometer was worn [51]. Moderate-to-vigorous physical  
25  
26 280 activity (MVPA) will be calculated as a sum score of weekly minutes in MVPA. Data will be  
27  
28 281 included in the analyses if there are no extreme counts (>20,000) and if data are available for at  
29  
30 282 least 600 minutes wear time per day on 5 days. Participants with invalid data will be asked to  
31  
32 283 wear the activity monitor for a further 7 days.  
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41 284 PA will also assessed by self-report using a modified version of the Godin Leisure Time  
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43 285 Exercise Questionnaire (GLTEQ) [53]. Participants will be asked to indicate the frequency and  
44  
45 286 type of intensity (i.e., light, moderate, vigorous) of their daily PA per week and the duration  
46  
47 287 (minutes) of these sessions [53]. All responses will be converted to minutes and calculated in  
48  
49 288 accordance with the metabolic equivalent (MET) minutes method [54]. A cut-off point of  $\geq 600$   
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51 289 MET minutes will then be used to dichotomize participants as “adequately active for health  
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3 290 benefit” or “inadequately active” [54, 55] .The GLTEQ has shown good validity and reliability  
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6 291 across a number of populations and settings [56-58].  
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## 8 292 Sedentary Behavior

9  
10 293 Accelerometers will also be used to objectively assess sedentary behavior using a 30s  
11  
12 294 epoch. Sedentary time will be determined as <100 counts/min, adjusted for non-wear time  
13  
14 295 operationalized as at least 60 minutes of consecutive zeros [49]. In addition, sedentary  
15  
16 296 behaviors will be assessed by self-report using The Marshall Sitting Questionnaire (MSQ) [59].  
17  
18 297 The MSQ assesses time spent sitting on weekdays and weekend days at work, traveling and at  
19  
20  
21 298 home. Data from the sitting time questionnaire will be used to create an estimate of total  
22  
23 299 weekday and weekend-day sitting times (min/day) by summing the time reported in each  
24  
25  
26 300 domain [59]. This measure has demonstrated reliability and validity in the adult population  
27  
28  
29 301 [59].  
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31

## 32 302 Dietary Behaviors

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34 303 Dietary behaviors will be assessed by the Dietary Instrument for Nutrition Education  
35  
36 304 (DINE) questionnaire [60], a short 19-item questionnaire providing a measure of frequency of  
37  
38 305 intake of different food types (i.e., fruits and vegetables) and macronutrients over the last  
39  
40  
41 306 seven days. Composite scores will be calculated in accordance with the DINE protocol used for  
42  
43  
44 307 total fat intake and total fiber intake , with higher scores indicating greater consumption [60].  
45  
46  
47 308 This validated instrument [60] is considered to be an acceptable alternative to more detailed  
48  
49 309 diet recall questionnaires and food dairies, and has been chosen for this particular study as it  
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52 310 focuses on food types (i.e., fruits and vegetables) associated with chronic disease prevention  
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54  
55 311 and management [61, 62].  
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3 312 Other health-related behaviors  
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6 313 Smoking and tobacco use, alcohol consumption, and sleep habits will be assessed via  
7  
8 314 self-report questions [63]. Smoking status will be measured using a single question, wherein  
9  
10 315 participants identify as a regular smoker (daily), occasional smoker (once in a while), ex-smoker,  
11  
12 316 or non-smoker. Occasional and regular smokers will be asked to report their smoking habits and  
13  
14 317 quit attempts using standardized questions [63].  
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18 318 Alcohol intake will be measured using a 7-Day Alcohol Recall [64]. Participants are asked  
19  
20 319 to consider the previous 7 days and report the number of pints of beer/cider, glasses of wine,  
21  
22 320 glasses of fortified wine (e.g., Port), measures of spirits, and any other alcoholic beverages  
23  
24 321 consumed each day.  
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28 322 Participants' sleeping habits will be reported through average hours of sleep on a typical  
29  
30 323 night [65]. Descriptive measures related to speaking with a doctor or health professional about  
31  
32 324 having difficulty sleep and being diagnosed with a sleep disorder will also collected [65].  
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36 325 Risk of Depression  
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39 326 Risk of depression will be assessed using the Male Depression Risk Scale (MDRS-22) [66].  
40  
41 327 This is a 22-item Likert scale questionnaire ranging from 0 (not at all) to 7 (almost always).  
42  
43 328 Participants are asked to think back over the last month and respond to each item considering  
44  
45 329 how often it applies. The MDRS-22 provides a total score via the summation of all 22 items and  
46  
47 330 six subscale scores that follow six symptom domains including: emotional suppression, drug  
48  
49 331 use, alcohol use, somatic symptoms, risk taking, and anger and aggression. A higher score  
50  
51 332 indicates a greater risk of depression. The MDRS-22 has demonstrated validity and reliability  
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53 333 among men [66, 67].  
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3 334 Health-related Quality of Life  
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6 335 HRQoL will be assessed using the Short Form Health Survey (SF-12) [68]. The SF-12 was  
7  
8 336 developed as a shorter alternative to the SF-36 [69], and it includes 12 questions and eight  
9  
10 337 physical and mental health dimension scales including; physical functioning, role-physical,  
11  
12 338 bodily pain, general health, vitality, social function, role-emotional and mental health [68].  
13  
14 339 Scoring for this survey includes pre-coded numeric values that are assigned to each of the eight  
15  
16 340 scales and then scored from 0 to 100, with a higher score indicating better health [70]. The SF-  
17  
18 341 12 is one of the most widely used HRQoL evaluation tools and has been shown to be valid and  
19  
20  
21 342 reliable in a number of populations [71-74].  
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26 343 Social Support  
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28 344 The Abbreviated Duke Social Support Index (DSSI-11) [75] will be used to assess  
29  
30 345 perceived social support. The DSSI is an 11-item questionnaire comprising of two sub-scales;  
31  
32 346 social interaction (4 items) and social satisfaction (7 items), measured on a 4 point Likert scale.  
33  
34 347 The social interaction subscale asks questions regarding the number of social interactions an  
35  
36 348 individual has had within the past week (e.g., *How many times during the past week did you*  
37  
38 349 *spend time with someone who does not live with you?* The social satisfaction subscale asks  
39  
40 350 about the subjective quality of these relationships (e.g., *When you are talking with your family*  
41  
42 351 *or friends, do you feel you are being listened to?* The social interaction scale ranges from 4 to 12  
43  
44 352 and the social satisfaction subscale ranges from 6 to 18, thus the total score for the DSSI-11  
45  
46 353 ranges from 10 to 30 (combination of social interactions and social satisfaction scores, with  
47  
48 354 social satisfaction reverse scored before summation) with higher scores indicating a stronger  
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51 355 perception of social support [75]. The DSSI-11 has been shown to be valid and reliable in adult  
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3 356 populations and reported to be useful for measuring social support in community-based  
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6 357 epidemiological studies [76-79].  
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### 8 358 **Statistical Analysis**

9  
10 359 Descriptive analyses will be completed and presented as means and standard deviations  
11  
12 360 for continuous variables and as frequencies and proportions for categorical data. Data analysis  
13  
14 361 of outcome variables including estimates of change in PA, sedentary behavior, dietary  
15  
16 362 behaviors, smoking, smoking, alcohol consumption, sleep habits, risk of depression, HRQoL, and  
17  
18 363 social support will be examined using a within subjects, repeated measures ANOVA. The level  
19  
20  
21 364 of significance ( $\alpha$ ) will be set at 0.05. As the primary outcome is feasibility, it is not appropriate  
22  
23  
24 365 to perform a power calculation. All analyses will be conducted using IBM SPSS statistics 23.  
25  
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### 28 366 **Program Feasibility and Analysis**

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31 367 At 12-weeks (post intervention), all participants will complete a program  
32  
33 368 satisfaction/acceptability questionnaire. Participants will be asked several Likert scale questions  
34  
35 369 as well as open-ended response questions relating to their experience and satisfaction with the  
36  
37 370 program design, content, resources, and logistics concerning program implementation (i.e., day  
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39 371 and time of sessions, structure of sessions, facility where program was delivered). To inform  
40  
41 372 future requirement strategies, data will also be collected from website usage patterns (Google  
42  
43 373 Analytics-frequencies, means, etc.) as they relate to key time points during the program (e.g.,  
44  
45 374 media releases) as well as using paper-based questions regarding how/where participants  
46  
47 375 heard about the program. Program-related statistics, including participant attendance, number  
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49 376 of guest presenters and metrics concerning program inquiries, participant communications and  
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51 377 follow-ups, will also be collected.  
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3 378 Semi-structured telephone interviews will be undertaken with a subsample of  
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6 379 participants (n=30) to gain further insight concerning satisfaction and acceptability of HAT  
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8 380 TRICK, and to understand the challenges/enablers associated with design and implementation  
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10 381 of the program, including feasibility parameters such as recruitment, attendance, adherence  
11  
12 382 and acceptability of the program and content. Participants will be purposefully selected from  
13  
14 383 each of the three HATTRICK groups to include men reporting a range of feasibility and program  
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16 384 outcomes. These individuals will include those who have completed the program (i.e.,  
17  
18 385 completed baseline and 12-week follow-up assessment periods) and have attended at least  
19  
20 386 50% of the sessions (i.e., 6 of 12 weekly 90 minute sessions). Data collection and analysis will  
21  
22 387 occur simultaneously in three phases as the HATTRICK program is implemented. Interview  
23  
24 388 questions will be refined as data collection progresses to address gaps identified in the analysis  
25  
26 389 as well as expand on and verify emerging themes. Data from the interviews will be audio  
27  
28 390 recorded (with participants' permission) and transcribed verbatim with all identifiable  
29  
30 391 information removed. Data will be analyzed using thematic content analysis [80] to explore  
31  
32 392 participant satisfaction and enjoyment and to identify challenges experienced during program  
33  
34 393 implementation as well as factors that may have facilitated implementation. To enhance rigor,  
35  
36 394 at least two members of the research team will independently code participant responses into  
37  
38 395 relevant subthemes. Once all coding has been completed, subthemes will be discussed among  
39  
40 396 the two research team members to ensure bias is minimized. Any disagreements or concerns  
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42 397 that may arise during the analysis will be presented at this time and further discussion will be  
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44 398 carried out with the research team until consensus is reached.  
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#### 55 399 **Data Management**

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3 400 Data collection, as well as handling and storage of data, will be coordinated within the  
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6 401 Physical Health and Activity Behaviour (PHAB) Lab at the University of British Columbia.  
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8 402 Demographic, anthropometric and self-reported questionnaire data will be entered  
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10 403 electronically by a research team member. Accelerometer data will automatically be uploaded  
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12 404 from the accelerometers to an excel data file by two research team members. All paper-based  
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14 405 data will be stored in a secure and locked filing cabinet located in the PHAB lab. All electronic  
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16 406 data will be stored on a password-protected computer also located in the PHAB lab.  
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21 407 **Ethics and Dissemination:**  
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23 408 Ethical approval for this trial was obtained from the University of British Columbia  
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26 409 Okanagan Behavioural Research Ethics Board (#H1600736). Participants will provide informed  
27  
28 410 consent and medical clearance prior to all baseline assessment. Participants will also be  
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30 411 informed that they may withdraw from the study at any time, for any reason, without  
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32 412 consequence. All personal data will be coded and handled with confidentiality.  
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36 413 Study findings will be disseminated widely through national and international academic  
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38 414 meetings, peer reviewed publication and by web-based activities (e.g., podcasts, research  
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40 415 webinars). In addition, these findings will also be disseminated through social media (e.g.,  
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42 416 facebook, twitter), plain language summaries to participants, summary briefings to local  
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44 417 stakeholders and government agencies, and co-delivered (i.e., researcher-participants)  
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46 418 community presentations.  
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53 420 **DISCUSSION**  
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3 421 Engaging men in health promoting behaviors, such as PA and healthy eating can be  
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6 422 challenging. Men have often been regarded as ‘hard to reach’ in terms of health promotion  
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8 423 programs with linkages being made to some masculine ideals as contributing to men’s  
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10 424 estrangement from self-health. This is further supported by the research which has suggested  
11  
12 425 that many men are reticent to attend health promotion education sessions, disinterested in  
13  
14 426 information concerning disease prevention and estranged from professional health care  
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16 427 services [81, 82] although more recent research is beginning to challenge such stereotypes.  
17  
18 428 Some researchers suggest these ‘traditional’ patterns are implicated in Western men’s shorter  
19  
20 429 life expectancy compared to women and high morbidity rates associated with chronic disease  
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22 430 [83, 84]. Thus, men are a population that would benefit from effective targeted programs to  
23  
24 431 engage them in disease preventing behaviors, including PA and healthy eating. To reach and  
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26 432 engage men, innovative approaches that acknowledge and play to specific masculine values  
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28 433 and virtues show promise in garnering significant success in advancing the health of men and  
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30 434 their families [16, 23, 27].  
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38 435 HAT TRICK was designed to address these specific elements by creating an evidence  
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40 436 based program that employed men-friendly strategies to fully engage men’s participation,  
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42 437 including; aligning with an elite male sports team (i.e., Kelowna Rockets), promoting friendly  
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44 438 competition, and delivering the program in a familiar “place” (i.e., hockey arena and  
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46 439 surrounding male-friendly community venues) where men ordinarily gather and connect with  
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48 440 others (i.e., male facilitators and male only participants) who share similar interests. Appealing  
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50 441 to these well-known masculine values and norms including friendly competition, and catering  
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3 442 to methods and modes of delivery that recognizes gender differences have been successful  
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6 443 approaches to men-centered PA and healthy eating programs [23, 24, 39].  
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8 444 Another promising aspect of HAT TRICK is its potential to be transferred across a  
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10 445 number of male populations and settings, thus further increasing its reach to a large proportion  
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12 446 of men. In part, HAT TRICK is based on the successful Football Fan In Training (FFIT) intervention  
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14 447 [24, 27], which was designed to engage overweight Scottish men in weight management and  
15  
16 448 healthy living program by capitalizing on men's team loyalty and love of the game of soccer.  
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18 449 FFIT was specifically developed within a context that supports masculine ideals, encompassing a  
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20 450 look and feel that appeals to many men [19, 29]. HAT TRICK utilized these same principles, but  
21  
22 451 altered the context of delivery by developing the program to fit with the national sports  
23  
24 452 obsession of Canadian men, ice hockey. Specifically, the program's name (HAT TRICK), logo  
25  
26 453 design, resources and content are all influenced by the sport of ice hockey. Although this  
27  
28 454 particular program was designed to appeal to male Canadian ice hockey fans, the unique aspect  
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30 455 of this model is that it can be easily modified to appeal to male fans of other sports or activities.  
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32 456 For instance, the same model has been recreated to appeal to Rugby fans in the UK. The Rugby  
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34 457 Fans in Training (RuFIT) [85] study (and subsequently Premiership Rugby's Move Like a Pro  
35  
36 458 program) aimed to test the FFIT model in the English professional rugby club setting, and to  
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38 459 enhance long term weight loss and lifestyle change for men in the UK. In North America, a  
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40 460 similar approach could be transferable to other popular sports including gridiron, basketball  
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42 461 and baseball, all of which exist within professional leagues that have a strong male fan base.  
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51 462 Although HAT TRICK can be recreated and transferred to suit fans of a variety of sports,  
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53 463 we do acknowledge that there is a great diversity of men within Canada (e.g., new immigrant  
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3 464 men, older age men, gay men, men from remote areas) who may have other interests beyond  
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6 465 sport. Thus, prior to undertaking refinements and restructuring the program, formative  
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8 466 evaluations should be undertaken with these specific male groups in order to gain further  
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10 467 knowledge concerning local, regional and global masculine values and norms [21].  
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13 468 In conclusion, given the limited published research for effective and feasible approaches  
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16 469 to men's health promotion, but the promise shown by programs such as FFIT, the results of this  
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18 470 feasibility study will serve as a valuable platform to guide future work. There also seems to be  
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21 471 great opportunity for sustainability and scalability of the HAT TRICK program based on its  
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23 472 transferability and the thoughtful deliberate formal evaluation of this intervention.  
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#### 27 28 474 **TRIAL STATUS**

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31 475 Recruitment for this study began in December 2016 and is ongoing until September 2017.  
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#### 35 36 477 **AUTHOR CONTRIBUTIONS**

37  
38 478 CMC, JLB, JLO, STJ, KH conceived the project and procured the project funding. CMC is leading  
39  
40 479 the coordination of the trial. CMC, JLB, JLO, STJ, KH, contributed to the study design. PS is  
41  
42 480 managing the trial, including data collection, with assistance from KMF and RP. CMC, PS, KMF  
43  
44 481 and RP drafted the manuscript and all authors read, edited and approved the final manuscript.  
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#### 49 50 51 483 **FUNDING**

1  
2  
3 484 This research is being funded by the Canadian Cancer Society (grant #704230). Kate Hunt is  
4  
5  
6 485 supported by the UK Medical Research Council (MC\_UU12017/12) and the Chief Scientist Office  
7  
8 486 (SPHSU12).  
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13 488 **COMPETING INTERESTS**  
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15  
16 489 All authors state that they have no competing interests to declare.  
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21 491 **DATA SHARING**  
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23 492 The datasets analyzed during the current trial will be available from the corresponding author  
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25  
26 493 on reasonable request.  
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31 495 **PROVENCE AND PEER REVIEW**  
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33 496 Not commissioned; externally peer reviewed.  
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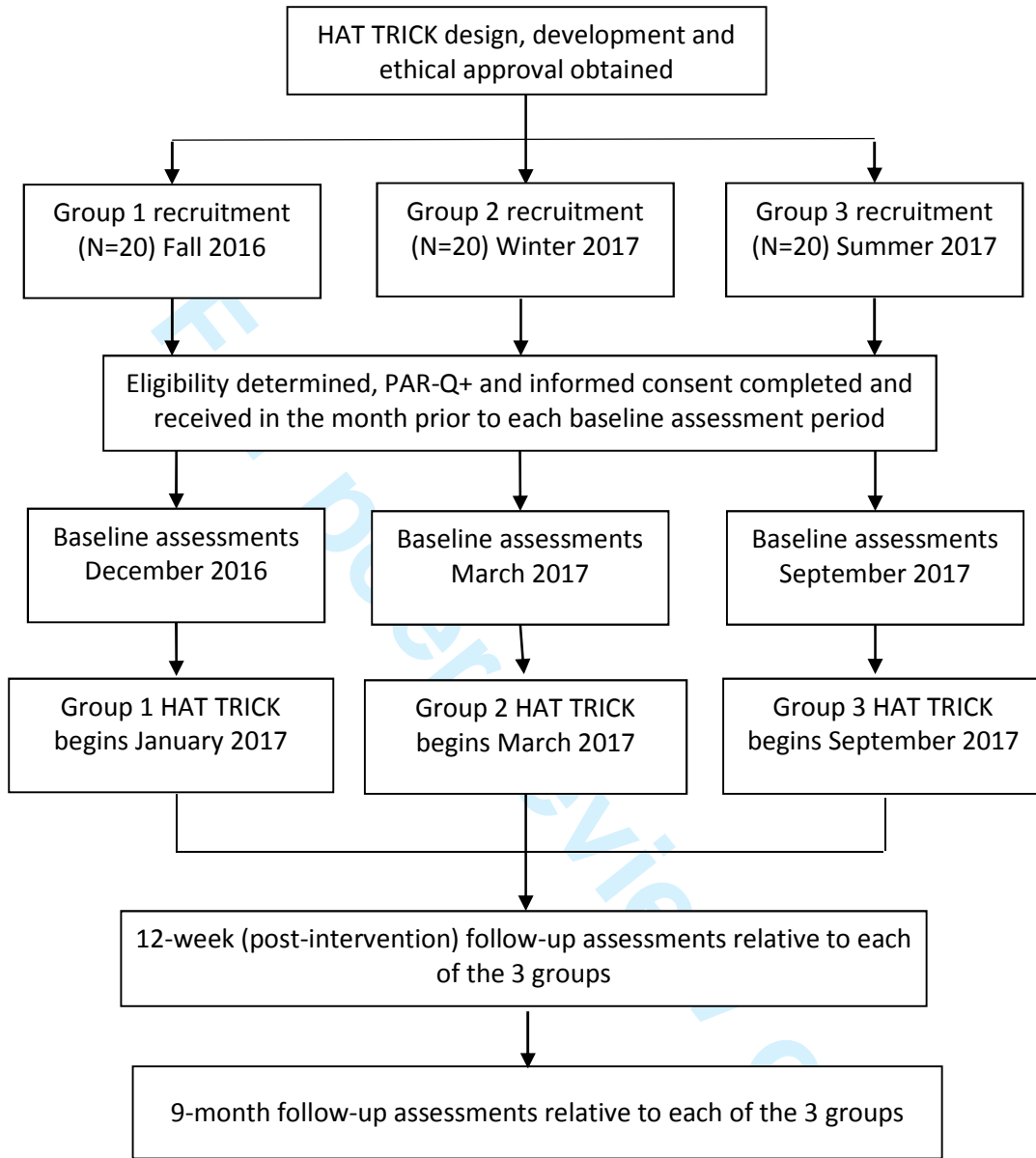


Figure 1. Flow diagram of HAT TRICK protocol


TIMEPOINT**	STUDY PERIOD			
	Enrolment	Allocation		Close-out
	-8 to 0 weeks	0 week	1-12 weeks	9-month follow-up
<b>ENROLMENT:</b>				
Eligibility screen	X			
Informed consent	X			
Medical clearance	X			
<b>INTERVENTIONS:</b>				
<i>HAT TRICK Intervention</i>				
<b>ASSESSMENTS:</b>				
Demographics		X		
Anthropometrics		X	X	X
Physical Activity		X	X	X
Sedentary behavior		X	X	X
Dietary behavior		X	X	X
Smoking		X	X	X
Alcohol consumption		X	X	X
Sleep habits		X	X	X
Risk of depression		X	X	X
HRQoL		X	X	X
Social support		X	X	X
Program Feasibility			X	

Figure 2. Standard Protocol Items: Recommendations for Interventional Trials (SPIRIT) figure





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SPIRIT 2013 Checklist: Recommended items to address in a clinical trial protocol and related documents\*

Section/item	Item No	Description	Addressed on page number
<b>Administrative information</b>			
Title	1	Descriptive title identifying the study design, population, interventions, and, if applicable, trial acronym	___ 1 ___
Trial registration	2a	Trial identifier and registry name. If not yet registered, name of intended registry	___ 4 ___
	2b	All items from the World Health Organization Trial Registration Data Set	___ n/a ___
Protocol version	3	Date and version identifier	___ 7-8 ___
Funding	4	Sources and types of financial, material, and other support	___ 25 ___
Roles and responsibilities	5a	Names, affiliations, and roles of protocol contributors	___ 1 & 25 ___
	5b	Name and contact information for the trial sponsor	___ 1 ___
	5c	Role of study sponsor and funders, if any, in study design; collection, management, analysis, and interpretation of data; writing of the report; and the decision to submit the report for publication, including whether they will have ultimate authority over any of these activities	___ 25 ___
	5d	Composition, roles, and responsibilities of the coordinating centre, steering committee, endpoint adjudication committee, data management team, and other individuals or groups overseeing the trial, if applicable (see Item 21a for data monitoring committee)	___ n/a ___

1  
2  
3 **Introduction**  
4

5 Background and	6a	Description of research question and justification for undertaking the trial, including summary of relevant studies (published and unpublished) examining benefits and harms for each intervention	_____5-7_____
6 rationale			
7			
8	6b	Explanation for choice of comparators	_____5-7_____
9			
10 Objectives	7	Specific objectives or hypotheses	_____7_____
11			
12 Trial design	8	Description of trial design including type of trial (eg, parallel group, crossover, factorial, single group), allocation ratio, and framework (eg, superiority, equivalence, noninferiority, exploratory)	_____7-8_____
13			
14			

15  
16 **Methods: Participants, interventions, and outcomes**  
17

18 Study setting	9	Description of study settings (eg, community clinic, academic hospital) and list of countries where data will be collected. Reference to where list of study sites can be obtained	_____7, Fig 1&2_
19			
20			
21 Eligibility criteria	10	Inclusion and exclusion criteria for participants. If applicable, eligibility criteria for study centres and individuals who will perform the interventions (eg, surgeons, psychotherapists)	_____8-9_____
22			
23			
24 Interventions	11a	Interventions for each group with sufficient detail to allow replication, including how and when they will be administered	__9-13, Table 1
25			
26			
27	11b	Criteria for discontinuing or modifying allocated interventions for a given trial participant (eg, drug dose change in response to harms, participant request, or improving/worsening disease)	__22_____
28			
29			
30	11c	Strategies to improve adherence to intervention protocols, and any procedures for monitoring adherence (eg, drug tablet return, laboratory tests)	__9-11_____
31			
32			
33	11d	Relevant concomitant care and interventions that are permitted or prohibited during the trial	__n/a_____
34			
35 Outcomes	12	Primary, secondary, and other outcomes, including the specific measurement variable (eg, systolic blood pressure), analysis metric (eg, change from baseline, final value, time to event), method of aggregation (eg, median, proportion), and time point for each outcome. Explanation of the clinical relevance of chosen efficacy and harm outcomes is strongly recommended	__13-19, Table 2
36			
37			
38			
39			
40			
41 Participant timeline	13	Time schedule of enrolment, interventions (including any run-ins and washouts), assessments, and visits for participants. A schematic diagram is highly recommended (see Figure)	__Fig 2, Table 2__
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3	Sample size	14	Estimated number of participants needed to achieve study objectives and how it was determined, including clinical and statistical assumptions supporting any sample size calculations	__ 8, 20__
4				
5				
6	Recruitment	15	Strategies for achieving adequate participant enrolment to reach target sample size	__ 8-9__
7				

### 8 **Methods: Assignment of interventions (for controlled trials)**

#### 9 Allocation:

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11				
12	Sequence generation	16a	Method of generating the allocation sequence (eg, computer-generated random numbers), and list of any factors for stratification. To reduce predictability of a random sequence, details of any planned restriction (eg, blocking) should be provided in a separate document that is unavailable to those who enrol participants or assign interventions	__ n/a__
13				
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18	Allocation concealment mechanism	16b	Mechanism of implementing the allocation sequence (eg, central telephone; sequentially numbered, opaque, sealed envelopes), describing any steps to conceal the sequence until interventions are assigned	__ n/a__
19				
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21				
22	Implementation	16c	Who will generate the allocation sequence, who will enrol participants, and who will assign participants to interventions	__ n/a__
23				
24				
25	Blinding (masking)	17a	Who will be blinded after assignment to interventions (eg, trial participants, care providers, outcome assessors, data analysts), and how	__ n/a__
26				
27				
28		17b	If blinded, circumstances under which unblinding is permissible, and procedure for revealing a participant's allocated intervention during the trial	__ n/a__
29				
30				
31				

### 32 **Methods: Data collection, management, and analysis**

33				
34	Data collection methods	18a	Plans for assessment and collection of outcome, baseline, and other trial data, including any related processes to promote data quality (eg, duplicate measurements, training of assessors) and a description of study instruments (eg, questionnaires, laboratory tests) along with their reliability and validity, if known. Reference to where data collection forms can be found, if not in the protocol	__ 13-19, Table 2__
35				
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39		18b	Plans to promote participant retention and complete follow-up, including list of any outcome data to be collected for participants who discontinue or deviate from intervention protocols	__ 19-20__
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3	Data management	19	Plans for data entry, coding, security, and storage, including any related processes to promote data quality (eg, double data entry; range checks for data values). Reference to where details of data management procedures can be found, if not in the protocol	__21__
4				
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6				
7	Statistical methods	20a	Statistical methods for analysing primary and secondary outcomes. Reference to where other details of the statistical analysis plan can be found, if not in the protocol	__20__
8				
9				
10		20b	Methods for any additional analyses (eg, subgroup and adjusted analyses)	__20__
11				
12		20c	Definition of analysis population relating to protocol non-adherence (eg, as randomised analysis), and any statistical methods to handle missing data (eg, multiple imputation)	__20__
13				
14				
15				
16	<b>Methods: Monitoring</b>			
17				
18	Data monitoring	21a	Composition of data monitoring committee (DMC); summary of its role and reporting structure; statement of whether it is independent from the sponsor and competing interests; and reference to where further details about its charter can be found, if not in the protocol. Alternatively, an explanation of why a DMC is not needed	__21__
19				
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23		21b	Description of any interim analyses and stopping guidelines, including who will have access to these interim results and make the final decision to terminate the trial	__n/a__
24				
25				
26	Harms	22	Plans for collecting, assessing, reporting, and managing solicited and spontaneously reported adverse events and other unintended effects of trial interventions or trial conduct	__n/a__
27				
28				
29	Auditing	23	Frequency and procedures for auditing trial conduct, if any, and whether the process will be independent from investigators and the sponsor	__n/a__
30				
31				
32				
33	<b>Ethics and dissemination</b>			
34				
35	Research ethics approval	24	Plans for seeking research ethics committee/institutional review board (REC/IRB) approval	__22__
36				
37				
38	Protocol amendments	25	Plans for communicating important protocol modifications (eg, changes to eligibility criteria, outcomes, analyses) to relevant parties (eg, investigators, REC/IRBs, trial participants, trial registries, journals, regulators)	__n/a__
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3	Consent or assent	26a	Who will obtain informed consent or assent from potential trial participants or authorised surrogates, and how (see Item 32)	<u>22</u>
4				
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6		26b	Additional consent provisions for collection and use of participant data and biological specimens in ancillary studies, if applicable	<u>n/a</u>
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8				
9	Confidentiality	27	How personal information about potential and enrolled participants will be collected, shared, and maintained in order to protect confidentiality before, during, and after the trial	<u>22</u>
10				
11				
12	Declaration of interests	28	Financial and other competing interests for principal investigators for the overall trial and each study site	<u>26</u>
13				
14				
15	Access to data	29	Statement of who will have access to the final trial dataset, and disclosure of contractual agreements that limit such access for investigators	<u>26</u>
16				
17				
18	Ancillary and post-trial care	30	Provisions, if any, for ancillary and post-trial care, and for compensation to those who suffer harm from trial participation	<u>n/a</u>
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20				
21	Dissemination policy	31a	Plans for investigators and sponsor to communicate trial results to participants, healthcare professionals, the public, and other relevant groups (eg, via publication, reporting in results databases, or other data sharing arrangements), including any publication restrictions	<u>22</u>
22				
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25				
26		31b	Authorship eligibility guidelines and any intended use of professional writers	<u>n/a</u>
27				
28		31c	Plans, if any, for granting public access to the full protocol, participant-level dataset, and statistical code	<u>26</u>
29				
30	<b>Appendices</b>			
31				
32	Informed consent materials	32	Model consent form and other related documentation given to participants and authorised surrogates	<u>supplementary file 2</u>
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35	Biological specimens	33	Plans for collection, laboratory evaluation, and storage of biological specimens for genetic or molecular analysis in the current trial and for future use in ancillary studies, if applicable	<u>n/a</u>
36				
37				

\*It is strongly recommended that this checklist be read in conjunction with the SPIRIT 2013 Explanation & Elaboration for important clarification on the items. Amendments to the protocol should be tracked and dated. The SPIRIT checklist is copyrighted by the SPIRIT Group under the Creative Commons "[Attribution-NonCommercial-NoDerivs 3.0 Unported](https://creativecommons.org/licenses/by-nc-nd/3.0/)" license.



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## Consent Form

### **Title: HAT TRICK: Examining the feasibility of a gender-sensitive intervention focused on physical activity, healthy eating and connectedness in male hockey fans**

#### **Lead Investigators:**

Dr. Cristina Caperchione, School of Health and Exercise Sciences, University of British Columbia, Kelowna 250 807 9679

#### **Co-Investigators:**

Dr. Joan Bottorff, Inst. For Healthy Living and Chronic Disease Prevention, University of British Columbia, Kelowna 250 807 8627

Dr. John Oliffe, School of Nursing, University of British Columbia, Vancouver 604 822-7638

Dr. Steven Johnson, Centre for Nursing and Health Studies, Athabasca University, Athabasca 877 848-6903

Dr. Kate Hunt, School of Public Health Sciences Unit, University of Glasgow, Glasgow 0 141 353-7552

Paul Sharp, School of Health and Exercise Sciences, University of British Columbia, Kelowna 250-807-9979

#### **Funding**

This study is funded by the Canadian Cancer Society Research Institute.

#### **Purpose of the study**

The purpose of this research is to evaluate the feasibility of the HAT TRICK Program, a program targeting physical activity, healthy eating and connectedness in men living in Kelowna, BC. The intervention will be delivered in connection with the Kelowna Rockets Hockey team.

#### **Eligibility**

You are being invited to voluntarily take part in this study because you are a man over the age of 35 years, residing in the Okanagan Region, who accumulates less than 150 minutes of moderate to vigorous physical activity a week, who has a Body Mass Index (BMI) greater than 25kg/m<sup>2</sup>, and a pant size greater than 38”.

#### **Study Procedures**

As a participant of this research project you will be invited to participate in twelve 90-minute weekly sessions, provide feedback on aspects of the program, and complete three assessment periods (baseline, 12-week, and 9-month follow-up). Weekly sessions will include a physical activity component, nutrition component, and behavior change component. Participants will be encouraged to make gradual changes to their lifestyle with the goal of improving overall health and well-being. Throughout the program, presentations will be given from local health professionals (e.g., nutritionist, fitness trainer), Kelowna Rockets staff and players, as well as other community personalities.



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5 Assessment sessions will be held at a convenient location. These assessment periods will last up to 1.5  
6 hours. At these assessment periods, you will be asked to complete a brief questionnaires about your;  
7 physical activity and dietary behaviours, social relatedness, general health and well-being questions as  
8 well as general demographic information (e.g., age, education, marital status). During these times you  
9 will also be given an accelerometer and instructions on how to use the accelerometer. Accelerometers  
10 are a device for measuring your daily physical activity. It is a small, non-invasive device which is worn  
11 around your chest. You will be asked to wear this accelerometer for 7 consecutive days during all  
12 waking hours. You will also be asked to return the accelerometers to the research team after these 7  
13 days. Return instructions will be provided to you when you receive your accelerometer.  
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16

17 Following the completion of the program you may also be asked commit an additional 1 hour of your  
18 time to participate in a semi-structured telephone interview with a member of the research team. If you  
19 are selected, a member of the research team will contact you to arrange a time that is convenient for you  
20 to conduct the interview. All telephone interviews will be audio recorded with your consent. During this  
21 interview we hope to hear about your thoughts, opinions and perceptions about the HAT TRICK  
22 Program and provide general comments about how you think the HAT TRICK Program could be  
23 improved.  
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### **Potential Risks and Benefits**

27 The HAT TRICK program and data collection procedures involve no foreseeable risks or harm to you.  
28 However, you will be asked to work towards meeting the minimum recommended Canadian Physical  
29 Activity Guidelines (150minutes per week in bouts of 10 minutes or more) and depending on your initial  
30 activity levels, you will be encouraged to safely increase your physical activity levels throughout the  
31 project. Becoming physically active and progressively increasing your physical activity may potentially  
32 include some risk of injury, such as common muscle soreness or strains associated with being physically  
33 active. To limit any concerns you may have regarding these minor injuries, information about reducing  
34 this risk of injury, such as education about stretching and starting off slowly and building up your  
35 physical activity levels will be provided during the weekly sessions. Although no benefits can be  
36 guaranteed, potential benefits that may occur include; improvements in overall physical and mental  
37 health as a result of increasing your physical activity levels, improved understandings about the benefits  
38 of physical activity and other healthy lifestyle behaviours (i.e., healthy eating, stress management),  
39 increased social interaction and support.  
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### **Confidentiality**

44 Your confidentiality will be respected at all times. Only research team members and research staff will  
45 have access to data collected in this study. All documents will only be identified by a code number and  
46 kept in a locked filing cabinet and/or secure password protected system. Participants will not be  
47 identified by name in any reports or materials associated with this research. Paper copies and electronic  
48 audio files will be kept for 7 years in the Physical Health and Activity Behaviour Laboratory at UBC  
49 Okanagan. All participants taking part in the sessions will sign the confidentiality agreement at the  
50 bottom of this consent form; however, we cannot control what the other participants do with the  
51 information discussed. Findings from the study may be shared through conference presentations, articles  
52 for publication, and other media outlets. An electronic or print copy of the research report will be  
53 available to you on request.  
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### **Contact for information about the study**

If you have any questions or would like additional information, please contact Dr. Cristina Caperchione at 250-807-9679.

### **Contact for concerns about the rights of research participants**

If you have any concerns about your treatment or rights as a research participant and/or your experiences while participating in this study you may contact the Research Participant Complaint Line in the UBC Office of Research Services at 1-877-822-8598 or the UBC Okanagan Research Services Office at 250-807-8832. It is also possible to contact the Research Participant Complaint Line by email ([RSIL@ors.ubc.ca](mailto:RSIL@ors.ubc.ca)).

### **Consent**

Your participation is entirely voluntary. You may refuse to participate or withdraw at any time without penalty or consequence. If you choose to participate and then decide to withdraw at a later time, you have the right to request the withdrawal of your information collected during the study. This request will be respected to the extent possible.

By signing this consent form, you are agreeing to participate in all study protocols. By signing this consent form you are acknowledging that you have received a signed copy of the consent form for your records. By signing this consent form, you do not waive any of your legal rights.

### **Consent**

I have read and understood the information on this consent form and voluntarily consent to participate in this study. I have had a chance to ask questions about the study and my involvement in it and have received a copy of the consent form.

\_\_\_\_\_  
Participant's Name (please print)

\_\_\_\_\_  
Participant's Signature

\_\_\_\_\_  
Date

### **Confidentiality Agreement**

I agree to respect the confidentiality of all program participants. This means I will not discuss participants' personal information with anyone outside of this program.

\_\_\_\_\_  
Participant's Name (please print)

\_\_\_\_\_  
Participant's Signature

\_\_\_\_\_  
Date





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### Contact for a Follow-up Interview

Upon completion of the program, would you be interested in taking part in a 1-hour semi-structured telephone interview with a member of the research team regarding your thoughts, opinions, and perceptions of the HAT TRICK Program?

Yes, I would be interested in taking part in a telephone interview.

No, I would not be interested in taking part in a telephone interview.

\_\_\_\_\_  
Participant's Name (please print)

\_\_\_\_\_  
Participant's Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Telephone Number

\_\_\_\_\_  
Email Address

### Contact for Future Studies

Would you like to be contacted in the future about other studies?

Yes, I would like to receive information about future studies on men's health and physical activity.

No, I would not like to receive information about future studies.

\_\_\_\_\_  
Participant's Name (please print)

\_\_\_\_\_  
Participant's Signature

\_\_\_\_\_  
Date

# BMJ Open

**The HAT TRICK program for improving physical activity, healthy eating and connectedness among overweight, inactive men: Study protocol of a pragmatic feasibility trial**

Journal:	<i>BMJ Open</i>
Manuscript ID	bmjopen-2017-016940.R1
Article Type:	Protocol
Date Submitted by the Author:	23-May-2017
Complete List of Authors:	Caperchione, Cristina; University of British Columbia, School of Health and Exercise Sciences Bottorff, Joan; University of British Columbia Okanagan, Olfiffe, John; University of British Columbia Johnson, Steven; Athabasca University, Hunt, Kate; University of Glasgow Sharp, Paul; University of British Columbia, Fitzpatrick, Kayla; University of British Columbia Okanagan Price, Ryley; University of British Columbia Okanagan Goldenberg, S; University of British Columbia
<b>Primary Subject Heading</b>:	Public health
Secondary Subject Heading:	Sports and exercise medicine, Public health
Keywords:	Men's health, masculinity, physical activity, dietary behaviors, social connectedness, overweight/obese

SCHOLARONE™  
Manuscripts

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3 1 **The HAT TRICK program for improving physical activity, healthy eating and**  
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6 2 **connectedness among overweight, inactive men: Study protocol of a pragmatic**  
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9 3 **feasibility trial**  
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12 4

14 5 **Authors:** Cristina M. Caperchione<sup>1, 2\*</sup>, Joan L. Bottorff<sup>2, 3</sup>, John L. Oliffe<sup>4</sup>, Steven T. Johnson<sup>5</sup>,  
15  
16  
17 6 Kate Hunt<sup>6</sup>, Paul Sharp<sup>1</sup>, Kayla M. Fitzpatrick<sup>1</sup>, Ryley Price<sup>1</sup>, S. Larry Goldenberg<sup>7</sup>  
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18 29 RP: [ryleyprice4@gmail.com](mailto:ryleyprice4@gmail.com)  
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44 **ABSTRACT**

45 **Introduction:** Physical activity, healthy eating, and maintaining a healthy weight are associated  
46 with reduced risk of cardiovascular disease, type 2 diabetes and cancer, and improved mental  
47 health. Despite these benefits, many men do not meet recommended physical activity  
48 guidelines and have poor eating behaviors. Many health promotion programs hold little appeal  
49 to men and consequently fail to influence men's health practices. HAT TRICK was designed as a  
50 12-week face-to-face, gender-sensitized intervention for overweight and inactive men focusing  
51 on physical activity, healthy eating and social connectedness, and delivered in collaboration  
52 with a major junior Canadian ice hockey team (age range 16-20 years). The program was  
53 implemented and evaluated to assess its feasibility. This article describes the intervention  
54 design and study protocol of HAT TRICK.

55 **Methods and Analysis:** HAT TRICK participants (N=60) were men  $\geq 35$  years, residing in the  
56 Okanagan Region of British Columbia, who accumulate  $< 150$ mins of moderate to vigorous  
57 physical activity a week, with a Body Mass Index  $> 25 \text{ kg/m}^2$  and a pant waist size of  $> 38''$ . Each  
58 90-minute weekly session included targeted health education and theory-guided behavior  
59 change techniques, as well as a progressive (i.e., an increase in duration and intensity) group  
60 physical activity component. Outcome measures were collected at baseline, 12-weeks, and 9-  
61 months and included: objectively measured anthropometrics, blood pressure, heart rate,  
62 physical activity and sedentary behavior, as well as, self-reported physical activity, sedentary  
63 behavior, diet, smoking, alcohol consumption, sleep habits, risk of depression, health-related  
64 quality of life, and social connectedness. Program feasibility data (e.g., recruitment,

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3 65 satisfaction, adherence, content delivery) was assessed at 12-weeks via interviews and self-  
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6 66 report.

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8 67 **Ethics and Dissemination:** Ethical approval was obtained from the University of British  
9  
10 68 Columbia Okanagan Behavioural Research Ethics Board (#H1600736). Study findings will be  
11  
12 69 disseminated through academic meetings, peer reviewed publication, web-based podcasts,  
13  
14 70 social media, plain language summaries and co-delivered community presentations.  
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16

17  
18 71 **Keywords:** Men's health; masculinity; physical activity; dietary behaviors; overweight/obese;  
19  
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21 72 social connectedness.  
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23 73 **Trial Registration:** ISRCTN43361357, Registered August 3, 2016  
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26 74 **Strengths and Limitations of the Study:**

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28 75 • HAT TRICK is a gender-sensitized program designed to engage 'hard to reach' men with  
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30 76 their health by resonating with and appealing to masculine ideals.  
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33 77 • The HAT TRICK program has the potential to be transferred across a number of male  
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35 78 populations and settings, thus further increasing its reach to a large proportion of men.  
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38 79 • This study has a robust evaluation plan, utilizing objective and subjective measures of  
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40 80 physical activity, and a variety of measures to assess program feasibility.  
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43 81 • Given the exploratory nature of this feasibility study, it is limited in examining causal  
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45 82 effect in terms of behavior change.  
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## 87 INTRODUCTION

88 Engaging in healthy lifestyle behaviors including physical activity (PA) and healthy eating  
89 to achieve and maintain a healthy body weight, can reduce the risk for developing chronic  
90 diseases such as cardiovascular disease, cancer, type 2 diabetes, depression and premature  
91 mortality [1-4]. Despite the benefits associated with these lifestyle behaviors, up to 83% of  
92 men are not meeting the recommended PA guidelines [3,5,6] (i.e., at least 150 minutes of  
93 moderate to vigorous intensity PA per week) and have poor eating behaviors [7,8]. Accordingly,  
94 the prevalence of overweight and obesity among men is on the rise and continues to grow at a  
95 disproportionate rate to their female counterparts [9]. Complicating matters is the fact that  
96 many men have proved reluctant and/or 'hard-to-reach' in healthy lifestyle and weight  
97 management programs, making disease and illness prevention initiatives difficult [10-13].

98 Traditionally, a central challenge associated with engaging men in taking more active  
99 care in their health was a perception that attention to one's health ran counter to masculine  
100 ideals of strength, self-reliance and independence [14-17]. Men often associate health  
101 promoting practices as feminine, or a sign of weakness, and consequently threatening to their  
102 status in masculine hierarchies [15,18]. Thus, many men refrain from engaging in health  
103 promotion behaviors, including attending PA, healthy eating, and weight management  
104 programs [19,20]. However, Pringle et al. [21] suggested that men's apparent detachment from  
105 healthy behaviors is an indication that typical approaches to health are unappealing and/or  
106 irrelevant to their masculine values and virtues. Previous men-centered PA and healthy eating  
107 related research [22-24] has revealed that careful consideration of 'place' (i.e., physical setting),  
108 along with a tailored approach that aligns with men's values and interests, can indeed support

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3 109 increases in health promoting behaviors [25-27]. This work supports the notion that there is  
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5  
6 110 value in providing men with health promotion opportunities in venues where they participate in  
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8  
9 111 and/or watch sport and recreational activities [21,27,28].

10  
11 112 Recent research has highlighted the potential for professional sports teams/clubs to  
12  
13 113 attract and engage men in healthy lifestyle behaviors [29-31]. Such settings have proved a  
14  
15  
16 114 powerful draw for men due to familiar, comfortable and/or appealing environments which they  
17  
18  
19 115 offer and the socio-cultural connections men often make with particular teams and fellow  
20  
21 116 supporters in terms of loyalty, identity and belonging [27,29,32,33]. Furthermore,  
22  
23 117 professional/elite sport clubs and settings offer a unique opportunity to support men's health  
24  
25  
26 118 because they provide health promoters with a potentially large captive audience of men in an  
27  
28  
29 119 environment that plays to masculine values and virtues [21,22,29,33]. For example, the Football  
30  
31 120 Fans in Training (FFIT) intervention targeted overweight Scottish men and reported a significant  
32  
33 121 reduction in weight at 12 months post-intervention (mean weight loss of 4.95kg) [27], as well as  
34  
35  
36 122 significant positive changes in blood pressure, diet, self-reported PA and physical quality of life.  
37  
38  
39 123 This program has since been expanded to include professional soccer clubs across Europe [34]  
40  
41 124 and has been adapted to addition sports (i.e., Rugby) [35].

42  
43 125 Within this context, the gender-sensitized HAT TRICK program was designed to engage  
44  
45  
46 126 men with their health by resonating with and appealing to masculine ideals. Its delivery model  
47  
48  
49 127 is founded on the strong collaboration with the Kelowna Rockets Hockey Team, a major junior  
50  
51 128 ice hockey team within the Canadian Hockey League (CHL) [36]. Garnering the social-cultural  
52  
53  
54 129 connections that men often cultivate with particular sports teams can be a 'lynchpin' to  
55  
56 130 engaging men in healthful behaviors in that this approach recognises the interests and  
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3 131 preferences of men, while fostering an environment that promotes a sense of identity,  
4  
5  
6 132 camaraderie and healthy living. This paper describes the intervention design and  
7  
8 133 methodological protocols of HAT TRICK.  
9

10 134

## 11 135 **METHODS AND ANALYSIS**

### 12 136 **Objectives**

13  
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18  
19 137 The specific objectives of the HAT TRICK study were to:

- 20  
21 138 1) Determine feasibility and acceptability of HAT TRICK, a health promotion program  
22  
23 139 focused on PA, healthy eating and connectedness for inactive, overweight men.  
24  
25  
26 140 2) Estimate effectiveness in terms of changes over time in PA, sedentary behavior, dietary  
27  
28 141 behaviors, weight, smoking, alcohol consumption, sleep habits, risk for depression,  
29  
30 142 health-related quality of life (HRQoL) and social connectedness.  
31  
32  
33 143 3) Utilise findings to refine the program and inform the development of a future large scale  
34  
35 144 randomised control trial (RCT).  
36  
37  
38

### 39 145 **Study design**

40  
41 146 This study protocol was prepared according to Standard Protocol Items:  
42  
43  
44 147 Recommendations for Interventional Trials (SPIRIT) [37]. This study utilised a quasi-  
45  
46 148 experimental, pre-post test design to evaluate the feasibility and acceptability of a men's health  
47  
48 149 promotion program focused on PA, healthy eating, and social connectedness. Data collection  
49  
50 150 occurred at baseline, 12-weeks, and 9-months follow-up. The study period extends from August  
51  
52 151 2016 – May 2018. Recruitment occurred in three phases, corresponding with the delivery of  
53  
54  
55 152 three 12-week HAT TRICK sessions: Phase 1 recruitment period occurred in November 2016;  
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3 153 phase 2 recruitment period occurred in January 2017; and, phase 3 recruitment will begin in  
4  
5  
6 154 August 2017. Figure 1 provides a flow diagram for the HAT TRICK protocol. Figure 2 provides  
7  
8  
9 155 Standard Protocol Items: Recommendations for Interventional Trials (SPIRIT) figure. (Please see  
10  
11 156 Supplementary File 1 for SPIRIT Checklist).

### 13 157 **Study population, eligibility and recruitment**

16 158 A total of 60 participants (20 participants x 3 groups) were recruited for this feasibility  
17  
18 159 trial. This sample size is appropriate for feasibility trials which aim to provide an estimate of the  
19  
20  
21 160 parameters (i.e., identifying/recruiting participants; practicality of delivery, standard deviation  
22  
23 161 of a primary outcome measure to estimate sample size) needed to design and conduct a  
24  
25  
26 162 sufficiently powered RCT [22,38,39]. To be eligible for the study, participants had to be men  
27  
28 163 over the age of 35 years, reside in the Okanagan Region of British Columbia (BC), Canada,  
29  
30  
31 164 accumulate less than 150 minutes of PA per week, have a body mass index (BMI) of over  
32  
33 165 25kg/m<sup>2</sup> and a pant waist size of 38" or greater. It was not a requirement of the program to be  
34  
35  
36 166 able to skate or play hockey.

37  
38 167 A variety of recruitment strategies were utilised, including: 1) communication avenues  
39  
40  
41 168 via the Kelowna Rockets Hockey Team (e.g., poster advertising at home games, Rockets  
42  
43 169 website, newsletters to season tickets holders, game day intercom announcements,  
44  
45  
46 170 recruitment/information booth at home games); 2) local media, including print newspaper and  
47  
48 171 television and radio broadcasts; 3) email and print communication via local male dominated  
49  
50  
51 172 community organizations (e.g., Okanagan Men's Shed); 4) social media, including Facebook,  
52  
53 173 Castanet, Kijiji, and Kelowna Now (community events website); and 5) Poster advertisements at  
54  
55  
56 174 local community centers, ice hockey arenas, coffee shops, pubs and bars, and large hardware  
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1  
2  
3 175 and automotive commercial entities (e.g., Canadian Tire). Prior to groups 2 and 3, word of  
4  
5  
6 176 mouth was an additional recruitment strategy. Lastly, a project specific website  
7  
8 177 ([www.hattrick.ok.ubc.ca](http://www.hattrick.ok.ubc.ca)) with additional information about the program, including eligibility  
9  
10  
11 178 criteria and how to sign up, was also used to recruit participants.

12  
13 179 Interested individuals were encouraged to contact the research team to confirm their  
14  
15  
16 180 eligibility. Those confirmed eligible were asked to complete a Physical Activity Readiness  
17  
18 181 Questionnaire (PAR-Q+) [40], a medical screening tool which has been recommended for use in  
19  
20  
21 182 exercise related interventions and RCTs [41]. All completed PAR-Q+ were reviewed by a  
22  
23 183 Certified Exercise Physiologist [42] and individuals who required further medical screening were  
24  
25  
26 184 informed and invited to gain medical clearance from a general medical practitioner (i.e., family  
27  
28 185 doctor) in order to participate in the study. Individuals were accepted on a 'first come first  
29  
30  
31 186 serve' basis with additional individuals being placed on a waitlist and contact list for the next  
32  
33  
34 187 available session.

### 35 36 188 **HAT TRICK Intervention**

37  
38 189 HAT TRICK is a term synonymous with the achievement of a single hockey player scoring  
39  
40  
41 190 three goals in one hockey game. Although the term has its origins in hockey, it is also used in  
42  
43 191 other sports. For example, a soccer player who scores three goals in one game or a football  
44  
45  
46 192 player who scores three touchdowns in one game may also claim that they achieved a 'hat  
47  
48 193 trick'. Thus, the HAT TRICK program follows this same logic and focuses on three goals including  
49  
50  
51 194 enhancing PA, healthy eating, and social connectedness. The program was tailored for men  
52  
53 195 using evidence-based research concerning men's health behaviours [27,43] and was guided by  
54  
55  
56 196 theoretical underpinnings associated with behavior change, specifically incorporating  
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1  
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3 197 components of the Social Cognitive Theory [44,45], Self-Determination Theory [46] and  
4  
5  
6 198 masculinities [14,17]. It was also informed by formative consultations with the men, previously  
7  
8  
9 199 conducted by the research team [23,47]. Gender-related strategies found to be successful in  
10  
11 200 influencing men's health behaviors were integrated into the design of the program including  
12  
13 201 men's preferences for activity based approaches, self-monitoring and friendly competition,  
14  
15  
16 202 while providing space for male comradery to foster group support, normalise practices related  
17  
18 203 to health, and mobilise men in regaining fitness and valued masculine identities and activities  
19  
20  
21 204 [14,17]. All resources were consistent with a masculine look and feel, and provided clear,  
22  
23  
24 205 positive, and direct messaging around PA, healthy eating, and social connectedness [43,48]. For  
25  
26 206 example, consideration was given to the use of colours (e.g., dark tones and stark contrasts),  
27  
28 207 images (e.g., average men performing PA), language (e.g., "power foods"), and tone (e.g., "I  
29  
30  
31 208 don't need to eat like a rabbit or live at the gym to improve my health").

32  
33 209 HAT TRICK consists of 12 weekly, 90-minute face-to-face group sessions delivered at the  
34  
35  
36 210 local hockey arena, the home facility to the Kelowna Rockets. Each group session included a  
37  
38 211 'locker room' component with an ice hockey related-theme used to frame health-related  
39  
40  
41 212 education and information regarding PA, healthy eating and behavior change techniques (i.e.,  
42  
43 213 goal setting, self-monitoring, social support), whilst simultaneously promoting enjoyment and  
44  
45  
46 214 increased social connectedness through an interactive and informal style of learning. For  
47  
48 215 instance, to enhance social connectedness, facilitators aimed to foster a sense of teamwork and  
49  
50  
51 216 comradery among the men through group activities and competition. Men were encouraged to  
52  
53  
54 217 share contact information and meet outside of the program as well as foster friendly  
55  
56 218 competition by challenging each other to meet their PA and healthy eating goals. Participants  
57  
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59  
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219 were introduced to a variety of activities and guided through a progressive (i.e., increase  
 220 duration and intensity over time) PA program within the facility using the team gym, the  
 221 concession loop, and spectator stands. Weekly PA and healthy eating challenges were  
 222 introduced to encourage men to integrate what they learned to their daily life [49-51]. Table 1  
 223 provides a detailed description of the weekly locker room content, PA, and challenges provided  
 224 to the men.

225 **Table 1.** Weekly Outline of HAT TRICK

Locker Room Education	Group PA	Weekly Challenge
Week 1: Pre Game		
<ul style="list-style-type: none"> <li>• Program introduction</li> <li>• Why HAT TRICK?</li> <li>• The first step</li> <li>• Take stock of current activities</li> </ul>	<ul style="list-style-type: none"> <li>• Introduction to Fitbits</li> <li>• Hockey area facility tour</li> <li>• Intermission               <ul style="list-style-type: none"> <li>○ Meet and greet with hockey team</li> </ul> </li> </ul>	On every day this week: <ul style="list-style-type: none"> <li>• Record how many steps you do</li> <li>• Record everything that you eat and drink</li> </ul>
Week 2: Face Off		
<ul style="list-style-type: none"> <li>• Change a bit</li> <li>• Break the cycle</li> <li>• Top 5 tips for success</li> </ul>	<ul style="list-style-type: none"> <li>• Activities around hockey arena               <ul style="list-style-type: none"> <li>○ Climb bleachers, walk the loop, seat dips</li> </ul> </li> <li>• Intermission               <ul style="list-style-type: none"> <li>○ Fitbit usage and barriers</li> <li>○ Step recommendations</li> </ul> </li> </ul>	On at least <b>3</b> days of the week: <ul style="list-style-type: none"> <li>• walk an extra 1,500 steps (from baseline value)</li> <li>• Choose water instead of a sugary drink</li> </ul>
Week 3: Power Play		
<ul style="list-style-type: none"> <li>• HAT TRICK to healthy eating: carbs, proteins, and fats</li> <li>• Top 6 healthy eating tips</li> <li>• Power food swaps</li> </ul>	<ul style="list-style-type: none"> <li>• Hockey team training gym               <ul style="list-style-type: none"> <li>○ Fundamental activities with Athletic Trainer</li> <li>○ Circuit-style workout</li> </ul> </li> <li>• Intermission               <ul style="list-style-type: none"> <li>○ Discuss week 2 challenge</li> </ul> </li> </ul>	On at least <b>3</b> days of the week: <ul style="list-style-type: none"> <li>• walk an extra 1,500 steps (from baseline value)</li> <li>• Start your morning with a healthy breakfast</li> </ul>
Week 4: Tic Tac Toe		
<ul style="list-style-type: none"> <li>• Size: Then and now</li> <li>• Handy portion guide</li> <li>• Top 7 tips for dining out</li> <li>• Rethink beer o'clock</li> <li>• Top 6 tips for keeping the beer gut in check</li> </ul>	<ul style="list-style-type: none"> <li>• Ball hockey game               <ul style="list-style-type: none"> <li>○ Two periods of 15 minutes</li> </ul> </li> <li>• Intermission:               <ul style="list-style-type: none"> <li>○ Discuss week 3 challenge</li> </ul> </li> </ul>	On at least <b>5</b> days of the week: <ul style="list-style-type: none"> <li>• walk an extra 1,500 steps (from baseline value)</li> <li>• Use the handy portion guide to plan a meal</li> </ul>
Week 5: Long Change		
<ul style="list-style-type: none"> <li>• Active living 101</li> </ul>	<ul style="list-style-type: none"> <li>• Hockey team training gym</li> </ul>	On at least <b>5</b> days of the week:

<ul style="list-style-type: none"> <li>• HAT TRICK to active living</li> <li>• Canada PA Guidelines</li> <li>• Recruit a deep bench (i.e., elicit social support)</li> </ul>	<ul style="list-style-type: none"> <li>○ Fundamental activities with Athletic Trainer</li> <li>○ Circuit-style workout</li> <li>• Intermission</li> <li>○ Discuss week 4 challenge</li> </ul>	<ul style="list-style-type: none"> <li>• walk an extra 1,500 steps (from baseline value)</li> <li>• Choose water instead of a sugary drink</li> </ul>
Week 6: Neutral Zone		
<ul style="list-style-type: none"> <li>• Energy balance</li> <li>• The 80/20 rule (i.e., 80% healthy eating/20% anything foods)</li> <li>• Top 8 keys to weight loss</li> <li>• Drink wisely (i.e., choose water instead of sugary drinks)</li> </ul>	<ul style="list-style-type: none"> <li>• Exercise at a moderate intensity (3 bouts of 15 minutes)- Include short intervals of higher intensity</li> <li>• Intermission: <ul style="list-style-type: none"> <li>○ Discuss week 5 challenge</li> </ul> </li> </ul>	<p>On at least <b>3</b> days of the week:</p> <ul style="list-style-type: none"> <li>• walk an extra 3,000 steps (from baseline value)</li> <li>• Apply the 80/20 rule</li> </ul>
Week 7: Penalty Kill		
<ul style="list-style-type: none"> <li>• SMART goals</li> <li>• Keep your stick on the ice (i.e. relapse prevention)</li> <li>• Top 6 relapse prevention strategies</li> <li>• Top 6 healthy snacking tips</li> <li>• Rewarding yourself</li> </ul>	<ul style="list-style-type: none"> <li>• “Boot camp” style workout</li> <li>• Intermission: <ul style="list-style-type: none"> <li>○ Discuss week 6 challenge</li> </ul> </li> </ul>	<p>On at least <b>3</b> days of the week:</p> <ul style="list-style-type: none"> <li>• walk an extra 3,000 steps (from baseline value)</li> <li>• Choose healthy snacks options</li> </ul>
Week 8: Odd Man Rush		
<ul style="list-style-type: none"> <li>• Principles of strength training</li> <li>• Circuit training</li> <li>• At home workout</li> <li>• Turning up the heat</li> </ul>	<ul style="list-style-type: none"> <li>• Introduction to at-home bodyweight workout</li> <li>• Intermission: <ul style="list-style-type: none"> <li>○ Discuss week 7 challenge</li> </ul> </li> </ul>	<p>On at least <b>5</b> days of the week:</p> <ul style="list-style-type: none"> <li>• walk an extra 3,000 steps (from baseline value)</li> <li>• Start your morning with a healthy breakfast</li> </ul>
Week 9: Icing		
<ul style="list-style-type: none"> <li>• Top 5 tips for “brocery” shopping (i.e., grocery shopping for guys)</li> <li>• Reading the fine print</li> <li>• The many names for sugar and salt</li> <li>• Product buzz words</li> </ul>	<ul style="list-style-type: none"> <li>• Exercise at moderate-vigorous intensity (3 bouts of 15 minutes)-15 minutes will include more vigorous intensity</li> <li>• Intermission: <ul style="list-style-type: none"> <li>○ Discuss week 8 challenge</li> </ul> </li> </ul>	<p>On at least <b>5</b> days of the week:</p> <ul style="list-style-type: none"> <li>• walk an extra 3,000 steps (from baseline value)</li> <li>• Apply the 80/20 rule</li> </ul>
Week 10: Fast Break		
<ul style="list-style-type: none"> <li>• Making healthy trades</li> <li>• The BBQ king</li> <li>• Meals on the fly</li> </ul>	<ul style="list-style-type: none"> <li>• Sport chosen by men (3 periods of 15 minutes)</li> <li>• Intermission: <ul style="list-style-type: none"> <li>○ Discuss week 9 challenge</li> </ul> </li> </ul>	<p>On at least <b>5</b> days of the week:</p> <ul style="list-style-type: none"> <li>• walk an extra 3,000 steps (from baseline value)</li> <li>• Choose healthy snacks options</li> </ul>
Week 11: Set Play		
<ul style="list-style-type: none"> <li>• Sit less</li> <li>• Top 4 stress management</li> </ul>	<ul style="list-style-type: none"> <li>• Resistance training session</li> <li>• Intermission:</li> </ul>	<p>On at least <b>5</b> days of the week:</p> <ul style="list-style-type: none"> <li>• walk an extra 3,000 steps</li> </ul>

tips	○ Discuss week 10 challenge	(from baseline value)
• Sleep and health		• Use the handy portion guide to plan a meal
Week 12: He shoots, he scores!		
• Highlight reel	• Family skate and BBQ	Be HAT TRICK healthy. Keep working towards your goals and making small lifestyle changes.
• Dealing with set-backs	○ Family and friends	
• What's the next step?	○ Man of the Match (awards)	
	• Intermission:	
	○ Discuss week 11 challenge	

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In the initial deliveries, HAT TRICK was facilitated by research personnel trained in health promotion and behavior change techniques. However, it is anticipated that for future delivery of the program, external facilitators such as fitness professionals with relevant certifications (e.g., CSEP CPT, BCRPA Personal Trainer) or other accredited local health professionals (e.g., nutrition specialists, physical therapists), as well as individuals who have previously gone through the program, will be trained to deliver the program. In addition, hockey team personnel and community experts were invited as guest speakers/presenters for selected sessions. For example, the Rockets Athletic Therapist was brought in to lead a strength training session and the Rockets nutritionist specialist was a guest presenter for some of the nutrition education sessions. Community health professionals (e.g., fitness trainers, physiotherapist) were also involved in leading some of the group sessions. For instance, qualified local fitness professionals led the men through a circuit training session and martial arts type workouts, and a local Chef assisted with presenting and discussing healthier food options when ordering from restaurant menus. Including team 'insiders' and local professionals (i.e., Rockets personnel) provided a variety of content and activities for the men, potentially helping to build community capacity and buy-in, which is vital to future dissemination and sustainability.

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3 243 All participants were provided with the HAT TRICK 'Playbook', a print resource manual  
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6 244 that further summarised the key messages and signposts the resources to draw on over 12-  
7  
8 245 week program. The 'Playbook' is divided into 12 weeks and corresponds with each weekly  
9  
10 246 theme of HAT TRICK, as outlined in Table 1. It contains educational information, expressed in  
11  
12 247 simple terms using hockey-related metaphors, concerning healthy eating (i.e., information  
13  
14 248 about macro-nutrients, portion sizes, etc.) and active living (i.e., barriers and benefits to PA,  
15  
16 249 being active at home, etc.), as well as strategies for weight management and behavior change,  
17  
18 250 such as information concerning social support, self-monitoring, goal setting, and relapse  
19  
20 251 prevention. To assist with self-monitoring, participants were provided with a Fitbit Charge HR™  
21  
22 252 and PA and dietary tracking logs which are embedded in the 'Playbook'. During each week of  
23  
24 253 the program, men were encouraged and challenged to increase their step count (in graduate  
25  
26 254 increments) and non-walking PA, as well as to engage in healthy eating (e.g., increasing fruit  
27  
28 255 and vegetable consumption) and record these activities in their 'Playbook' tracking logs.  
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### 36 256 **Outcome Measures**

37  
38 257 Quantitative and qualitative data collection methods were used to assess outcome and  
39  
40 258 feasibility measures. All assessments took place at the same facility where HAT TRICK was  
41  
42 259 delivered and occurred at baseline (one week prior to the start of the program), at 12-weeks  
43  
44 260 (completion of the program) and will occur again at 9-months follow-up (post-baseline).  
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46 261 Participants who were unable to attend the measurement session were invited to complete  
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48 262 measures at an agreed upon time in the Physical Health and Activity Behaviour Lab at the  
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50 263 University of British Columbia or at an alternative location such as their home. All measures are  
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264 described in further detail below. In addition, Table 2 provides a summary of measures and  
 265 data collection time points.

266 **Table 2.** Summary of measures and data collection time points

Measures	Methods for data collection	Data collection time points
Demographics	Age, ethnicity, education, occupation, income, marital status, co-morbidities	0 (Baseline only)
Anthropometrics	Height, weight, waist circumference	0, 12-wks and 9-mths
Physiological Measures	Blood pressure, heart rate	0, 12-wks and 9-mths
PA levels	Actigraph GT3X™ accelerometer (over a 7 day-period)	0, 12-wks and 9-mths
	Godin's Leisure Time Exercise Questionnaire (GLTEQ)	0, 12-wks and 9-mths
Sedentary behavior	Actigraph GT3X™ accelerometer (over a 7 day-period)	0, 12-wks and 9-mths
	Marshall Sitting Questionnaire (MSQ)	0, 12-wks and 9-mths
Dietary behavior	The Dietary Instrument for Nutrition Education Questionnaire (DINE)	0, 12-wks and 9-mths
Other health behaviors	7 Day Alcohol Recall	0, 12-wks and 9-mths
	Smoking and tobacco use	0, 12-wks and 9-mths
	Sleep habits	0, 12-wks and 9-mths
Psychological and physical well-being	SF-12V2 Health Survey	0, 12-wks and 9-mths
	Male Depression Risk Scale (MDRS-22)	0, 12-wks and 9-mths
	Abbreviated Duke Social Support Index (DSSI-11)	0, 12-wks and 9-mths
Program	Satisfaction/acceptability	12-wks (post intervention)

1			
2			
3			
4	satisfaction/acceptability	questionnaire	only)
5			
6		Semi-structured telephone	12-wks (post intervention
7		interview with participants	only)

267

268 Demographics, anthropometrics and physiological measures

269 As part of the self-report questionnaire, participants were asked to report demographic  
 270 variables including; date of birth, ethnic background, level of education, marital status, chronic  
 271 disease conditions, main activity, occupation, and household income. Height (cm), weight (kg),  
 272 waist circumference (cm), blood pressure (mmHg), and heart rate (bpm) were measured by a  
 273 research team member, trained to a standard protocol, at all assessment sessions. Weight and  
 274 height was measured with the participant standing normally, with feet together and head in the  
 275 Frankfort plane, using Seca 700 mechanical balance scales and a Seca 220 measuring rod (Seca  
 276 GmbH, Hamburg). Using the National Institutes of Health protocol [52], waist circumference  
 277 was measured on the transverse plane at the top of the iliac crest using a measurement tape.  
 278 Blood pressure and heart rate was measured two times at two minutes intervals with a Life  
 279 Source Digital Deluxe One Step Blood Pressure Monitor. Participants were asked to sit quietly  
 280 for five minutes prior to the first measurement. Blood pressure was measured on the left arm  
 281 with forearm on a table, palm of the hand facing up. Participants were asked to rest the arm  
 282 comfortably at heart level, sitting with their back against the chair, legs uncrossed.

283 Physical Activity

284 PA was assessed objectively using an Actigraph GT3X™ accelerometer (ActiGraph,  
 285 Pensacola, FL) during all waking hours over seven days. The accelerometers were initialized to  
 286 record steps, inclination, and acceleration counts in tri-axial mode, using 60-second epochs

1  
2  
3 287 [53,54]. Participants were instructed to wear the accelerometer above their right hip and in-line  
4  
5  
6 288 with their right knee facing up, and to remove it during sleeping hours or for any activities  
7  
8 289 where water may be involved. The Actigraph GT3X™ is considered the ‘gold standard’ measure  
9  
10 290 of PA in adults [55] and has shown validity and reliability compared to other commercial  
11  
12 291 devices [56,57]. Established cut-off points were used to calculate daily minutes of moderate  
13  
14 292 (2,691 – 6,166 counts/min) and vigorous (>6,167 counts/min) PA while controlling for the  
15  
16 293 number of days the accelerometer was worn [56]. Moderate-to-vigorous physical activity  
17  
18 294 (MVPA) will be calculated as a sum score of weekly minutes in MVPA. Data will be included in  
19  
20 295 the analyses if there are no extreme counts (>20,000) and if data are available for at least 600  
21  
22 296 minutes wear time per day on 5 days. Participants with invalid data were asked to wear the  
23  
24 297 activity monitor for a further 7 days.  
25  
26  
27  
28  
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30  
31 298 PA was also assessed by self-report using a modified version of the Godin Leisure Time  
32  
33 299 Exercise Questionnaire (GLTEQ) [58]. Participants were asked to indicate the frequency and  
34  
35 300 type of intensity (i.e., light, moderate, vigorous) of their daily PA per week and the duration  
36  
37 301 (minutes) of these sessions [58]. All responses will be converted to minutes and calculated in  
38  
39 302 accordance with the metabolic equivalent (MET) minutes method [59]. A cut-off point of  $\geq 600$   
40  
41 303 MET minutes will then be used to dichotomize participants as “adequately active for health  
42  
43 304 benefit” or “inadequately active” [59,60]. The GLTEQ has shown good validity and reliability  
44  
45 305 across a number of populations and settings [61-63].  
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#### 50 306 Sedentary Behavior

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53 307 Accelerometers were also be used to objectively assess sedentary behavior using a 30s  
54  
55 308 epoch. Sedentary time will be determined as <100 counts/min, adjusted for non-wear time  
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3 309 operationalized as at least 60 minutes of consecutive zeros [54]. In addition, sedentary  
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5  
6 310 behaviors was assessed by self-report using The Marshall Sitting Questionnaire (MSQ) [64]. The  
7  
8  
9 311 MSQ assesses time spent sitting on weekdays and weekend days at work, traveling and at  
10  
11 312 home. Data from the sitting time questionnaire will be used to create an estimate of total  
12  
13 313 weekday and weekend-day sitting times (min/day) by summing the time reported in each  
14  
15  
16 314 domain [64]. This measure has demonstrated reliability and validity in the adult population  
17  
18  
19 315 [64].

#### 20 21 316 Dietary Behaviors

22  
23 317 Dietary behaviors were assessed by the Dietary Instrument for Nutrition Education  
24  
25  
26 318 (DINE) questionnaire [65], a short 19-item questionnaire providing a measure of frequency of  
27  
28  
29 319 intake of different food types (i.e., fruits and vegetables) and macronutrients over the last  
30  
31 320 seven days. Composite scores will be calculated in accordance with the DINE protocol used for  
32  
33 321 total fat intake and total fiber intake, with higher scores indicating greater consumption [65].  
34  
35  
36 322 This validated instrument [65] is considered to be an acceptable alternative to more detailed  
37  
38  
39 323 diet recall questionnaires and food dairies, and was chosen for this particular study as it  
40  
41 324 focuses on food types (i.e., fruits and vegetables) associated with chronic disease prevention  
42  
43  
44 325 and management [66,67].

#### 45 46 326 Other health-related behaviors

47  
48 327 Smoking and tobacco use, alcohol consumption, and sleep habits were assessed via  
49  
50  
51 328 self-report questions [68]. Smoking status was measured using a single question, wherein  
52  
53  
54 329 participants identify as a regular smoker (daily), occasional smoker (once in a while), ex-smoker,  
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3 330 or non-smoker. Occasional and regular smokers were asked to report their smoking habits and  
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5  
6 331 quit attempts using standardized questions [68].  
7

8 332 Alcohol intake was measured using a 7-Day Alcohol Recall [69]. Participants were asked  
9  
10 333 to consider the previous 7 days and report the number of pints of beer/cider, glasses of wine,  
11  
12 334 glasses of fortified wine (e.g., Port), measures of spirits, and any other alcoholic beverages  
13  
14  
15 335 consumed each day.  
16

17  
18 336 Participants' sleeping habits were reported through average hours of sleep on a typical  
19  
20  
21 337 night [70]. Descriptive measures related to speaking with a doctor or health professional about  
22  
23 338 having difficulty sleep and being diagnosed with a sleep disorder were also collected [70].  
24

#### 25 26 339 Risk of Depression 27

28 340 Risk of depression was assessed using the Male Depression Risk Scale (MDRS-22) [71].  
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30  
31 341 This is a 22-item Likert scale questionnaire ranging from 0 (not at all) to 7 (almost always).  
32

33 342 Participants were asked to think back over the last month and respond to each item considering  
34  
35  
36 343 how often it applies. The MDRS-22 provides a total score via the summation of all 22 items and  
37  
38 344 six subscale scores that follow six symptom domains including: emotional suppression, drug  
39  
40  
41 345 use, alcohol use, somatic symptoms, risk taking, and anger and aggression. A higher score  
42  
43 346 indicates a greater risk of depression. The MDRS-22 has demonstrated validity and reliability  
44  
45  
46 347 among men [71,72].  
47

#### 48 348 Health-related Quality of Life 49

50  
51 349 HRQoL was assessed using the Short Form Health Survey (SF-12) [73]. The SF-12 was  
52  
53 350 developed as a shorter alternative to the SF-36 [74], and it includes 12 questions and eight  
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55  
56 351 physical and mental health dimension scales including; physical functioning, role-physical,  
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3 352 bodily pain, general health, vitality, social function, role-emotional and mental health [73].  
4

5  
6 353 Scoring for this survey includes pre-coded numeric values that are assigned to each of the eight  
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8  
9 354 scales and then scored from 0 to 100, with a higher score indicating better health [75]. The SF-  
10

11 355 12 is one of the most widely used HRQoL evaluation tools and has been shown to be valid and  
12

13 356 reliable in a number of populations [76-79].  
14

15  
16 357 Social Support

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18 358 The Abbreviated Duke Social Support Index (DSSI-11) [80] was used to assess perceived  
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20  
21 359 social support. The DSSI is an 11-item questionnaire comprising of two sub-scales; social  
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23 360 interaction (4 items) and social satisfaction (7 items), measured on a 4 point Likert scale. The  
24

25  
26 361 social interaction subscale asks questions regarding the number of social interactions an  
27

28 362 individual has had within the past week (e.g., *How many times during the past week did you*  
29

30  
31 363 *spend time with someone who does not live with you?* The social satisfaction subscale asks  
32

33 364 about the subjective quality of these relationships (e.g., *When you are talking with your family*  
34

35  
36 365 *or friends, do you feel you are being listened to?* The social interaction scale ranges from 4 to 12  
37

38 366 and the social satisfaction subscale ranges from 6 to 18, thus the total score for the DSSI-11  
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40  
41 367 ranges from 10 to 30 (combination of social interactions and social satisfaction scores, with  
42

43 368 social satisfaction reverse scored before summation) with higher scores indicating a stronger  
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45  
46 369 perception of social support [80]. The DSSI-11 has been shown to be valid and reliable in adult  
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48 370 populations and reported to be useful for measuring social support in community-based  
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51 371 epidemiological studies [81-84].  
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53 372 **Statistical Analysis**  
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3 373 Descriptive analyses will be completed and presented as means and standard deviations  
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6 374 for continuous variables and as frequencies and proportions for categorical data. Data analysis  
7  
8 375 of outcome variables including estimates of change in PA, sedentary behavior, dietary  
9  
10 376 behaviors, smoking, smoking, alcohol consumption, sleep habits, risk of depression, HRQoL, and  
11  
12 377 social support will be examined using a within subjects, repeated measures ANOVA. The level  
13  
14 378 of significance ( $\alpha$ ) will be set at 0.05. As the primary outcome is feasibility, it is not appropriate  
15  
16 379 to perform a power calculation. All analyses will be conducted using IBM SPSS statistics 23.  
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### 20 380 **Program Feasibility and Analysis**

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23 381 At 12-weeks (post intervention), all participants will complete a program  
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25  
26 382 satisfaction/acceptability questionnaire. Participants will be asked several Likert scale questions  
27  
28 383 as well as open-ended response questions relating to their experience and satisfaction with the  
29  
30 384 program design, content, resources, and logistics concerning program implementation (i.e., day  
31  
32 385 and time of sessions, structure of sessions, facility where program was delivered). To inform  
33  
34 386 future requirement strategies, data will also be collected from website usage patterns (Google  
35  
36 387 Analytics-frequencies, means, etc.) as they relate to key time points during the program (e.g.,  
37  
38 388 media releases) as well as using paper-based questions regarding how/where participants  
39  
40 389 heard about the program. Program-related statistics, including participant attendance, number  
41  
42 390 of guest presenters and metrics concerning program inquiries, participant communications and  
43  
44 391 follow-ups, will also be collected.  
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50  
51 392 Semi-structured telephone interviews will be undertaken with a subsample of  
52  
53 393 participants (n=30) to gain further insight concerning satisfaction and acceptability of HAT  
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55 394 TRICK, and to understand the challenges/enablers associated with design and implementation  
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3 395 of the program, including feasibility parameters such as recruitment, attendance, adherence  
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6 396 and acceptability of the program and content. Participants will be purposefully selected from  
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8  
9 397 each of the three HAT TRICK groups to include men reporting a range of feasibility and program  
10  
11 398 outcomes. These individuals will include those who have completed the program (i.e.,  
12  
13 399 completed baseline and 12-week follow-up assessment periods) and have attended at least  
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15  
16 400 50% of the sessions (i.e., 6 of 12 weekly 90 minute sessions). Data collection and analysis will  
17  
18 401 occur simultaneously in three phases as the HAT TRICK program is implemented. Interview  
19  
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21 402 questions will be refined as data collection progresses to address gaps identified in the analysis  
22  
23 403 as well as expand on and verify emerging themes. Data from the interviews will be audio  
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26 404 recorded (with participants' permission) and transcribed verbatim with all identifiable  
27  
28 405 information removed. Data will be analyzed using thematic content analysis [85] to explore  
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31 406 participant satisfaction and enjoyment and to identify challenges experienced during program  
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33 407 implementation as well as factors that may have facilitated implementation. To enhance rigor,  
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36 408 at least two members of the research team will independently code participant responses into  
37  
38 409 relevant subthemes. Once all coding has been completed, subthemes will be discussed among  
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41 410 the two research team members to ensure bias is minimized. Any disagreements or concerns  
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43 411 that may arise during the analysis will be presented at this time and further discussion will be  
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46 412 carried out with the research team until consensus is reached.

#### 47 48 **Ethics and Dissemination:**

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51 414 Ethical approval for this trial was obtained from the University of British Columbia  
52  
53 415 Okanagan Behavioural Research Ethics Board (#H1600736). Participants provided informed  
54  
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56 416 consent (Please see Supplementary File 2) and medical clearance prior to all baseline  
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3 417 assessments. Participants were also informed that they may withdraw from the study at any  
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6 418 time, for any reason, without consequence. All personal data will be coded and handled with  
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8 419 confidentiality.  
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10 420 Study findings will be disseminated widely through national and international academic  
11  
12 421 meetings, peer reviewed publication and by web-based activities (e.g., podcasts, research  
13  
14 422 webinars). In addition, these findings will also be disseminated through social media (e.g.,  
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16 423 facebook, twitter), plain language summaries to participants, summary briefings to local  
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18 424 stakeholders and government agencies, and co-delivered (i.e., researcher-participants)  
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20 425 community presentations.  
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## 28 427 **DISCUSSION**

29  
30 428 Engaging men in health promoting behaviors, such as PA and healthy eating can be  
31  
32 429 challenging. Men have often been regarded as 'hard to reach' in terms of health promotion  
33  
34 430 programs with linkages being made to some masculine ideals as contributing to men's  
35  
36 431 estrangement from their health. This is further supported by the research which has suggested  
37  
38 432 that many men are reticent to attend health promotion education sessions, disinterested in  
39  
40 433 information concerning disease prevention and estranged from professional health care  
41  
42 434 services [86,87] although more recent research is beginning to challenge such stereotypes.  
43  
44 435 Some researchers suggest these 'traditional' patterns are implicated in Western men's shorter  
45  
46 436 life expectancy compared to women and high morbidity rates associated with chronic disease  
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48 437 [88,89]. Thus, men are a population that would benefit from effective targeted programs to  
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50 438 engage them in healthy lifestyle behaviors, including PA and healthy eating. To reach and  
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3 439 engage men, innovative approaches that are aligned with a range of masculinities (e.g.,  
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6 440 strength, toughness, risk-taking and skill in PA) as well as provide safe male spaces to promote  
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8  
9 441 trust and normalize men's efforts to change their health behaviours show promise in garnering  
10  
11 442 significant success in advancing the health of men and their families [12,13,19,26,30].

12  
13 443 HAT TRICK was designed to address these specific elements by creating an evidence  
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15  
16 444 based program that employed men-friendly strategies to fully engage men's participation,  
17  
18 445 including; aligning with an elite male sports team (i.e., Kelowna Rockets), promoting friendly  
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20  
21 446 competition, and delivering the program in a familiar "place" (i.e., hockey arena and  
22  
23 447 surrounding male-friendly community venues) where men ordinarily gather and connect with  
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25  
26 448 others (i.e., male facilitators and male only participants) who share similar interests. Appealing  
27  
28 449 to these well-known masculine values and norms including friendly competition, and catering  
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31 450 to methods and modes of delivery that recognise gender differences have been successful  
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33 451 approaches to men-centered PA and healthy eating programs [12,26,27,47].

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35  
36 452 Another promising aspect of HAT TRICK is its potential to be transferred across a  
37  
38 453 number of male populations and settings, thus further increasing its reach to a large proportion  
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41 454 of men. In part, HAT TRICK is based on the successful Football Fans In Training (FFIT)  
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43 455 intervention [27,30], which was designed to engage overweight Scottish men in weight  
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46 456 management and healthy living program by capitalizing on men's team loyalty and love of the  
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48 457 game of soccer . FFIT was specifically developed within a context that supports masculine  
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51 458 ideals, encompassing a look and feel that appeals to many men [22,32]. HAT TRICK utilised  
52  
53 459 these same principles, but altered the context of delivery by developing the program to fit with  
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55  
56 460 the national sports obsession of Canadian men, ice hockey. Specifically, the program's name  
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3 461 (HAT TRICK), logo design, resources and content are all influenced by the sport of ice hockey.  
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6 462 Although this particular program was designed to appeal to male Canadian ice hockey fans, the  
7  
8 463 unique aspect of this model is that it can be easily modified to appeal to male fans of other  
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11 464 sports or activities. For instance, the same model has been recreated to appeal to Rugby fans in  
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13 465 the UK. The Rugby Fans in Training (RuFIT) [35] study (and subsequently Premiership Rugby's  
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15 466 Move Like a Pro program) aimed to test the FFIT model in the English professional rugby club  
16  
17 467 setting, and to enhance long term weight loss and lifestyle change for men in the UK. In North  
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20  
21 468 America, a similar approach could be transferable to other popular sports including gridiron  
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23 469 football, basketball and baseball, all of which exist within professional leagues that have a  
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25  
26 470 strong male fan base.

27  
28 471 Although HAT TRICK can be recreated and transferred to suit fans of a variety of sports,  
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31 472 we do acknowledge that there is a great diversity of men within Canada (e.g., new immigrant  
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33 473 men, older age men, gay men, men from remote areas) who may have other interests beyond  
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36 474 sport. Thus, prior to undertaking refinements and restructuring the program, formative  
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38 475 evaluations should be undertaken with these specific male groups in order to gain further  
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41 476 knowledge concerning local, regional and global masculine values and norms [24].  
42

43  
44 477 In conclusion, given the limited published research for effective and feasible approaches  
45  
46 478 to men's health promotion, but the promise shown by programs such as FFIT, the results of this  
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48 479 feasibility study will serve as a valuable platform to guide future work. There also seems to be  
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50  
51 480 great opportunity for sustainability and scalability of the HAT TRICK program based on its  
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53 481 transferability and the thoughtful deliberate formal evaluation of this intervention.  
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3 483 **TRIAL STATUS**  
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5  
6 484 The trial was registered on August 3, 2016. Recruitment for this study began in December 2016  
7  
8 485 and is ongoing until September 2017.  
9

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12  
13 487 **AUTHOR CONTRIBUTIONS**  
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15  
16 488 CMC, JLB, JLO, STJ, KH conceived the project and procured the project funding. CMC is leading  
17  
18 489 the coordination of the trial. CMC, JLB, JLO, STJ, KH, contributed to the study design. PS is  
19  
20 490 managing the trial, including data collection, with assistance from KMF and RP. CMC, PS, KMF  
21  
22 491 and RP drafted the manuscript and all authors read, edited and approved the final manuscript.  
23  
24  
25

26 492

27  
28 493 **FUNDING**  
29

30  
31 494 This research is being funded by the Canadian Cancer Society (grant #704230). Kate Hunt is  
32  
33 495 supported by the UK Medical Research Council (MC\_UU12017/12) and the Chief Scientist Office  
34  
35 496 (SPHSU12).  
36  
37

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41 498 **COMPETING INTERESTS**  
42

43 499 All authors state that they have no competing interests to declare.  
44  
45

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47  
48 501 **DATA SHARING**  
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50  
51 502 The datasets analyzed during the current trial will be available from the corresponding author  
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53 503 on reasonable request.  
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3 505 **PROVENCE AND PEER REVIEW**  
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5  
6 506 Not commissioned; externally peer reviewed.  
7

8 507  
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11 508 **FIGURES**  
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13 509 Figure 1. Flow diagram of HAT TRICK protocol  
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15  
16 510 Figure 2. Standard Protocol Items: Recommendations for Interventional Trials (SPIRIT) figure  
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18 511  
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21 512 **SUPPLEMENTRAY FILES**  
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23 513 Supplementary File 1. SPIRIT Checklist  
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25  
26 514 Supplementary File 2. Informed consent form  
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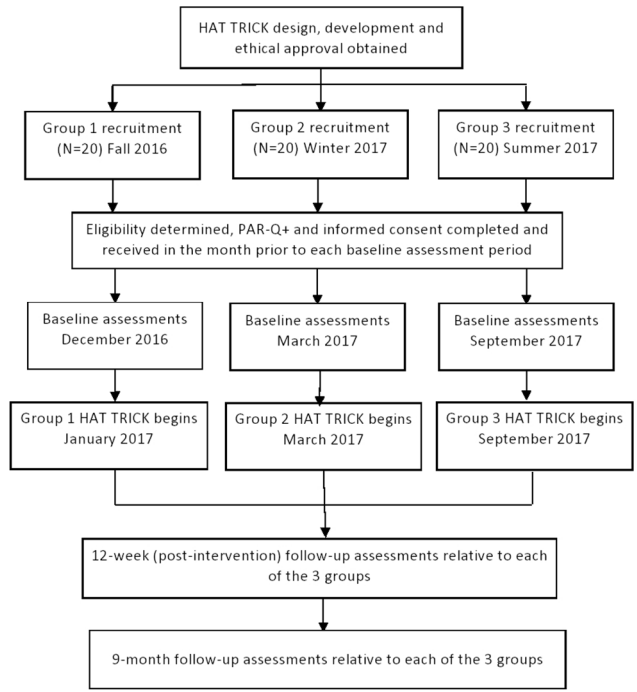


Figure 1. Flow diagram of HAT TRICK protocol

Figure 1. Flow diagram of HAT TRICK protocol

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TIMEPOINT**	STUDY PERIOD			
	Enrolment -8 to 0 weeks	Allocation 0 week	1-12 weeks	Close-out 9-month follow-up
<b>ENROLMENT:</b>				
Eligibility screen	X			
Informed consent	X			
Medical clearance	X			
<b>INTERVENTIONS:</b>				
<i>HAT TRICK Intervention</i>				
<b>ASSESSMENTS:</b>				
Demographics		X		
Anthropometrics		X	X	X
Physical Activity		X	X	X
Sedentary behavior		X	X	X
Dietary behavior		X	X	X
Smoking		X	X	X
Alcohol consumption		X	X	X
Sleep habits		X	X	X
Risk of depression		X	X	X
HRQoL		X	X	X
Social support		X	X	X
Program Feasibility			X	

Figure 2. Standard Protocol Items: Recommendations for Interventional Trials (SPIRIT) figure

Figure 2. Standard Protocol Items: Recommendations for Interventional Trials (SPIRIT) figure

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SPIRIT 2013 Checklist: Recommended items to address in a clinical trial protocol and related documents\*

Section/item	Item No	Description	Addressed on page number
<b>Administrative information</b>			
Title	1	Descriptive title identifying the study design, population, interventions, and, if applicable, trial acronym	___1___
Trial registration	2a	Trial identifier and registry name. If not yet registered, name of intended registry	___4___
	2b	All items from the World Health Organization Trial Registration Data Set	___n/a___
Protocol version	3	Date and version identifier	___7-8___
Funding	4	Sources and types of financial, material, and other support	___25___
Roles and responsibilities	5a	Names, affiliations, and roles of protocol contributors	___1 & 25___
	5b	Name and contact information for the trial sponsor	___1___
	5c	Role of study sponsor and funders, if any, in study design; collection, management, analysis, and interpretation of data; writing of the report; and the decision to submit the report for publication, including whether they will have ultimate authority over any of these activities	___25___
	5d	Composition, roles, and responsibilities of the coordinating centre, steering committee, endpoint adjudication committee, data management team, and other individuals or groups overseeing the trial, if applicable (see Item 21a for data monitoring committee)	___n/a___

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2  
3 **Introduction**  
4

5 Background and	6a	Description of research question and justification for undertaking the trial, including summary of relevant studies (published and unpublished) examining benefits and harms for each intervention	_____ 5-7 _____
6 rationale			
7			
8	6b	Explanation for choice of comparators	_____ 5-7 _____
9			
10 Objectives	7	Specific objectives or hypotheses	_____ 7 _____
11			
12 Trial design	8	Description of trial design including type of trial (eg, parallel group, crossover, factorial, single group), allocation ratio, and framework (eg, superiority, equivalence, noninferiority, exploratory)	_____ 7-8 _____
13			
14			

15  
16 **Methods: Participants, interventions, and outcomes**  
17

18 Study setting	9	Description of study settings (eg, community clinic, academic hospital) and list of countries where data will be collected. Reference to where list of study sites can be obtained	_____ 7, Fig 1&2 _____
19			
20			
21 Eligibility criteria	10	Inclusion and exclusion criteria for participants. If applicable, eligibility criteria for study centres and individuals who will perform the interventions (eg, surgeons, psychotherapists)	_____ 8-9 _____
22			
23			
24 Interventions	11a	Interventions for each group with sufficient detail to allow replication, including how and when they will be administered	___ 9-13, Table 1 _____
25			
26			
27	11b	Criteria for discontinuing or modifying allocated interventions for a given trial participant (eg, drug dose change in response to harms, participant request, or improving/worsening disease)	_____ 22 _____
28			
29			
30	11c	Strategies to improve adherence to intervention protocols, and any procedures for monitoring adherence (eg, drug tablet return, laboratory tests)	_____ 9-11 _____
31			
32			
33	11d	Relevant concomitant care and interventions that are permitted or prohibited during the trial	_____ n/a _____
34			
35 Outcomes	12	Primary, secondary, and other outcomes, including the specific measurement variable (eg, systolic blood pressure), analysis metric (eg, change from baseline, final value, time to event), method of aggregation (eg, median, proportion), and time point for each outcome. Explanation of the clinical relevance of chosen efficacy and harm outcomes is strongly recommended	___ 13-19, Table 2 _____
36			
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41 Participant timeline	13	Time schedule of enrolment, interventions (including any run-ins and washouts), assessments, and visits for participants. A schematic diagram is highly recommended (see Figure)	___ Fig 2, Table 2 _____
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Sample size 14 Estimated number of participants needed to achieve study objectives and how it was determined, including clinical and statistical assumptions supporting any sample size calculations \_\_ 8, 20\_\_

Recruitment 15 Strategies for achieving adequate participant enrolment to reach target sample size \_\_ 8-9\_\_

**Methods: Assignment of interventions (for controlled trials)**

Allocation:

Sequence generation 16a Method of generating the allocation sequence (eg, computer-generated random numbers), and list of any factors for stratification. To reduce predictability of a random sequence, details of any planned restriction (eg, blocking) should be provided in a separate document that is unavailable to those who enrol participants or assign interventions \_\_ n/a\_\_

Allocation concealment mechanism 16b Mechanism of implementing the allocation sequence (eg, central telephone; sequentially numbered, opaque, sealed envelopes), describing any steps to conceal the sequence until interventions are assigned \_\_ n/a\_\_

Implementation 16c Who will generate the allocation sequence, who will enrol participants, and who will assign participants to interventions \_\_ n/a\_\_

Blinding (masking) 17a Who will be blinded after assignment to interventions (eg, trial participants, care providers, outcome assessors, data analysts), and how \_\_ n/a\_\_

17b If blinded, circumstances under which unblinding is permissible, and procedure for revealing a participant's allocated intervention during the trial \_\_ n/a\_\_

**Methods: Data collection, management, and analysis**

Data collection methods 18a Plans for assessment and collection of outcome, baseline, and other trial data, including any related processes to promote data quality (eg, duplicate measurements, training of assessors) and a description of study instruments (eg, questionnaires, laboratory tests) along with their reliability and validity, if known. Reference to where data collection forms can be found, if not in the protocol \_\_ 13-19, Table 2\_\_

18b Plans to promote participant retention and complete follow-up, including list of any outcome data to be collected for participants who discontinue or deviate from intervention protocols \_\_ 19-20\_\_

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3	Data management	19	Plans for data entry, coding, security, and storage, including any related processes to promote data quality (eg, double data entry; range checks for data values). Reference to where details of data management procedures can be found, if not in the protocol	__21__
4				
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7	Statistical methods	20a	Statistical methods for analysing primary and secondary outcomes. Reference to where other details of the statistical analysis plan can be found, if not in the protocol	__20__
8				
9				
10		20b	Methods for any additional analyses (eg, subgroup and adjusted analyses)	__20__
11				
12		20c	Definition of analysis population relating to protocol non-adherence (eg, as randomised analysis), and any statistical methods to handle missing data (eg, multiple imputation)	__20__
13				
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15				
16	<b>Methods: Monitoring</b>			
17				
18	Data monitoring	21a	Composition of data monitoring committee (DMC); summary of its role and reporting structure; statement of whether it is independent from the sponsor and competing interests; and reference to where further details about its charter can be found, if not in the protocol. Alternatively, an explanation of why a DMC is not needed	__21__
19				
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23		21b	Description of any interim analyses and stopping guidelines, including who will have access to these interim results and make the final decision to terminate the trial	__n/a__
24				
25				
26	Harms	22	Plans for collecting, assessing, reporting, and managing solicited and spontaneously reported adverse events and other unintended effects of trial interventions or trial conduct	__n/a__
27				
28				
29	Auditing	23	Frequency and procedures for auditing trial conduct, if any, and whether the process will be independent from investigators and the sponsor	__n/a__
30				
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33	<b>Ethics and dissemination</b>			
34				
35	Research ethics approval	24	Plans for seeking research ethics committee/institutional review board (REC/IRB) approval	__22__
36				
37				
38	Protocol amendments	25	Plans for communicating important protocol modifications (eg, changes to eligibility criteria, outcomes, analyses) to relevant parties (eg, investigators, REC/IRBs, trial participants, trial registries, journals, regulators)	__n/a__
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3	Consent or assent	26a	Who will obtain informed consent or assent from potential trial participants or authorised surrogates, and how (see Item 32)	<u>22</u>
4				
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6		26b	Additional consent provisions for collection and use of participant data and biological specimens in ancillary studies, if applicable	<u>n/a</u>
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8				
9	Confidentiality	27	How personal information about potential and enrolled participants will be collected, shared, and maintained in order to protect confidentiality before, during, and after the trial	<u>22</u>
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12	Declaration of interests	28	Financial and other competing interests for principal investigators for the overall trial and each study site	<u>26</u>
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15	Access to data	29	Statement of who will have access to the final trial dataset, and disclosure of contractual agreements that limit such access for investigators	<u>26</u>
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18	Ancillary and post-trial care	30	Provisions, if any, for ancillary and post-trial care, and for compensation to those who suffer harm from trial participation	<u>n/a</u>
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20				
21	Dissemination policy	31a	Plans for investigators and sponsor to communicate trial results to participants, healthcare professionals, the public, and other relevant groups (eg, via publication, reporting in results databases, or other data sharing arrangements), including any publication restrictions	<u>22</u>
22				
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26		31b	Authorship eligibility guidelines and any intended use of professional writers	<u>n/a</u>
27				
28		31c	Plans, if any, for granting public access to the full protocol, participant-level dataset, and statistical code	<u>26</u>
29				
30	<b>Appendices</b>			
31				
32	Informed consent materials	32	Model consent form and other related documentation given to participants and authorised surrogates	<u>supplementary file 2</u>
33				
34				
35	Biological specimens	33	Plans for collection, laboratory evaluation, and storage of biological specimens for genetic or molecular analysis in the current trial and for future use in ancillary studies, if applicable	<u>n/a</u>
36				
37				

38 \*It is strongly recommended that this checklist be read in conjunction with the SPIRIT 2013 Explanation & Elaboration for important clarification on the items.  
 39 Amendments to the protocol should be tracked and dated. The SPIRIT checklist is copyrighted by the SPIRIT Group under the Creative Commons  
 40 "[Attribution-NonCommercial-NoDerivs 3.0 Unported](https://creativecommons.org/licenses/by-nc-nd/3.0/)" license.  
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## Consent Form

### **Title: HAT TRICK: Examining the feasibility of a gender-sensitive intervention focused on physical activity, healthy eating and connectedness in male hockey fans**

#### **Lead Investigators:**

Dr. Cristina Caperchione, School of Health and Exercise Sciences, University of British Columbia, Kelowna 250 807 9679

#### **Co-Investigators:**

Dr. Joan Bottorff, Inst. For Healthy Living and Chronic Disease Prevention, University of British Columbia, Kelowna 250 807 8627

Dr. John Oliffe, School of Nursing, University of British Columbia, Vancouver 604 822-7638

Dr. Steven Johnson, Centre for Nursing and Health Studies, Athabasca University, Athabasca 877 848-6903

Dr. Kate Hunt, School of Public Health Sciences Unit, University of Glasgow, Glasgow 0 141 353-7552

Paul Sharp, School of Health and Exercise Sciences, University of British Columbia, Kelowna 250-807-9979

#### **Funding**

This study is funded by the Canadian Cancer Society Research Institute.

#### **Purpose of the study**

The purpose of this research is to evaluate the feasibility of the HAT TRICK Program, a program targeting physical activity, healthy eating and connectedness in men living in Kelowna, BC. The intervention will be delivered in connection with the Kelowna Rockets Hockey team.

#### **Eligibility**

You are being invited to voluntarily take part in this study because you are a man over the age of 35 years, residing in the Okanagan Region, who accumulates less than 150 minutes of moderate to vigorous physical activity a week, who has a Body Mass Index (BMI) greater than 25kg/m<sup>2</sup>, and a pant size greater than 38”.

#### **Study Procedures**

As a participant of this research project you will be invited to participate in twelve 90-minute weekly sessions, provide feedback on aspects of the program, and complete three assessment periods (baseline, 12-week, and 9-month follow-up). Weekly sessions will include a physical activity component, nutrition component, and behavior change component. Participants will be encouraged to make gradual changes to their lifestyle with the goal of improving overall health and well-being. Throughout the program, presentations will be given from local health professionals (e.g., nutritionist, fitness trainer), Kelowna Rockets staff and players, as well as other community personalities.





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5 Assessment sessions will be held at a convenient location. These assessment periods will last up to 1.5  
6 hours. At these assessment periods, you will be asked to complete a brief questionnaires about your;  
7 physical activity and dietary behaviours, social relatedness, general health and well-being questions as  
8 well as general demographic information (e.g., age, education, marital status). During these times you  
9 will also be given an accelerometer and instructions on how to use the accelerometer. Accelerometers  
10 are a device for measuring your daily physical activity. It is a small, non-invasive device which is worn  
11 around your chest. You will be asked to wear this accelerometer for 7 consecutive days during all  
12 waking hours. You will also be asked to return the accelerometers to the research team after these 7  
13 days. Return instructions will be provided to you when you receive your accelerometer.  
14  
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17 Following the completion of the program you may also be asked commit an additional 1 hour of your  
18 time to participate in a semi-structured telephone interview with a member of the research team. If you  
19 are selected, a member of the research team will contact you to arrange a time that is convenient for you  
20 to conduct the interview. All telephone interviews will be audio recorded with your consent. During this  
21 interview we hope to hear about your thoughts, opinions and perceptions about the HAT TRICK  
22 Program and provide general comments about how you think the HAT TRICK Program could be  
23 improved.  
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### **Potential Risks and Benefits**

27 The HAT TRICK program and data collection procedures involve no foreseeable risks or harm to you.  
28 However, you will be asked to work towards meeting the minimum recommended Canadian Physical  
29 Activity Guidelines (150minutes per week in bouts of 10 minutes or more) and depending on your initial  
30 activity levels, you will be encouraged to safely increase your physical activity levels throughout the  
31 project. Becoming physically active and progressively increasing your physical activity may potentially  
32 include some risk of injury, such as common muscle soreness or strains associated with being physically  
33 active. To limit any concerns you may have regarding these minor injuries, information about reducing  
34 this risk of injury, such as education about stretching and starting off slowly and building up your  
35 physical activity levels will be provided during the weekly sessions. Although no benefits can be  
36 guaranteed, potential benefits that may occur include; improvements in overall physical and mental  
37 health as a result of increasing your physical activity levels, improved understandings about the benefits  
38 of physical activity and other healthy lifestyle behaviours (i.e., healthy eating, stress management),  
39 increased social interaction and support.  
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### **Confidentiality**

44 Your confidentiality will be respected at all times. Only research team members and research staff will  
45 have access to data collected in this study. All documents will only be identified by a code number and  
46 kept in a locked filing cabinet and/or secure password protected system. Participants will not be  
47 identified by name in any reports or materials associated with this research. Paper copies and electronic  
48 audio files will be kept for 7 years in the Physical Health and Activity Behaviour Laboratory at UBC  
49 Okanagan. All participants taking part in the sessions will sign the confidentiality agreement at the  
50 bottom of this consent form; however, we cannot control what the other participants do with the  
51 information discussed. Findings from the study may be shared through conference presentations, articles  
52 for publication, and other media outlets. An electronic or print copy of the research report will be  
53 available to you on request.  
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### **Contact for information about the study**

If you have any questions or would like additional information, please contact Dr. Cristina Caperchione at 250-807-9679.

### **Contact for concerns about the rights of research participants**

If you have any concerns about your treatment or rights as a research participant and/or your experiences while participating in this study you may contact the Research Participant Complaint Line in the UBC Office of Research Services at 1-877-822-8598 or the UBC Okanagan Research Services Office at 250-807-8832. It is also possible to contact the Research Participant Complaint Line by email ([RSIL@ors.ubc.ca](mailto:RSIL@ors.ubc.ca)).

### **Consent**

Your participation is entirely voluntary. You may refuse to participate or withdraw at any time without penalty or consequence. If you choose to participate and then decide to withdraw at a later time, you have the right to request the withdrawal of your information collected during the study. This request will be respected to the extent possible.

By signing this consent form, you are agreeing to participate in all study protocols. By signing this consent form you are acknowledging that you have received a signed copy of the consent form for your records. By signing this consent form, you do not waive any of your legal rights.

### **Consent**

I have read and understood the information on this consent form and voluntarily consent to participate in this study. I have had a chance to ask questions about the study and my involvement in it and have received a copy of the consent form.

\_\_\_\_\_  
Participant's Name (please print)

\_\_\_\_\_  
Participant's Signature

\_\_\_\_\_  
Date

### **Confidentiality Agreement**

I agree to respect the confidentiality of all program participants. This means I will not discuss participants' personal information with anyone outside of this program.

\_\_\_\_\_  
Participant's Name (please print)

\_\_\_\_\_  
Participant's Signature

\_\_\_\_\_  
Date



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### Contact for a Follow-up Interview

Upon completion of the program, would you be interested in taking part in a 1-hour semi-structured telephone interview with a member of the research team regarding your thoughts, opinions, and perceptions of the HAT TRICK Program?

Yes, I would be interested in taking part in a telephone interview.

No, I would not be interested in taking part in a telephone interview.

\_\_\_\_\_  
Participant's Name (please print)

\_\_\_\_\_  
Participant's Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Telephone Number

\_\_\_\_\_  
Email Address

### Contact for Future Studies

Would you like to be contacted in the future about other studies?

Yes, I would like to receive information about future studies on men's health and physical activity.

No, I would not like to receive information about future studies.

\_\_\_\_\_  
Participant's Name (please print)

\_\_\_\_\_  
Participant's Signature

\_\_\_\_\_  
Date