



Increasing Physical Activity and Decreasing Sedentary Behaviour in the Workplace

Summary 1: Challenges and Competitions

September 2015

REPORTS IN THIS SERIES:

- Executive Summary
- Summary 1: Challenges and Competitions
- Summary 2: Information and Counselling
- Summary 3: Organizational Culture and Norms
- Summary 4: Access and the Physical Environment

ALBERTA CENTRE FOR
Active Living



CHALLENGES AND COMPETITIONS

The articles from the systematic review (refer to the Executive Summary) were summarized into four distinct, yet interrelated, groups based on common themes. The first of four summaries explores Challenges and Competitions.

Workplace challenges and competitions are fun and friendly initiatives that encourage employees to increase their participation in physical activity and/or reduce their sitting time.

Some examples include:

- Walking challenges
- Stair-climbing challenges
- Monitoring physical activity and sitting time using log books or websites.

Walking is a safe, low impact type of physical activity that can be easily adapted to meet individual needs (e.g., pace, distance, speed, terrain). Workplace walking challenges can monitor physical activity using pedometers to track the number of steps taken each day. Pedometers are an efficient tool for increasing awareness of current physical activity participation and being more mindful of opportunities to move more and sit less.

Effectiveness and Quality of the Workplace Challenges and Competition Studies		
Outcome	Effectiveness of Intervention	Quality of Studies
Increased Physical Activity	<p>59% of the studies reported an increase in physical activity (10/17 studies found significance)</p>	<p>★☆☆ (Mean: 0.59; Range: -3 to 7)*</p>
Decreased Sedentary Behaviour	<p>60% of the studies reported a decrease in sedentary behaviour (3/5 studies found significance)</p>	<p>★★★☆☆ (Mean: 2.20; Range: 0 to 6)*</p>

*Quality of studies: scores and associated stars are based on the average risk of bias assessment for the studies. The risk of bias is considered high in studies that do not randomly assign participants to the intervention, do not blind participants and personnel to the intervention, have incomplete data, have selective reporting, or have other potential threats to the validity of the findings. Studies with a lower risk of bias are considered of higher quality. Studies conducted in a naturalistic setting, such as workplaces, generally have a higher degree of bias.

- ★☆☆ : Poor Quality Studies (scored -7 to 0);
- ★★☆☆ : Moderate Quality Studies (scored 1 to 4);
- ★★★☆☆ : High Quality Studies (scored 5 to 7).

DESCRIPTION OF SUCCESSFUL CHALLENGES AND COMPETITIONS

Recommendations from the Literature

Type

Use a pedometer for challenges and competitions.

Modification: Consider phone applications (e.g., Moves) or physical activity monitors (e.g., Fitbit).



Frequency

Participation and self-monitoring should occur daily.



Challenge Length

Four-week challenges allow for enough time to make a positive change.

Modification: Challenges and competitions can be 1 to 12 weeks in length depending on the amount of engagement required from employees. The more engagement required, the shorter the intervention length.



Time

Engage in active breaks (e.g., climb 5 flights of stairs to move more or walk to a washroom on a different floor) or stand every hour to break up sitting time.

Add bouts of continuous walking at work breaks. A "bout" of physical activity is equal to 10 continuous minutes or more of activity.

Modification: Tailor the amount of time employees are being physically active to their experience and capability. Physical activity bouts can range from 10 to 60 minutes per day.



Activity Type

Accumulate both incidental and purposeful physical activity.

Incidental physical activity = unstructured physical activity which is part of your daily routine (e.g., walking from the bus stop, taking the stairs).

Purposeful physical activity = structured physical activity that is planned and includes repetitive body movements (e.g., going to the gym at lunch to exercise, taking a fitness class).



Evaluation

Monitor and log steps, physical activity or sedentary behaviour time in a log book or tracking website.

LOG YOUR NEW ACTIVITY					
LAST 7 DAYS JUNE 26 2015 - JULY 2 2015					
DATE	STEPS WALKED	MODERATE ACTIVITY (MINUTES)	VIGOROUS ACTIVITY (MINUTES)	DAILY STEP TOTALS	FLIGHTS
Today 07/02/2015	1003			1003	0
Yesterday 07/01/2015	1276		45	2157	16
Tuesday 06/30/2015	1507			1507	0
Monday 06/29/2015	648	45		1098	4
Sunday 06/28/2015	6872		30	12872	4
Saturday 06/27/2015	9208		8	9208	0
Friday 06/26/2015	1129	45		1209	0

TOOLS FOR IMPLEMENTING CHALLENGES AND COMPETITION

Workplace pedometer challenges and competitions should include other resources such as educational materials, email reminders, online support or websites.

PEDOMETER AND PHYSICAL ACTIVITY MONITORS

High Cost: [Fitbit Flex Wireless Activity Wristband](#) ~ \$100

Low Cost: [StepCount Piezo StepX Pedometer](#) ~ \$16 each or \$14 (for 2-10)

Free: [Moves App for iPhone](#) (downloadable through iTunes and Android on Google Play)

UWALK.CA

This [free online resource](#) allows individuals to track their physical activity in steps or minutes of moderate and vigorous physical activity, monitor progress and compete in individual or group challenges with friends, family or coworkers. UWALK has developed an implementation guide to help workplace champions set up a walking and/or physical activity challenge (see the Resources section of the website for the How-to/Implementation Guide).

ALBERTA CENTRE FOR ACTIVE LIVING

The Centre provides practitioners with education and resources focused on encouraging Albertans to lead a healthier lifestyle. The website includes resources, such as a [Pedometer Information Sheet](#) for adults, and ways to include people with mobility issues in physical activity challenges. [A Pedometer Kit is available for loan](#), free of charge.

GOALSETTING

Goalsetting is a powerful approach to behaviour change. Goals should be specific for individual needs, realistic, attainable and measurable. Examples of successful workplace walking challenge goals include:

- Individual-level goals: Gradually increase average daily steps by 1000 steps every 2-weeks.
- Interpersonal-level goals: Establish a route-based lunch time walking group with co-workers.
- Worksite-level goals: Display posters reporting progress in walking or stair climbing challenges.

EMAILS

Weekly emails are unobtrusive, cost-effective and reach a large number of employees. Emails can:

- Serve as a motivational tool.
- Provide reminders to move more and sit less.
- Support goalsetting and overcoming barriers.
- Educate employees about relevant and current health knowledge.

IMPLEMENTATION RECOMMENDATIONS

1. Obtain management support and commitment.
2. Elect a wellness champion to organize the workplace challenges and encourage employees to move more and sit less.
3. Take time to plan the workplace challenge and identify challenge characteristics such as:
 - a. Length: number of weeks.
 - b. Type of challenge: distance, time, or elimination based; charity fundraising event.
 - c. Type of participation: individual, team, or workplace level.
4. Help employees prepare for the challenge:
 - a. Identify quality pedometer brands and vendors that sell or lend pedometers.
 - b. Inform employees about how to accurately wear a pedometer.
 - c. Identify and share the health benefits of adding 2,000 steps to your daily routine.
 - d. Explain where and how to successfully track and log daily steps.
5. Generate excitement and interest in the challenge through promotional resources and incentives.
6. Monitor progress and encourage involvement.
7. Reflect and evaluate the process outcomes and impact.
8. Workplace wellness champions can encourage employees to:
 - a. Have walking meetings.
 - b. Hand-deliver messages.
 - c. Take their coffee for a “walk break”.
 - d. Enjoy the fresh air by going outside.
 - e. Engage in physical activity over the lunch hour.

By wearing a pedometer, employees have a constant reminder of their daily step count and physical activity participation.

Remember: Workplace culture will take more time to change than a single workplace challenge.



BACKGROUND

Characteristics of Studies Included in the Review

POPULATION

Healthy adults, 18 years of age or older, working in a full-time or part-time capacity:

Average # of participants = 128

Range in # of study participants = 14 to 664



INTERVENTIONS

Average duration = 11.5 weeks

Range in duration =
1 week to 6 months



COMPARISONS

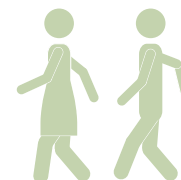
Measured in a pre-test/
post-test format, with or
without a control group.



OUTCOMES

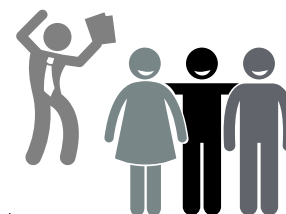
Primary Outcomes of Challenges and Competitions

- **For Physical Activity**, the greatest impact was observed in daily steps at the workplace.
- **For Sedentary Behaviour**, the greatest impact was found in reducing minutes of sitting time.



Secondary Outcomes of Challenges and Competitions

- Participants perceived themselves to be more physically active.
- Mental wellbeing improved among pedometer users.
- Employees' perception of management support increased.
- Workplace challenges and competitions increased employees' involvement.



The following studies with challenge and competition interventions were included in the systematic review:

Aittasalo, Rinne, Pasanen, Kukkonen-Harjula, & Vasankari (2012); Carr, Walaska, & Marcu (2013); Chan, Ryan, & Tudor-Locke (2004); Croteau (2004); De Cocker, De Bourdeaudhuij, & Cardon (2010); Delaney (2013); Dewa, de Ruyter, Chau, & Karioja (2009); Dishman, DeJoy, Wilson, & Vandenberg (2009); Faghri, Omokaro Parker, Nichols, Gustavesen, & Blozie (2008); Gilson (2009); Gilson, Faulkner, Murphy, Meyer, Washington, Ryde, Arbour-Nicitopoulos, & Dillon (2013); Green, Cheadle, Pellegrini, & Harris (2007); Haines, Davis, Rancour, Robinson, Neel-Wilson, & Wagner (2007); Prestwich, Conner, Lawton, Ward, Ayres, & McEachan (2012); Richetti (2004); Samuels, Raedeke, Mahar, Karvinen, & DuBose (2011); Warren, Maley, Sugarwala, Wells, & Devine (2010); Webb (2013).

RESOURCES

Alberta Centre for Active Living	How to set up challenge to be inclusive of people with mobility issues: www.centre4activeliving.ca/news/2014/01/workplace-physical-activity-programs-all-focus-peo/ Pedometer Information Sheet: https://bit.ly/2x6TuOF Pedometer Kit Loans: www.centre4activeliving.ca/services/pedometer-kit-loans/
Cateye odometers	For wheelchair participants: www.cateye.com/en/products/category/1/
Fitbit Flex Wireless Activity Wristband	www.fitbit.com/en-ca/home
Moves	www.moves-app.com/
StepCount Piezo StepX Pedometer	http://stepscount.com/uwalk/shop-cart-view.php
UWALK	uwalk.ca/

ACKNOWLEDGEMENTS

Project Team:

Nora Johnston, MA
Betty Lee, BPE
Christina Loitz, PhD
Nicole McLeod, MA
Jeremy Potter, BPE
Jessica Walker, MA

Advisory Committee:

Tye Babb, Edmonton Southside Primary Care Network
Katie Chapman, University of Calgary
Victoria Grainger, Covenant Health
Carmen Jensen, Grande Prairie Primary Care Network
Jackie Killick, Shell Canada
Dean Kozak, Government of Alberta
Megan Ragush, University of Alberta
Angela Torry, Alberta Health Services
Lindsay Wright, Be Fit For Life

ALBERTA CENTRE FOR
Active Living

2-131 University Hall, University of Alberta, Edmonton, Alberta, T6G 2H9
780.492.4863 | active.living@ualberta.ca | www.centre4activeliving.ca

