Characteristics of Local YMCAs That are Early Adopters of a Senior Exercise Program

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Marlana Kohn, MPH
Research Scientist
University of Washington, Department of Health Services
Health Promotion Research Center

Basia Belza, PhD, RN, FAAN, Biobehavioral Nursing and Health Systems, Health Promotion Research Center, University of Washington, Seattle, WA
Miruna Petrescu-Prahova, PhD, Health Promotion Research Center, University of Washington, Seattle
Christina Miyawaki, MSW, MA, School of Social Work, University of Washington, Seattle
Katherine Hohman, MPH, Healthy Living Department, YMCA of the USA, Chicago, IL

Presenter Disclosures

Marlana Kohn, MPH

(1) The following personal financial relationships with commercial interests relevant to this presentation existed during the past 12 months:

No relationships to disclose
The Objective

Describe site and participant characteristics

Model participant outcomes as a function of site type

The Program
The YMCA

The Methods

Data
- Program records from 2005-2011
- Demographics and function test results

Participants
- 2,322 participants
- 101 program sites in 16 states

Physical Function Tests
- Chair Stand Repetitions
- Arm Curl Repetitions
- 8-Foot Timed Up-and-Go
The Models

Outcome: Physical Function Test Result
- Baseline test result
- Follow-up test result
- Delta baseline to follow-up

Predictor: YMCA-Affiliated Site Type
- YMCA (ref)
- Faith-based
- Healthcare
- Residential
- Social Service
- Other
- Senior Center

Covariates
- Gender
- Age
- Caucasian
- Arthritis
- Comorbid Conditions
- Site Clustering

The Sample

- 72 Average participant age
- 82% Female Participants
- 54% Caucasian participants
- 29% Participants with arthritis
- 29% Participants with hypertension
- 12% Participants with diabetes
The Results

16.5 (baseline)
18.1 (follow-up)

12.1
13.5

9.2
8.9

Test Results as a Function of Delivery-Site Type (b, p-value)

<table>
<thead>
<tr>
<th>YMCA</th>
<th>Residential Site</th>
<th>Baseline</th>
<th>Follow-Up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chair Stand</td>
<td>Reference</td>
<td>-1.40 (0.03)</td>
<td>-1.89 (0.05)</td>
</tr>
<tr>
<td>Arm Curls</td>
<td>Reference</td>
<td>-0.10 (0.92)</td>
<td>0.58 (0.69)</td>
</tr>
<tr>
<td>Up-And-Go</td>
<td>Reference</td>
<td>2.57 (0.03)</td>
<td>2.76 (0.05)</td>
</tr>
</tbody>
</table>
So What?

Tailoring

Fidelity

Results

Looking Ahead

National Dissemination

Photo credit: Medicare logo, http://www.medicare.gov/
Marlana Kohn, MPH
marlana@uw.edu

THANK YOU

References

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The contents of this work are solely the responsibility of the authors and do not necessarily represent the official views of the Centers for Disease Control and Prevention.
### Table 1a: Baseline Physical Function Test Results by Site Type, Mean (SD)

<table>
<thead>
<tr>
<th></th>
<th>All</th>
<th>YMCA (n=673)</th>
<th>Faith-Based Organization (n=141)</th>
<th>Healthcare Organization (n=20)</th>
<th>Social Services Organization (n=52)</th>
<th>Residential Site (n=178)</th>
<th>Senior Center (n=246)</th>
<th>Other (n=45)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chair Stand (n=1,321)</td>
<td>12.06 (4.17)</td>
<td>12.55 (4.06)</td>
<td>12.29 (4.32)</td>
<td>9.40 (2.35)</td>
<td>12.84 (4.54)</td>
<td>10.78 (3.86)</td>
<td>11.29 (4.28)</td>
<td>13.67 (4.03)</td>
</tr>
<tr>
<td>Arm Curls (n=1,355)</td>
<td>16.54 (5.93)</td>
<td>16.73 (6.20)</td>
<td>16.72 (6.91)</td>
<td>14.10 (2.88)</td>
<td>16.87 (3.96)</td>
<td>16.32 (5.52)</td>
<td>15.67 (5.30)</td>
<td>19.53 (5.12)</td>
</tr>
<tr>
<td>Up-And-Go (n=1,323)</td>
<td>9.21 (6.50)</td>
<td>8.02 (6.31)</td>
<td>7.82 (3.89)</td>
<td>10.70 (3.06)</td>
<td>7.48 (4.22)</td>
<td>11.30 (6.56)</td>
<td>11.69 (7.84)</td>
<td>10.69 (3.92)</td>
</tr>
</tbody>
</table>

### Table 1b: Follow-Up Physical Function Test Results by Site Type, Mean (SD)

<table>
<thead>
<tr>
<th></th>
<th>All</th>
<th>YMCA (n=248)</th>
<th>Faith-Based Organization (n=51)</th>
<th>Healthcare Organization (n=15)</th>
<th>Social Services Organization (n=20)</th>
<th>Residential Site (n=85)</th>
<th>Senior Center (n=128)</th>
<th>Other (n=21)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chair Stand (n=564)</td>
<td>13.47 (4.67)</td>
<td>13.93 (4.13)</td>
<td>15.21 (4.00)</td>
<td>10.13 (2.59)</td>
<td>18.00 (4.90)</td>
<td>11.35 (4.91)</td>
<td>12.76 (4.98)</td>
<td>14.90 (4.25)</td>
</tr>
<tr>
<td>Arm Curls (n=567)</td>
<td>18.06 (5.69)</td>
<td>17.50 (5.63)</td>
<td>21.61 (5.51)</td>
<td>13.07 (4.06)</td>
<td>20.20 (4.53)</td>
<td>17.60 (6.10)</td>
<td>18.23 (5.52)</td>
<td>18.43 (3.36)</td>
</tr>
<tr>
<td>Up-And-Go (n=563)</td>
<td>8.93 (5.95)</td>
<td>7.73 (5.37)</td>
<td>6.80 (3.34)</td>
<td>9.27 (1.75)</td>
<td>5.00 (1.11)</td>
<td>11.09 (7.32)</td>
<td>10.87 (6.64)</td>
<td>10.81 (4.23)</td>
</tr>
</tbody>
</table>
Table 2a: Regression Models of Baseline Chair Stand, Arm Curl Reps and Up-and-Go as a Function of Delivery-Site Type (b, p-value)

<table>
<thead>
<tr>
<th>Chair Stand</th>
<th>YMCA</th>
<th>Faith-Based Organization</th>
<th>Healthcare Organization</th>
<th>Social Services Organization</th>
<th>Residential Site</th>
<th>Senior Center</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjusted model with clustering</td>
<td>Reference</td>
<td>-0.22 (0.69)</td>
<td>-4.42 (&lt;0.001)</td>
<td>-0.59 (0.65)</td>
<td>-1.40 (0.03)</td>
<td>-0.89 (0.20)</td>
<td>1.15 (0.03)</td>
</tr>
<tr>
<td>Arm Curls</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted model with clustering</td>
<td>Reference</td>
<td>-0.016 (0.90)</td>
<td>-5.04 (&lt;0.01)</td>
<td>-1.26 (0.22)</td>
<td>-0.1 (0.92)</td>
<td>-0.91 (0.35)</td>
<td>2.75 (0.002)</td>
</tr>
<tr>
<td>Up-And-Go</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Adjusted model with clustering</td>
<td>Reference</td>
<td>-0.39 (0.57)</td>
<td>4.19 (&lt;0.01)</td>
<td>0.36 (0.87)</td>
<td>2.57 (0.03)</td>
<td>2.88 (0.02)</td>
<td>2.58 (&lt;0.01)</td>
</tr>
</tbody>
</table>

Table 2b: Regression Models of Follow-Up Chair Stand, Arm Curl Reps and Up-and-Go as a Function of Delivery-Site Type (b, p-value)

<table>
<thead>
<tr>
<th>Chair Stand</th>
<th>YMCA</th>
<th>Faith-Based Organization</th>
<th>Healthcare Organization</th>
<th>Social Services Organization</th>
<th>Residential Facility</th>
<th>Senior Center</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjusted model with clustering</td>
<td>Reference</td>
<td>1.66 (0.05)</td>
<td>-4.69 (&lt;0.01)</td>
<td>3.05 (&lt;0.01)</td>
<td>-1.89 (0.05)</td>
<td>-0.03 (0.77)</td>
<td>1.55 (0.01)</td>
</tr>
<tr>
<td>Arm Curls</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted model with clustering</td>
<td>Reference</td>
<td>4.29 (0.01)</td>
<td>-6.12 (&lt;0.01)</td>
<td>1.69 (0.22)</td>
<td>0.58 (0.69)</td>
<td>1.16 (0.38)</td>
<td>1.00 (0.25)</td>
</tr>
<tr>
<td>Up-And-Go</td>
<td></td>
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</tr>
<tr>
<td>Adjusted model with clustering</td>
<td>Reference</td>
<td>-1.04 (0.21)</td>
<td>1.85 (0.09)</td>
<td>-2.12 (0.02)</td>
<td>2.76 (0.05)</td>
<td>2.29 (0.08)</td>
<td>3.03 (&lt;0.01)</td>
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