

## PROJECT BRIEF

# Utilizing Tailored Step-Count Feedback to Enhance Physical Activity in the Elderly

### Background

The US Department of Health and Human Services recognizes the importance of regular physical activity in promoting health and reducing the morbidity and mortality associated with chronic disease. Additionally, increasing participation in moderate physical activity could reduce medical expenditures by up to \$77 billion dollars<sup>1</sup>. Knowing that older adults can benefit from physically active life-styles, in turn reducing a growing public health and medical burden, attempts to promote physical activity for the elderly are necessary. Despite widespread pedometer use, little research has been done to measure the impact of pedometer-based interventions in the elderly.

### Purpose

The purpose of this project is to develop, implement, and test the efficacy of objective step-count feedback interventions coupled with motivational messaging to promote walking in the elderly. The project will test if interventions based on objective feedback about time spent walking are more effective than those based on subject self-reports of time spent walking.

### Goals

- Develop individually tailored physical activity interventions using objective step-count monitoring feedback.
- Conduct a pilot test of the efficacy of step count interventions.
- Develop and submit a NIH grant for a large scale randomized controlled trial (RCT) of the interventions.

### Timeline

March 2006 - May 2009

### Progress to Date

- Screened over 300 individuals
- 84 Individuals completed the study

- New collaborations with the Medical College of Wisconsin focusing on the effects of physical activity on endothelial function
- Interactive website: <http://uwmwalking.org/>

### Preliminary Findings

- 79% of individuals increased their activity by more 24 steps on a daily basis compared to the standard control group (44%).
- 64% of individuals increased their activity by more than 36 steps on a daily basis compared to the standard control group (25%).
- Beneficial effect of morphing objective monitoring feedback with individualized behavior change delivered through an interactive website for increased walking behavior.

### Funding Source

Center for Urban Population Health's Center Scientist Development Program through the Wisconsin Partnership Fund

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### Publications/Presentations

- Grimm, E.K., Strath, S.J., Swartz, A.M., Miller, N.E., Gennuso, K.P., Rote, A.E., Dondzila, C.J., Sweere, K.M. (2009). Objective Measurement of Sedentary and Active Behavior in Older Adults. *Medicine and Science in Sports and Exercise*, 41, S476.
- Strath, S.J., Swartz, A. M., Cashin, S.E. (2009). Ambulatory physical activity profiles of older adults. *Journal of Physical Activity and Health*, 17, 46-56.
- Strath, S.J., Swartz, A.M., Tarima, S.S., Gennuso, K.P., Miller, N.E., Grimm, E.K., Cieslik, L.J. (2009). Dose Response Walking and Physical Function in Older Adults. *Medicine and Science in Sports and Exercise*, 41, S477.
- Loy, M.S., Swartz, A.M., Strath, S.J., Miller, N.E., Ewalt, L.A., Gennuso, K.P., Grimm, E.K. (2009). Objectively Measured Physical Activity and Framingham in Healthy Older Adults. *Medicine and Science in Sports and Exercise*, 40, S222.
- Miller, N., Strath, S., Swartz, A., Loy, M., & Ewalt, L. (2008). Validity of downloadable pedometers during laboratory and overground walking in young and older adults. Free Communication Presentation. *American College of Sports Medicine*, Indianapolis, IN (May 28).
- Parker, S.J., Strath, S.J., Swartz, A.M. (2008). Physical activity measurement in older adults: impact on relationships with mental health. *Journal of Aging and Physical Activity*, 16(4), 369-380.
- Swartz, A.M., Strath, S.J., Parker, S.J., Miller, N.E. (2008). The impact of BMI and accumulated ambulatory activity on blood pressure and fasting glucose in older adults. *Journal of Aging and Physical Activity*, 16(2), 188-200.
- Ewalt, L., Swartz, A., Strath, S., Miller, N., Gennuso, K., Grimm, E., & Loy, M. (2008). Validity of physical activity monitors in assessing energy expenditure in normal, overweight, and obese adults. Free Communication Presentation. *American College of Sports Medicine*, Indianapolis, IN (May 28).
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- Strath, S.J., Swart, A.M., Miller, N.E. (2007). Preliminary evaluation of different levels of physical activity intervention in older adults. *Medicine and Science in Sports and Exercise*, 39, S377.
- Swartz, A.M., Strath, S.J., Miller, N.E. (2007). Time spent in moderate intensity physical activity and body fat levels in older adults. *Medicine and Science in Sports and Exercise*, 39, S377.

### Project Partners

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<sup>1</sup> Pratt M. 2000. Higher Direct Medical Costs Associated with Physical Inactivity. *Physician and sportsmedicine*, 28 (10): 63-70.

The Center for Urban Population Health is a partnership among the University of Wisconsin School of Medicine and Public Health, the University of Wisconsin-Milwaukee, and Aurora Health Care, Inc. Our mission is advancing population health research and education to improve the health of urban communities.