

Live healthy... Work well

A Diabetes Project for a Healthy Workforce

The purpose of this research brief is to provide an overview of the Live Healthy...Work Well project, describe the enrollment process, profile participants at baseline, and summarize the project's current and future activities.

Table 1. Intervention Components

ACCESS to:

- Life Coaching
- Medication Therapy Management (Pharmacist Counseling)
- Diabetes Education
- Nutrition counseling
- 3 Mo. Fitness Membership

REFERRALS to:

- Diabetes Classes
- Peer Support Groups
- Employment Supports

REIMBURSEMENTS for:

- Diabetes-Related Medical Costs

Table 2. Baseline Eligibility Criteria

- Diagnosed with Diabetes OR Hemoglobin A1c Level of 6.5 or Higher
- 18-62 Years of Age
- Employed at least 10 hrs/wk for 4 consecutive weeks
- Receiving Federal Minimum Wage or Higher
- Not Receiving Supplemental Security Income or Social Security Disability Insurance
- Living on Oahu

Project Overview

The Live Healthy...Work Well (LHWW) research project examines how access to life coaching, pharmacist counseling, and other supports (See Table 1) impacts persons with diabetes. Funded through a contract with the Center for Medicare and Medicaid Services and facilitated by the University of Hawaii Center on Disability Studies, the project is interested in determining whether these supports improve health, prevent loss of employment and independence, and forestall the need for public program assistance.

The Bottom Line

"...Community-based pharmacist coaching, evidence-based diabetes care guidelines, and patient self-management strategies...

demonstrated positive clinical...and economic outcomes..." (Fera, 2009)

Did You Know?

Diabetes also greatly affects the U.S. economy...

In 2007, the direct cost of diabetes totaled \$174 billion, which translates to \$1 of every \$5 spent on health care being attributed to this disease." (Fera, 2009)



Enrollment of Participants

From April to September 2008, 190 eligible participants (See Table 2) enrolled in LHWW. They were randomized to create two groups that were equivalent at the beginning of the study so that any differences resulting at the end can be attributed to the intervention.

Twice as many participants were randomly assigned to the Life Coaching (LC) group resulting in 128 LC participants and 62 Business as Usual (BAU) participants. This 2:1 randomization will allow an examination of potential subtleties within these intervention effects.

As noted in Table 3, participants were between 20 to 62 years old. The majority had Type II diabetes (86%) which results from insulin resistance or when the body fails to properly use insulin. Twelve percent had Type I diabetes, which is usually diagnosed in children and young adults due to a body's failure to produce insulin. A small percentage (2%) were pre-diabetic and had an elevated blood glucose level.

Most participants were female and half had at least a 4-year college degree. Over two-thirds had an annual household income of at least \$40,000 and more than half were married. Almost all participants had health insurance at baseline.

In analyzing race, part or full Native Hawaiians were a priority because they have twice the rate of diabetes in comparison to Whites. Thirty two percent of participants fell in this category.

A large proportion of participants were Asian, with the majority being Japanese (18%). Whites comprised 17% of the sample and 8% were of mixed race.

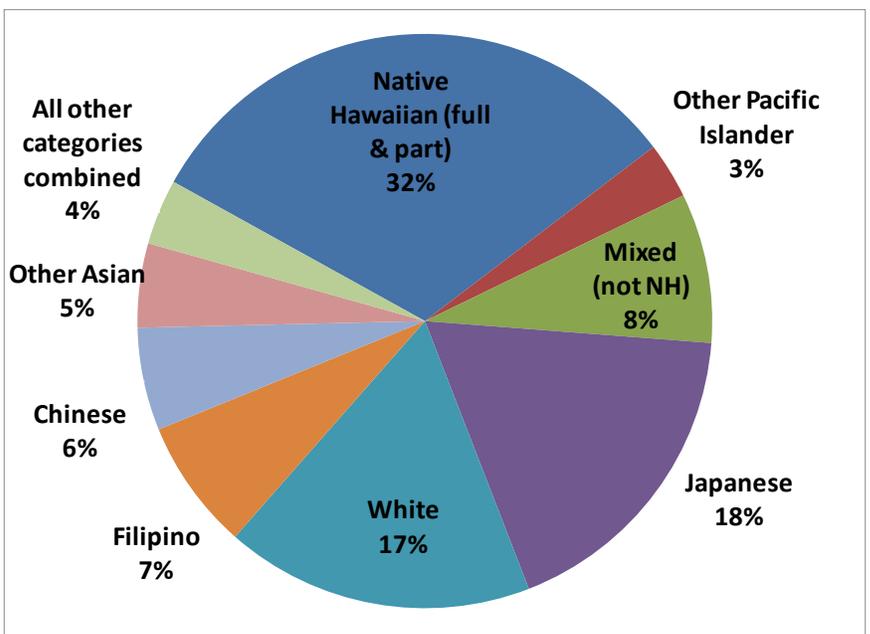
Demographic Profile of Participants

Table 3.		All (n= 190)
Mean Age		42.5 (Range: 20 to 62 yrs old)
% Diabetes Type		
	Pre- diabetes	2.1
	Type I	12.1
	Type II	85.8
% Female		
% Male		
% Education Level		
	High School Graduate or GED	12.1
	Some College or 2 Year Degree	37.4
	Four Year College Graduate	23.2
	More than Four Year College Degree	27.4
% Household Income		
	Less than \$10,000	2.1
	\$10,000-\$19,999	2.6
	\$20,000-\$29,999	12.1
	\$30,000-\$39,999	13.7
	\$40,000-\$74,999	36.3
	\$75,000 or more	33.2
% Marital Status		
	Now Married	52.6
	Never Married	26.8
	Divorced	19.0
	Other	1.6
% Uninsured		
		2.6

How do Live Healthy...Work Well participants compare to working adults with diabetes in Honolulu?

The age distribution of participants was similar to working adults with diabetes in Honolulu.

However, the project enrolled more Whites, more females, and more persons with higher education levels than the working diabetic population in Honolulu.



Health of Participants

Effect of Diabetes on Daily Activities

0 = No Effect

10 = Prevented from Daily Activities



LHWW Participants
Mean = 1.7

Participants were asked to rate the degree that diabetes prevented them from performing daily activities on a scale from 0 to 10. Participants responded with a mean level of 1.7.

Although 82% of participants were overweight or obese, the majority had no functional limitations (56%) at enrollment. Among those who did report difficulty with daily activities, walking (31%) and getting in and out of bed and chairs (29%) were most frequently reported.

Hemoglobin A1c Levels of Participants

Hemoglobin A1c (%)	Ave. blood glucose level (mg/dl)
4	70
5	100
6	135
7	170
8	205
9	240
10	275
11	310
12	345
13	380

Normal Level

LHWW Participants:
Mean = 7.8%
Range 5.1% to 12.4%

Diabetes and Work

Effect of Diabetes on Work Productivity

0 = No Effect

10 = Prevented from Working



LHWW Participants
Mean = 1.5

Hemoglobin A1c is a measure of one's average blood glucose level and provides an indication of a person's control over his/her diabetes.

A normal diabetic level is less than 7%. The mean A1c level of participants was 7.8% and ranged as high as 12.4%.

At baseline, the project assessed the participant's loss of work productivity due to diabetes. On a scale of 0 to 10, participants were asked to rate the degree that diabetes prevented them from working. The mean rating was 1.5 out of 10.

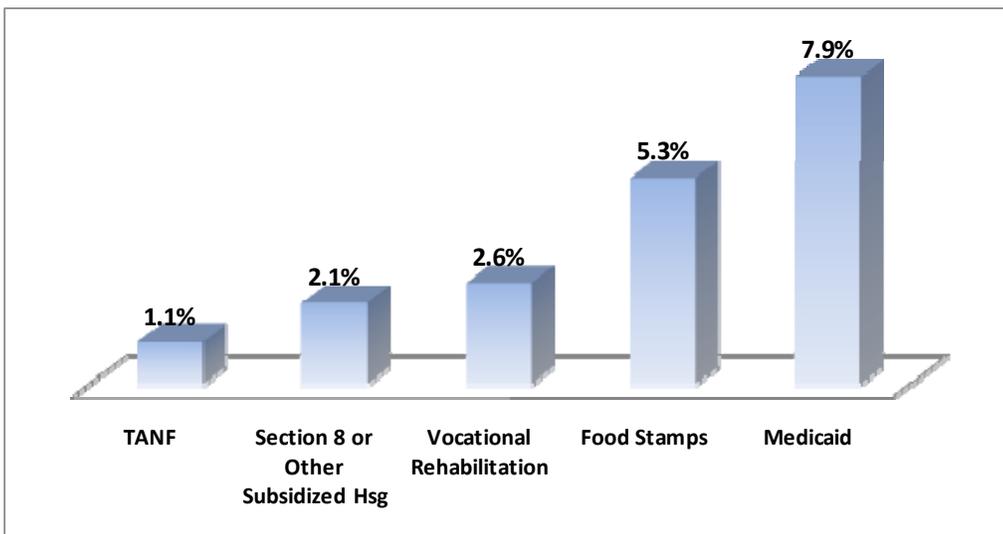
Working With Diabetes



Upon Enrollment:

- The majority of participants work in health or education industries (39%)
- 87% worked at least 20 hrs in the past week
- Mean hours of work missed in the past week because of diabetes = .66 Hours
- On average, diabetes related absences accounted for 3.6% of all hours worked in the past week.

Participation in Public Programs in Past Two Years



Summary and Next Steps:

This research brief was intended to provide stakeholders and other interested parties with a profile of Live Healthy... Work Well participants. Randomization will enable the project to link outcome differences between the two groups that develop over the study period to the intervention received by the LC group participants. The study is currently in the process of providing individuals in the LC group a year of access to the intervention components (Table 1) and collecting data from participants and treatment staff via surveys, focus groups, and health assessments. With longitudinal outcome data, the evaluation team will examine the impact of the life coaching treatment on employment, health, and the use of government assistance programs.

Visit us on the web at <http://www.livehealthyworkwell.org>

Fera, T, Bluml, B.M, Ellis W.M, (2009). Diabetes Ten City Challenge: Final economic and clinical results. *Journal of American Pharmacists Association*, 49:e52-e60.

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Participation in certain government programs is an outcome of interest for the Live Healthy... Work Well Project since the purpose of the intervention is to prevent disability and need for federal assistance.

At baseline, the project gauged past participation in these programs. Almost 12% participated in at least one public program in the past two years. Medicaid was the most frequently used program, followed by food stamps.



The mission of the CDS is to promote diverse abilities across the lifespan through interdisciplinary training, research, and service.

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