Feasibility of mHealth technology use among a sample of isolated rural men at high risk for cardiovascular disease

Betsy J. Becker  
*University of Nebraska Medical Center, betsyj.becker@unmc.edu*

Christine M. Eisenhauer  
*University of Nebraska Medical Center, ceisenhauer@unmc.edu*

Carol H. Pullen  
*University of Nebraska Medical Center, chpullen@unmc.edu*

Paul J. Dizona  
*University of Nebraska Medical Center*

Patricia A. Hageman  
*University of Nebraska Medical Center, phageman@unmc.edu*

Follow this and additional works at: [https://digitalcommons.unmc.edu/cahp_pt_pres](https://digitalcommons.unmc.edu/cahp_pt_pres)

Part of the Nursing Commons, and the Physical Therapy Commons

**Recommended Citation**

[https://digitalcommons.unmc.edu/cahp_pt_pres/8](https://digitalcommons.unmc.edu/cahp_pt_pres/8)

This Conference Proceeding is brought to you for free and open access by the Physical Therapy at DigitalCommons@UNMC. It has been accepted for inclusion in Posters and Presentations: Physical Therapy by an authorized administrator of DigitalCommons@UNMC. For more information, please contact digitalcommons@unmc.edu.
Feasibility of mHealth technology use among a sample of isolated rural men at high risk for cardiovascular disease

Becker BJ¹, Eisenhauer C², Pullen CH³, Dizona PJ³ and Hageman PA¹

¹1.Division of Physical Therapy Education, College of Allied Health Professions, University of Nebraska Medical Center (UNMC), Omaha, NE; 2.College of Nursing-Northern Division, UNMC, Norfolk, NE; 3.College of Nursing, UNMC, Omaha, NE

Background/Purpose

- Isolated rural men are considered a health disparities group at high risk for cardiovascular disease.
- Technologies for self-monitoring for healthy eating, activity and weight loss (ie mHealth) may show promise for engaging rural men in lifestyle modification.
- This study investigated the feasibility of men from rural isolated areas to use a fitness monitor with text messaging support over a 3-week period.
- The study examined the men’s daily monitor use for tracking activity and eating, and assessed via written survey, their perspectives about mHealth.

Subjects

- Twelve men, ages 40-69, from a US Department of Agriculture defined isolated rural area, participated.
- A purposive sample originally recruited to participate in a focus group about their perceptions of the utility of mHealth.
- Age: 50.9±8.6 yrs & Baseline BMI: 25.44 kg/m² [34.8±6.6 kg/m²]
- Eligibility included having cell/smartphones capable of sending/receiving text messages, access to a computer, willing to use a fitness monitor and have research personnel access the men’s logs.

Materials/Methods

<table>
<thead>
<tr>
<th>Visit 1 Assessment &amp; Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Baseline health histories &amp; vital signs</td>
</tr>
<tr>
<td>• Training using the fitness monitor</td>
</tr>
<tr>
<td>• Asked to wear the monitor daily for 3 weeks &amp; sync daily with computer</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Electronic Reminders</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Received 1-3 text messages/day for 3 weeks</td>
</tr>
<tr>
<td>• Topics: education and motivation for self-monitoring</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Visit 2 Assessment &amp; Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Completed post-intervention surveys about their fitness monitoring</td>
</tr>
<tr>
<td>• Descriptive data were used for analysis</td>
</tr>
</tbody>
</table>

Results

Nine of 12 men wore the monitor during all 21 days, two wore it 9 and 15 days respectively and one lost the monitor.

![Dashboard view of mHealth device sync](sample_dashboard_view.png)

Samples dashboard view on computer, tablet or smartphone after mHealth device sync

Conclusions

Men were not well managed for blood pressure or overweight/obesity. Both the log records and the survey results indicated that using fitness monitors was feasible and acceptable among this population.

Clinical Relevance

Using mHealth appears feasible as an action-oriented tool for therapists to recommend for lifestyle self-monitoring in isolated rural men. The findings reinforce the important role of therapists in routinely assessing vital signs and making referrals as appropriate.

References


Funding Source: Funded by Northeast Nebraska Funds for Excellence from the College of Nursing Northern Division, College of Nursing; College of Nursing Development Account; and School of Allied Health Professions Pilot Research Grant; University of Nebraska Medical Center.