The Impact of Life Coaching and Pharmacist Counseling on Participant Health, Employment, and Disability

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Presentation Outline

1. Motivating Factors
2. Study design
3. Participant profile
4. Intervention component usage
5. Preliminary results and implications
6. Study limitations
7. Recommendations and next steps
Motivating Factors

Issue (Problem)
Potentially disabling condition: Diabetes

Intervention Development
Life Coaching  Pharmacist Counseling

Question of Interest
Is the intervention a solution to the problem?
Study Design: Experimental

**Enrollment**: (190)

**Baseline Data Collection**

**Random Assignment**

- **Treatment Group**: (128)
- **Control Group**: (62)

**Tracking: Treatment Group**
- 12 mos
- 6 mos

**Program (Intervention)**

**Tracking: Control Group**
- 18 mos
Study Design: Intervention Components

Treatment group participants

Support Services

Life Coaching
- Laptop
- Wireless card

Pharmacist Counseling

Other Services
- Nutrition Counseling
- Diabetes Education
- 3 mos Y membership

Reimbursements
Diabetes-related health care costs
## Participants: Baseline

*Study sample was fairly healthy and well employed at baseline.*

<table>
<thead>
<tr>
<th>Diabetes Type</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type 2: 86%</td>
<td>Female: 63%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Years since diagnosis</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean: 8 yrs</td>
<td>Mean: 48 yrs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hemoglobin A1c/1</th>
<th>Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean: 7.8%</td>
<td>Bachelor’s degree or higher: 50%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Body Mass Index (BMI)/2</th>
<th>2007 Annual Earnings/3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overweight or Obese: 86%</td>
<td>Mean: $44K</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Healthcare Coverage</th>
<th>Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insured: 97%</td>
<td>Mean hrs worked/wk in past month: 38 hrs</td>
</tr>
</tbody>
</table>

/1 Obtained from healthcare provider  
/2 Calculated from height and weight obtained from healthcare provider  
/3 Obtained from State of Hawaii Department of Labor & Industrial Relations  
All other data: self reported
Participants: Diabetes Management

Most participants had good to moderate control of their diabetes.

Baseline Diabetes Control: HbA1c

- 31% in control
- 48% moderately controlled
- 20% poorly controlled
Participants: Diverse

Study sample is ethnically diverse.

- Native Hawaiian / Pacific Islander /1: 35%
- Japanese: 18%
- Other Asian /2: 18%
- White: 17%
- Other /3: 12%

/1 NHPI: Full and Part
/2 Other Asian: Filipino, Chinese, Other Asians
/3 Other: Mixed (non-NHPI), Black, Other, AIAN.
Life Coaching was the dominant intervention component accessed.

- Life Coaching Meetings: 1,214
- Pharmacist Counseling Meetings: 449
- YMCA Visits: 104
- Nutrition Counseling Meetings: 79
- Certified Diabetes Education Meetings: 17
Intervention: Reimbursements

Majority of reimbursements were for diabetes-related medications and testing supplies.

- Medications/Supplies: $11,549 (80%)
- Office visits: $1,799 (12%)
- Labs: $1,066 (7%)
## Outcome Measures

<table>
<thead>
<tr>
<th>Federal</th>
<th>State-added</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Health</strong></td>
<td></td>
</tr>
<tr>
<td>- Well being</td>
<td>• <em>Diabetes self-efficacy</em></td>
</tr>
<tr>
<td>- Functioning</td>
<td>• <em>Diabetes management</em></td>
</tr>
<tr>
<td></td>
<td>• <em>Weight loss</em></td>
</tr>
<tr>
<td><strong>Employment</strong></td>
<td></td>
</tr>
<tr>
<td>- Hours worked</td>
<td>• <em>Effect of diabetes on work productivity</em></td>
</tr>
<tr>
<td>- Earnings</td>
<td>• <em>Diabetes related absences</em></td>
</tr>
<tr>
<td><strong>Disability</strong></td>
<td></td>
</tr>
<tr>
<td>- Government program participation</td>
<td>--</td>
</tr>
</tbody>
</table>
Preliminary Findings: Health/Functioning

*Diabetes self efficacy and body mass index changes were significantly better in the treatment than the control group.*

<table>
<thead>
<tr>
<th>Measure</th>
<th>T</th>
<th>C</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes self-efficacy (% improved)</td>
<td>68%</td>
<td>45%</td>
<td>0.007</td>
</tr>
<tr>
<td>Body mass index/(^1)</td>
<td>-0.64</td>
<td>0.09</td>
<td>0.02</td>
</tr>
<tr>
<td>Number of ADLs</td>
<td>-0.30</td>
<td>0.07</td>
<td>0.06</td>
</tr>
<tr>
<td>Number of IADL</td>
<td>-0.36</td>
<td>0.00</td>
<td>0.09</td>
</tr>
<tr>
<td>SF-12 (mental)</td>
<td>0.61</td>
<td>-0.77</td>
<td>0.32</td>
</tr>
<tr>
<td>HbA1c/(^2)</td>
<td>-0.003</td>
<td>-0.002</td>
<td>0.59</td>
</tr>
<tr>
<td>SF-12 (physical)</td>
<td>1.60</td>
<td>1.90</td>
<td>0.81</td>
</tr>
</tbody>
</table>

/1 Among participants overweight or obese at baseline.
/2 Among participants that had moderately or poorly controlled diabetes at baseline.
Prelim: Diabetes Self-efficacy

A higher percentage of the treatment group reported an improved score

Improved score between baseline and 6 months

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Control</th>
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<tbody>
<tr>
<td>68%</td>
<td>45%</td>
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</table>

/1 Score on the University of Michigan Diabetes Empowerment Scale – Short Form
Among those overweight or obese at baseline, changes were significantly better in the treatment than the control group (treatment group lost weight; control group gained).

Change between baseline and 6 months

<table>
<thead>
<tr>
<th>Treatment</th>
<th>-0.64</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>0.09</td>
</tr>
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</table>
Preliminary Findings: Employment

1. Changes in work productivity reported by the treatment group were significantly better than those reported by controls.
2. Treatment group reported losing work hours while the control group reported slight gains; however, earnings did not change.

<table>
<thead>
<tr>
<th>Measure</th>
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<th>C</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effect diabetes has on work productivity</td>
<td>-0.38</td>
<td>0.31</td>
<td>0.008</td>
</tr>
<tr>
<td>Hours worked (in past week)</td>
<td>-6.83</td>
<td>0.98</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Annual earnings ($)</td>
<td>2,264</td>
<td>2,119</td>
<td>0.95</td>
</tr>
<tr>
<td>Hours absent (diabetes-related, in past week)</td>
<td>0.28</td>
<td>0.09</td>
<td>0.77</td>
</tr>
</tbody>
</table>
Prelim: Effect of diabetes on work productivity

Treatment group reported diabetes affected their work productivity less; control group reported the opposite.

Change between baseline and 6 months

<table>
<thead>
<tr>
<th>Group</th>
<th>Change</th>
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<tbody>
<tr>
<td>Treatment</td>
<td>-0.38</td>
</tr>
<tr>
<td>Control</td>
<td>0.31</td>
</tr>
</tbody>
</table>

1 Using the Work Productivity and Activity Impairment Questionnaire (Specific Health Problem).
Prelim: Hours worked

Treatment group reported losing work hours while the control group reported slight gains.

Change between baseline and 6 months

- Treatment: -6.83
- Control: 0.98
Preliminary Findings: Disability

There was no signification difference in treatment and control group government program participation.

<table>
<thead>
<tr>
<th>Measure</th>
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<th>C</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td># of government programs participating*</td>
<td>0.000</td>
<td>-0.036</td>
<td>0.40</td>
</tr>
</tbody>
</table>

* Five programs tracked: Temporary Assistance to Needy Families, Food Stamps, Section 8 or other subsidized housing, Medicaid, Vocational Rehabilitation.
Participant Feedback

See

POWER OF LIFE COACHING

HELPFUL:

• Being held accountable
• Goal setting
• One-on-one communications/discussions
• Diabetes and nutrition information from service providers
Preliminary Implications

THE INTERVENTION:
• Lowered effect of diabetes on work productivity
• Increased diabetes self efficacy
• Improved health
• More effective for those with poor chronic disease management skills

HOURS WORKED MEASURE:
• Might not be a good employment indicator for salaried individuals
Study Limitations

1. Limited access to some intervention components
   – Might have influenced usage

2. Limited intervention and tracking period
   – Difficulty detecting changes over time
   – Unlikely to see disability enrollment

3. Small sample size
Recommendations

• Study cost effectiveness of life coaching and pharmacist counseling

• Integrate into health initiatives

• Future interventions
  – Face to face: one on one support (engagement)
  – Use of goal setting and personal accountability
1. Data collection
   • Through June 2010

2. Analysis & reporting
   • Through September 2010
   • Repeated measures ANCOVA
   • Treatment group: Fidelity, Engagement

3. Intervention components
   • Life Coaching
   • Pharmacist Counseling
Project Team
(current and former members)

- Brandon Arakaki
- Calvin Cheung
- Thomas Christ
- Kriste Colley-Valdez
- Kevin Dierks
- Sreang Heak
- Junko Hashizume
- Jean Isip Schneider
- Courtney Johnson
- Dongmei Li
- Lisa Maetani

- Mary Lou Matsuura
- Adela Mearig
- Nani Picerno-Manrique
- Chin-Chin Minniear
- Corrie Ota
- Rebecca Rude Ozaki – PI
- Kathy Richins
- Crystal Watanabe
- Denise Watanabe
- Patrick Yrizarry
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(current and former members)

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- David Francis
- Landry Fukunaga
- LeeAnna Kobayashi
- Natalya Mekkoyeva
- Mizuho Murakami
- Christy Nishita
- Alice Tse
- Tammy Tom
- Denise Uehara – Coordinator
- Monica Um
- Marisa Watanabe
- Evaluation Advisory Council
- Just Your Type
- UH CRDG
Our Community

- Centers on Medicare & Medicaid Services
- HI Department of Human Services
- HI Department of Health
- Mathematica Policy Research, Inc.
- Hawaii Business Health Council
- Times Supermarket
- Longs Drug Stores
- HECO
- Roberts Hawaii
- Servco Pacific
- University Health Alliance
- Quality Assurance Committee
- American Diabetes Association – Hawaii Chapter
- Project Advisory Council
Mahalo… Thank you!

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Project website:
http://manoa.hawaii.edu/livehealthy/