

# ROAR 2016

Reaching Out with Arthritis Research

PUBLIC FORUM

## Can Wearables help People with Arthritis to be Physically Active?

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# NEWS

CMAJ

## Exercise is medicine

**W**hat is the one intervention that can prevent and treat dozens of diseases? The simple answer is exercise. The complicated part is how to get people to do it. A group of Canadian health care professionals is working on solutions.

The initiative, Exercise is Medicine (EIM), started by the American College of Sports Medicine (ACSM) and the American Medical Association (AMA) in 2007, is “calling on all health care providers to assess and review every patient’s physical activity program at every visit.”

Dr. Brian MacIntosh of the Canadian Society for Exercise Physiology brought EIM to Canada a year ago. The seven-member Canadian task force has set three goals: to increase the number of health care professionals who assess and counsel patients about physical



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Only 5% of Canadian adults meet the Canadian Physical Activity Guidelines recommendations.

# Move More. Sit Less.

## Moving more...

- Moderate-to-vigorous activity at least 30 minutes on most days of the week
- Done in sessions of 10 or more minutes



## Sitting less...

- Ideally, get up and walk around after every 20 – 30 minutes of sitting
- At least get up and move around a bit every hour when you are awake

# Physical activity counselling

## 1. Physiotherapist provides information on physical activity

- A brief education session
- Goal-setting



## 2. Fitbit Flex

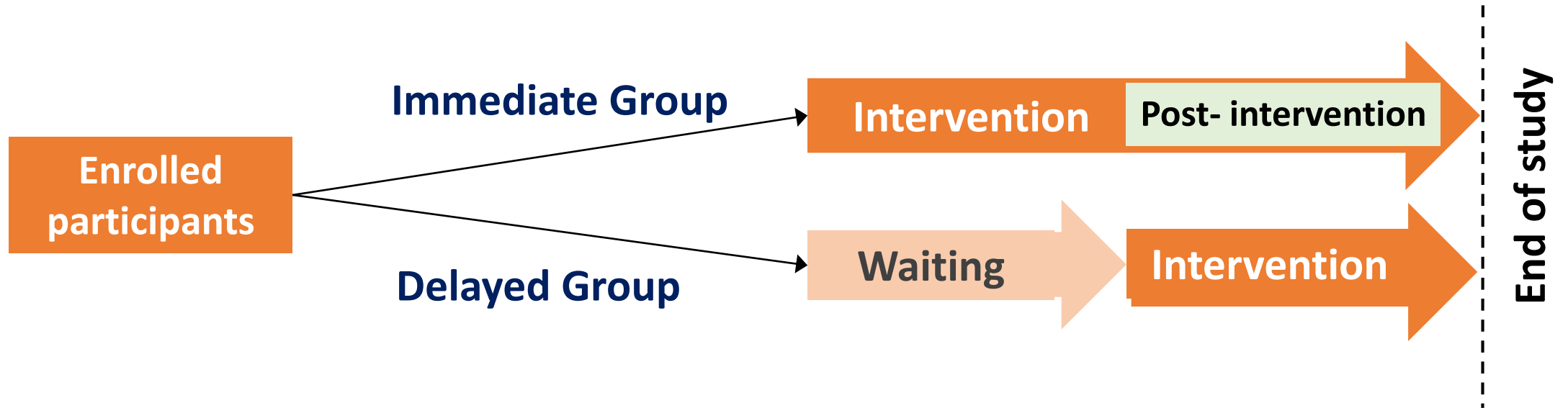
## 3. Physiotherapist reviews physical activity with participants

- 15-minute weekly phone counselling
- Progressively modify the participant's activity
- Participants may email if they have questions

# Research questions

1. Was it *feasible* to deliver a physical activity intervention, including counselling and the use of a Fitbit, to people with knee osteoarthritis?
2. Was there any indication that this intervention might improve physical activity?
  - Differences between the group that received the intervention immediately and the group that waited 1 month before receiving the same
  - Impact of the 1-month delay

# What did we do?



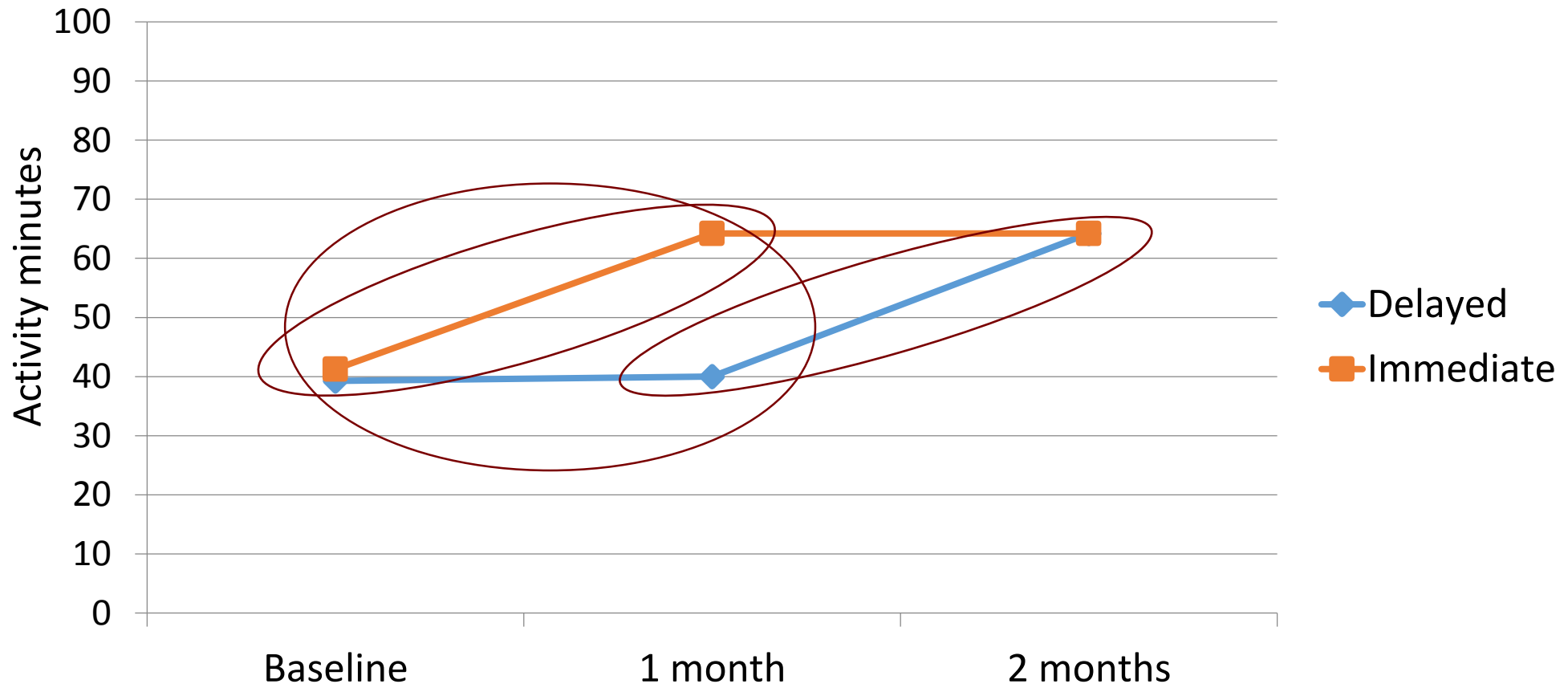
	Baseline (0 months)	1 month	2 months
Demographic characteristics	X		
Physical activity time	X	X	X
Sedentary time	X	X	X
Knee injury & OA Outcome Score	X	X	X
Partners In Health Questionnaire	X	X	X

# What did we find?

## Our participants:

- **Total = 34** (Immediate Group = 17; Delayed Group = 17)
- 28 (82.4%) women
- \*\*Average age = 56 years
- \*\*Body mass index = 27.2 kg/m<sup>2</sup>
- Diagnosed with OA = 20 (58.8%); 'Likely OA' = 14 (41.2%)
- 17 (50%) self-reported "Excellent health" or "Very good health"

# The ideal case...

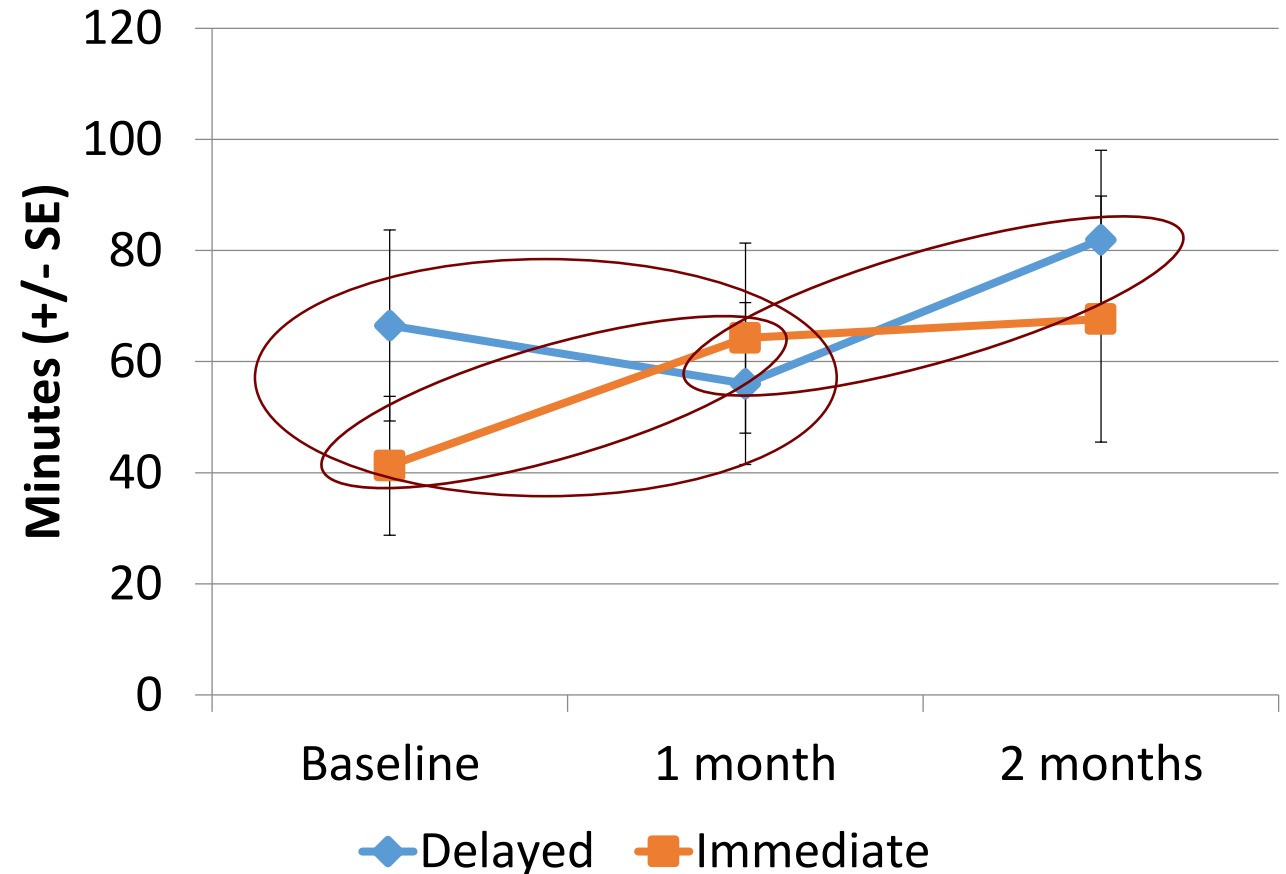




# What we found: Average physical activity (minutes)

	Immediate (n = 17)	Delayed (n = 17)
Baseline	41.3 (51.6)	66.5 (71.0)
1 month	64.2 (70.5)	56.0 (60.1)
2 months	67.7 (85.8)	81.9 (64.4)

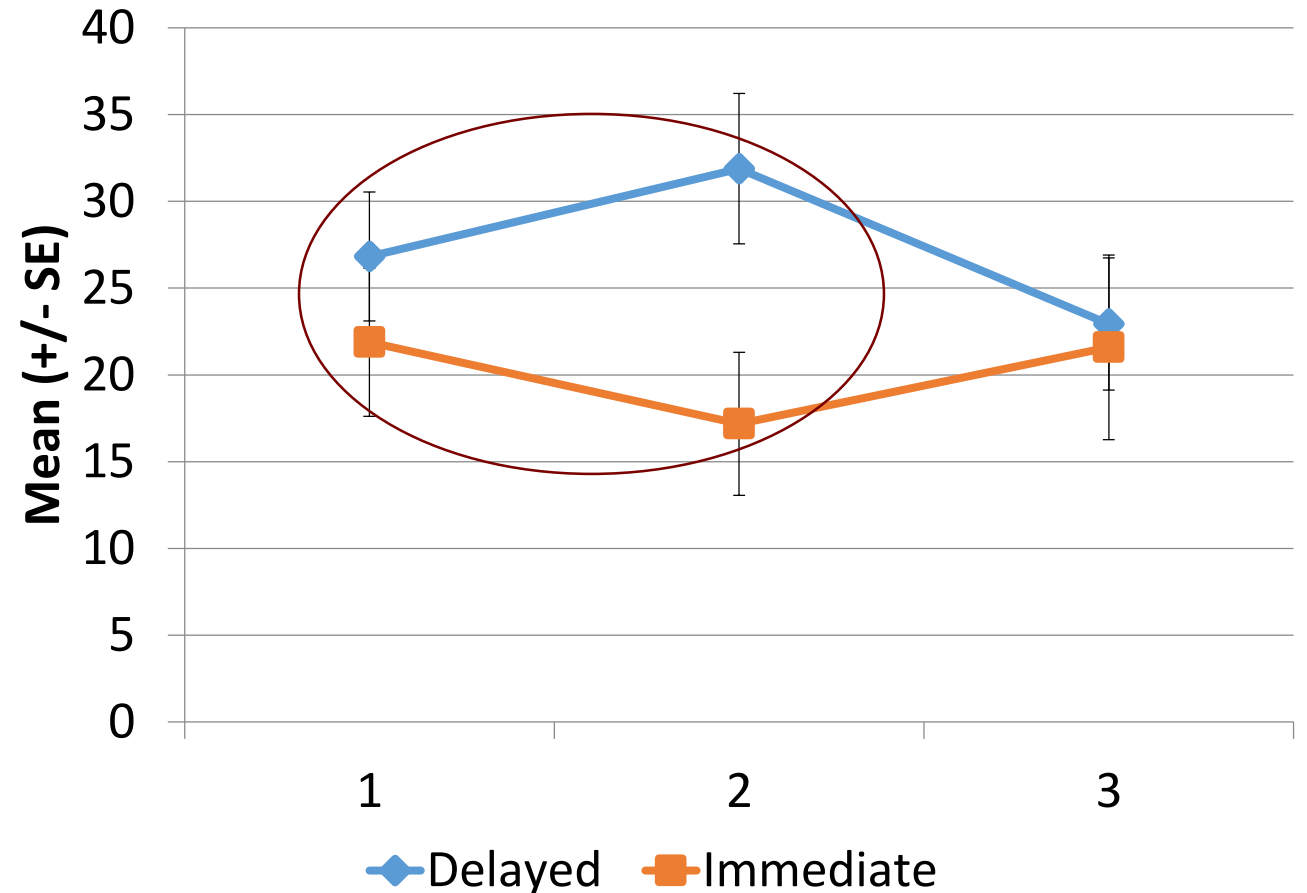
\* Standard deviations in brackets



# What we found: Partners in Health Scale

	Immediate (n = 17)	Delayed (n = 17)
Baseline	21.9 (17.6)	26.8 (15.3)
1 month	17.2 (17.0)	31.9 (17.9)
2 months	21.6 (21.9)	22.9 (15.2)

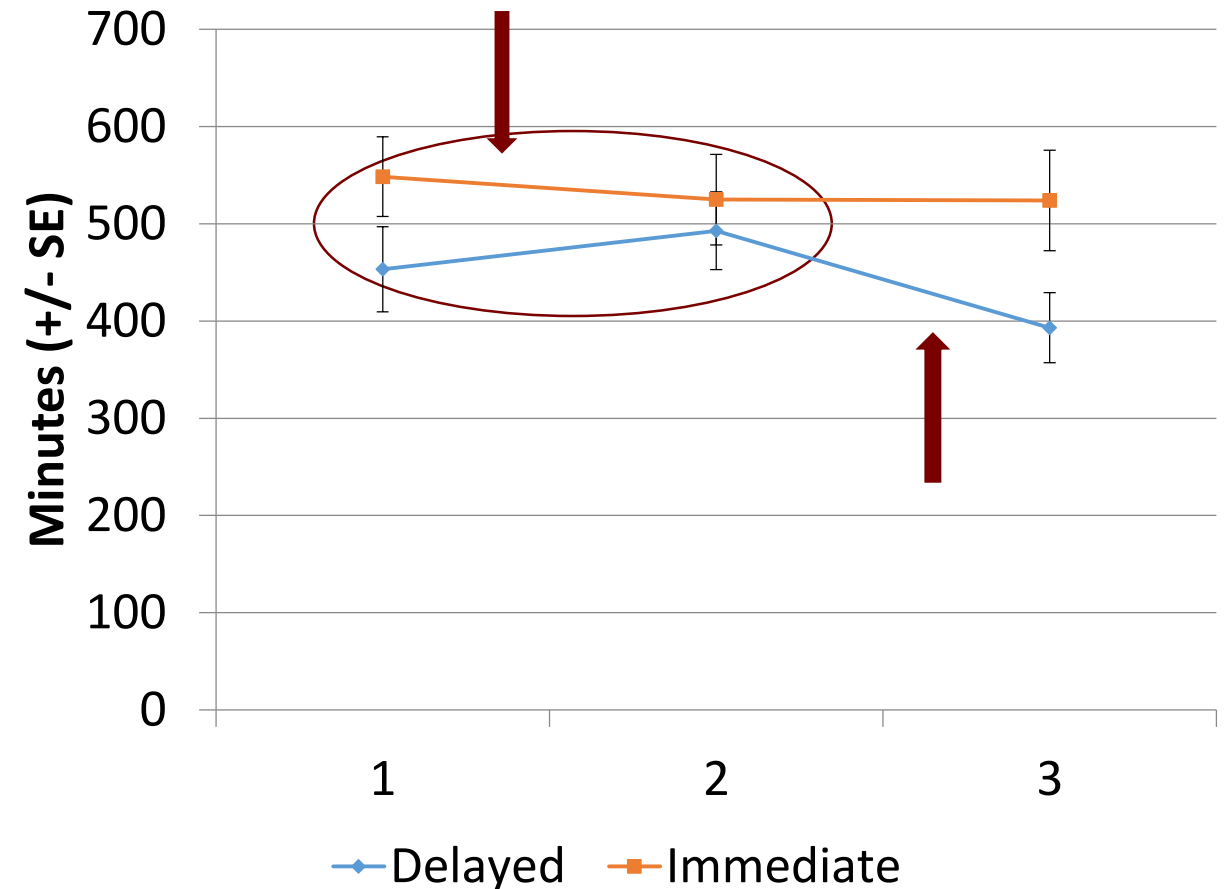
\* Standard deviations in brackets  
 (0 – 96; lower = better)



# What we found: Average sedentary time (minutes)

	Immediate (n = 17)	Delayed (n = 17)
Baseline	548.4 (169.1)	453.3 (180.5)
1 month	524.9 (192.1)	492.8 (164.8)
2 months	523.9 (200.2)	393.1 (144.2)

\* Standard deviations in brackets



# What have we learned?

1. It was feasible to deliver a physical activity counselling intervention to people with knee osteoarthritis in the community.
2. After 1 month, the time spent in physical activity appeared to be different between groups after accounting for the differences at baseline.
3. The 1-month delay might have made a difference in the change in participants' sedentary time
  - Physiotherapist counselling protocol?

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## MOVING FROM EVIDENCE TO ACTION TO TREAT KNEE OSTEOARTHRITIS

JAN 12, 2016



MONITOR-OA program combines exercise, wearable fitness tracking technology, and virtual connection to physical therapists.

Sixty-eight year old former teacher Bronwen Cripps has always been active. But in the summer of 2014, her ability to be active was hampered by her knee noticeably hurting while walking.

# Acknowledgements

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**Trainees:** Jenny Leese, Cam Clayton, Clayon Hamilton

## Patient partners

ARC Arthritis Patient Advisory Board  
Arthritis Consumer Experts  
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