



**Abstract Title:** The efficacy of a self-management mobile app for spinal cord: Protocol of randomized controlled trial

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## Introduction

With decreasing lengths of stay in inpatient rehabilitation following spinal cord injury (SCI), the ability to self-manage health is increasingly important. SCI requires complex management of many health domains, which are essential to avoiding secondary health complications such as pressure ulcers, urinary tract infections, and autonomic dysreflexia. To facilitate the acquisition of self-management skills needed to prevent adverse health outcomes, we developed a mobile app and brief training intervention.

## Objectives

The primary objective of our study is to evaluate the efficacy of a self-management intervention among community-dwelling individuals with SCI by comparing changes in goal attainment scaling of personalized self-management related goals in the experimental and delayed intervention groups from baseline to post-intervention (three-months) and follow-up time points (six and nine months). Changes in general and self-management self-efficacy, secondary complications related to SCI, self-reported health events, and healthcare utilization will be explored as secondary outcomes.

## Methods

A total of 110 community-dwelling individuals with SCI who were discharged from inpatient rehabilitation at least 12 months prior will be recruited to participate in this

randomized controlled trial. Baseline data will be collected from participants before they are randomized to either the immediate intervention or the delayed intervention groups. Self-management related goals will be set at baseline. Those randomized to the immediate intervention group will begin using the mobile app, while those randomized to the delayed intervention will begin using the mobile app three months later. Data will be collected at baseline, 3-months (post intervention for the immediate intervention group), 6-months (post intervention for the delayed intervention group), and 9-months. The intervention consists of a mobile app that we created through an iterative design process. The mobile app includes tools that have been created to address the main health domains for individuals with SCI including bowel and bladder management, skin management, spasticity management, daily exercise, as well as more acute topics including urinary tract infections and autonomic dysreflexia.

## **Results**

Funding has been obtained from the Craig Neilsen Foundation. A pilot study related to the self-management mobile app was conducted in the inpatient rehabilitation setting and demonstrated that the study was feasible. Participant recruitment has begun, and the study is expected to start in the spring of 2018.

## **Conclusion**

Mobile health can reach geographically large populations at little cost. A mobile app could be a cost-effective means of improving self-management skills and potentially helping to reduce health care utilization due to secondary conditions.

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