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### Rural Self-Management Support

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May 2014

# Research Report

## Rural Self-Management Support

### Brief Summary

The Rural Self-Management Support research project used an individually-focused health self-management support intervention to help people with disabilities locate resources for health support in rural America. This intervention led to better long term maintenance of health self-management behaviors compared to the control condition which did not include a focus on locating health resources. Future research will continue to look at how local communities impact long term health.

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Complex health needs, often experienced by people with disabilities, are hard to manage, especially in rural areas where health management resources are generally few and geographically dispersed (Iezzoni, Killeen, & O'Day, 2006). One approach to improving healthcare access for rural Americans with disabilities is to facilitate the use of existing healthcare services through self-management.

Emerging medical practice recognizes the importance of self-management in medical outcomes and is turning to a new practice initiative known as self-management support (SMS; Santa Monica et al., 2007). This medical service delivery philosophy is rooted in patient- and family-centered care that integrates self-management into the clinical service delivery context (Bodenheimer, MacGregor, & Sharifi, 2005). Importantly, SMS is consistent with independent living philosophy of consumer empowerment, choice, and control.

Most health self-management practice focuses on teaching individuals how to make health behavior changes like increasing physical activity (Ravesloot et al., 2011). Individuals are taught a set of skills that lead to improved health status if those skills are used consistently over time. Various techniques to facilitate maintenance are used, including lengthy interventions (> 24 weeks) and follow-up prompts by the interventionist (Fjeldsoe, Newhaus, Winkler, & Eakin, 2011). Unfortunately, without these intense interventions, most people struggle and ultimately fail at maintaining newly learned skills.

An alternative approach to facilitate sustained individual level change may be accomplished through an ecological intervention that engages natural supports in the environment (e.g., engaging a physical therapist to develop an exercise program). This type of intervention

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may support change without the intensity associated with individually focused interventions that have demonstrated effective maintenance.

This report describes results from a research project that compared an individually-oriented education program based on the Living Well with a Disability program as the control condition (Ravesloot, Seekins, & White, 2005) to an ecologically-oriented treatment intervention where individuals focused on enlisting SMS from people in their community. We hypothesized that the ecologically-oriented self-management support program would be associated with better long-term maintenance of health behavior change than the individually focused education program.

## Methods

### Participants

We solicited applications from the membership of the Association of Programs for Rural Independent Living (APRIL) and selected eight centers that contracted to implement the research protocol. Each center was assigned to either the treatment or control condition, which used different curricula. Staff from each center participated in a tele-training, and then recruited 10 individuals per center to receive the assigned curriculum. Seven centers completed the project and recruited 58 participants (28 treatment and 30 control). We collected pre- and post-intervention records from 47 (81%) individuals, and 41 (71%) people returned a 3-month follow-up survey.

Participants averaged 50.4 years old (SD 14.2); predominantly female (75%); Caucasian (67%); non-Hispanic (97%); and resided in Arizona, Kansas, Mississippi, New Jersey, or New York. Participants reported a median household income between \$10,000 and \$15,000. The majority reported using some kind of adaptive equipment or personal assistance (55%) with 19% using a manual wheelchair and 14% using a motorized wheelchair.

### Measures

The outcome measures included (1) the Health-Promoting Lifestyle Profile II (HPLP-II), which

measured six dimensions of lifestyle: health responsibility, physical activity, nutrition, spiritual growth, interpersonal relations, and stress management (Pender, Walker, Sechrist, & Frank-Stromborg, 1990); (2) the Secondary Condition Surveillance Instrument (SCSI), which measured limitation due to secondary conditions (Seekins, Smith, McCleary, Clay, & Walsh, 1990); (3) a measure of physical and social barriers encountered during the prior week based on the Barriers to Health Activities among Disabled Persons scale (BHADP; Becker, Stuifbergen, & Sands, 1991); and (4) a brief measure of participation adapted from the Participation Survey/Mobility (PARTS/M; Gray, Hollingsworth, Stark, & Morgan, 2006).

### Procedures

The treatment intervention included four one-on-one sessions facilitated by CIL staff who had completed an online tele-training program with the research team. CIL staff used PowerPoint slides or a facilitation workbook with the same slide content to introduce consumers to the material.

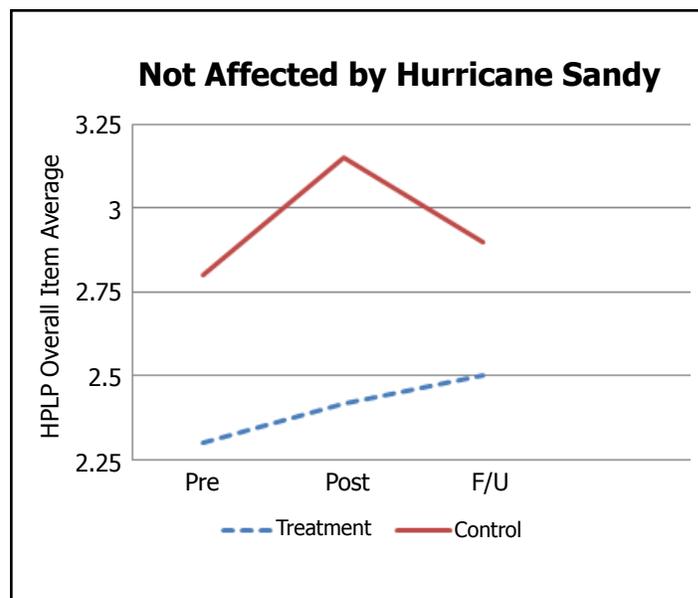
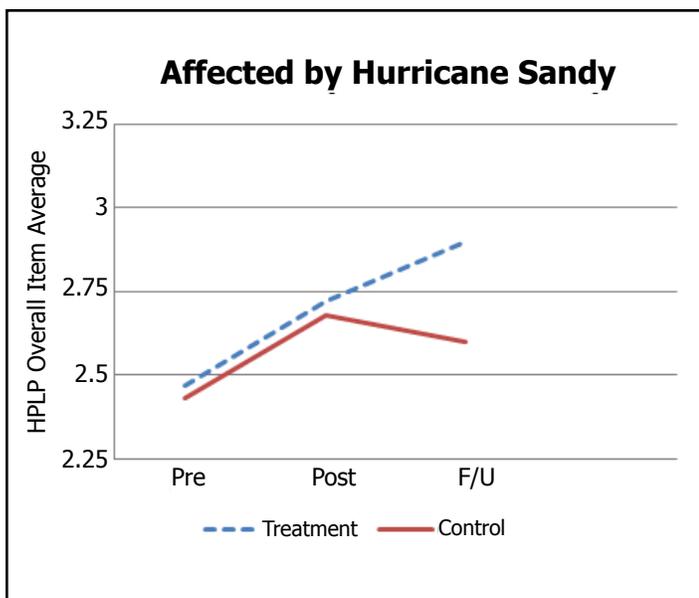
Topics of the treatment intervention included self-assessment, goal-setting, identifying resource needs, personal community resource mapping, and self-advocacy. The control intervention was also conducted in four one-on-one sessions using content from the Physical Activity, Nutrition, and Maintenance chapters of the Living Well with a Disability Workbook (3rd ed). In general, CIL staff held the weekly sessions at the CIL office, but some sessions were conducted in participant homes.

We collected outcome measures before, after, and three months after the conclusion of the intervention. In the time between the post-test and follow-up, 31 participants from three CILs (one treatment and two control) were in the direct path of Hurricane Sandy, which struck the coast of New Jersey on October 29, 2012.

### Data Analysis

All data were entered into SPSS 20.0. After checking data for veracity and normality, we computed repeated measures analysis of

Figure 1. Treatment interaction by hurricane exposure



variance to test hypotheses regarding change over time for the three outcome measures.

## Results

Results indicated that both interventions were effective for improving health behavior (Figure 1), secondary conditions, and participation at the post-test. These results, however, were complex and potentially affected by Hurricane Sandy. Pre- to post- HPLP scores for individuals in the control group improved 7.8% compared with a 6.8% improvement for those in the treatment group. Both groups showed statistically significant gains ( $F=8.84, p=.005$ ) with no statistical differences between groups. At follow up, the control group HPLP scores deteriorated by 5.2% while the treatment group scores improved by another 3.6%, but neither the between or within subject differences achieved statistical significance. Interestingly, we observed effects that may have been related to Hurricane Sandy; individuals in the treatment group affected by the hurricane showed statistically significant improvements at the follow up that were not observed in the two control groups that were also affected (Figure 1).

We observed similar effects on the secondary conditions measure (SCSI), with individuals in the control group reporting a 29.8% reduction compared with a 13.3% reduction in those in the treatment group. Again, within subject between pre- and post-measures were

significant ( $F=12.68, p<.001$ ), but between group differences were not, indicating both groups improved. At the follow up period, both treatment and control group SCSI scores returned toward baseline, but these results mirrored those reported above for the HPLP. The individuals in the treatment group affected by the hurricane demonstrated better maintenance of effects on secondary conditions than those in the two control groups; however, the changes were not maintained over time.

Individuals in both treatment and control groups reported a 6.1% decrease in barriers during the intervention period that decreased by another 5.4% during the follow up period; the interventions helped reduce the experience of barriers by 11% during the study period. Lastly, individuals in both groups reported a 23.5% increase in the number of trips they made to community sites the week before the measure was completed; however, neither group maintained those changes over time.

## Discussion

Study results supported our hypothesis that ecologically-oriented self-management support would be associated with better long-term maintenance of health behavior change than an individually focused education program. The SMS intervention had better long-term outcomes,

which may have reflected more participant engagement with community providers during the intervention period.

Both interventions were implemented by CIL staff who met individually with consumers on four occasions to review program materials; this demonstrated that CILs could be viable settings for conducting brief, individually focused health promotion interventions. Facilitators rated personal community resource maps as a useful strategy for directing consumers with health improvement objectives into the community. (For more information on personalized community resource mapping, see our [Rural Practice Guidelines PCRM](#) and [A Guide for Creating a Community Resource Map](#)) In addition, results showed that participants who were directed to solicit support from providers in their community using self-advocacy gained some advantage in maintenance of health behavior change and impact on secondary conditions. Future research will continue to examine how interventions focused on the community environment can impact long term health outcomes of community members.

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