Purpose Interventions delivered via telephone or the Internet have demonstrated efficacy in increasing compliance to medication-taking[1]. Program adherence, through easy access to health promotion information and reminders in support of recommended health behaviours, and assessment of compliance can be increased using ICT[2]. The current study focuses on 3 elements of a care management model first proposed by Wagner[3], then operationalized and tested by Allen et al[4,5], improving: (i) medication appropriateness and adherence to both medications and rehabilitation programming; (ii) communication with the primary care providers (PCPs) and specialists involved in care of the patient; (iii) education of patients and caregivers. Research program goals include: improved health through better patient education, improved medication adherence, timely monitoring and reporting of patient behaviours, cognition, and attitudes, and automated sharing of information with PCPs. Previous research has demonstrated success training older adults using similar systems, a PDA-based medication reminding system for older adults[6]. **Method** The authors utilized a previously tested education and data collection booklet as a control treatment and a Smartphone with an application called iRxReminder as the experimental treatment. The application is designed to provide medication support including reminding, to present multi-media educational materials, and to present tailored surveys for capturing information about daily activities. Thirty eligible patients undergoing acute treatment at a local hospital were recruited following a transient ischemic attack. All were assessed on their ability to use an iPhone. Twenty older adults were randomly assigned to a booklet control group or trained to use an iPhone, its basic set of applications, and the iRxReminder application. The participants were asked to track their medication adherence, review each week one of five short modules of educational materials on stroke symptoms and risk factors, and to complete daily and weekly surveys (experimental group) or monthly paper and pencil surveys (both groups). The participants were presented with identical curricula. At the end of the 2-month study, participants were assessed on their knowledge of stroke symptoms and risks factors. Medication adherence reporting was compared between the control and experimental group. **Results & Discussion** All participants were able to complete the 18-step use-test on the iPhone in the hospital. Medication-reporting compliance was higher for the experimental group compared to the control group. Stroke knowledge scores were significantly higher in the experimental group. We believe a mobile, hand held computer, with appropriately designed software, and in combination with targeted training, has the potential to solve the problem of remembering to take medicines and provide other benefits. Given the functions of smartphones like the iPhone, they have the potential to benefit older adults with complicated medication schedules. In the long-term, these devices could relieve one's reliance on memory of the medication schedule and serve as an active support by activating an alarm to announce a scheduled dosage.

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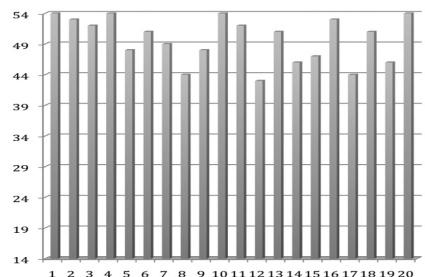
Figure 1. Summation scores for an 18-step use test of the iPhone completed by 20-older adults in a hospital setting following a mini-stroke; 100% participants completed the qualification test successfully