

Program Impact Report: Oregon's Living Well with Chronic Conditions

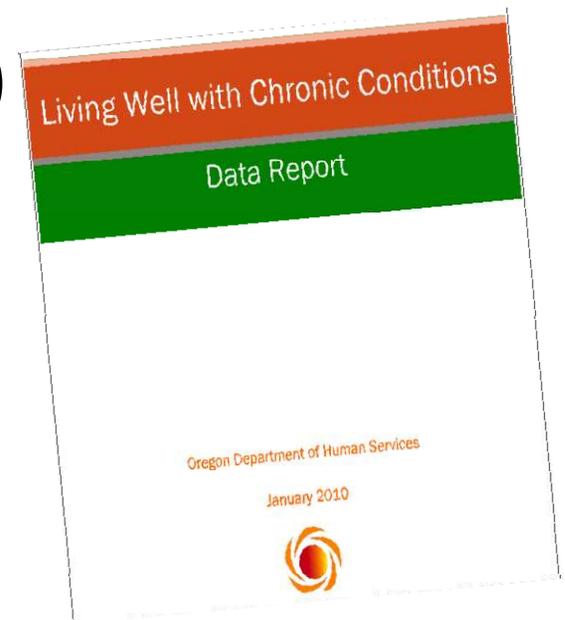
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Intent of the report

- Describe Living Well background and goals
- Summarize Living Well implementation to date
- Characterize Living Well participants and programs to date
- Estimate likely impact of Living Well on
 - health status and quality of life
 - healthcare utilization and costs
- Note limitations of current data and assumptions
- Recommendations

Data available

- Initial Living Well summary
- Data files on
 - Living Well participants: demographic, clinical, and participation variables (n=3,916)
 - Living Well programs conducted: location, cost, and attendance variables
- “Participant reunion” surveys (n=49)
- External estimates of effect
 - Quality of life
 - Utilization and cost



Methods: descriptive

- Participants
 - demographics from individual variables: age, race, gender, county of residence, insurance status
 - chronic diseases summed from 14 conditions: arthritis, asthma, cancer, high cholesterol, chronic pulmonary disease, chronic pain, depression, diabetes, fibromyalgia, heart disease, hypertension, HIV/AIDS, multiple sclerosis, and stroke
 - “reunion” summaries from survey: program information they found most useful, how information was currently used, increase in disease management confidence, level of confidence in managing conditions, communication with clinicians about Living Well, interest in leading future sessions
- Programs
 - descriptives from individual variables: program type, location, cost

Methods: impact estimates

- Challenge: no comprehensive statewide evaluation of Living Well
 - effect estimates needed from other sources
 - Identification of sources: Sound research methods, adherence to Stanford CDSMP program delivery standards, similarity of study population to Oregon Living Well participants, appropriate quantified outcomes
 - Quality of life: Richardson G et al. *J Epidemiol Community Health* 2008; 62: 361-7.
 - Utilization: Lorig KR et al. Effect of a self-management program on patients with chronic disease. *Eff Clin Pract* 2001; 4: 256-62.

TABLE 3

Changes at 1 Year in Health Status, Health Behaviors, Self-Efficacy, and Health Care Utilization

VARIABLE	BASELINE MEAN ± SD (n = 489)	12-MONTH CHANGE MEAN ± SD (n = 489)	P VALUE
Health status*			
Disability (0–3)	0.4 ± 0.4	0.0 ± 0.3	0.77
Health distress (0–5)	2.3 ± 1.3	–0.3 ± 1.2	≤ 0.001
Social/role activity limitation (0–4)	2.0 ± 1.1	–0.2 ± 1.0	≤ 0.001
Illness intrusiveness (1–7)			0.001
Fatigue (1–10)			0.002
Shortness of breath (1–10)			0.003
Pain (1–10)			0.03
Self-rated health (1–5)			0.20
Depression (0–3)	1.3 ± 0.6	–0.1 ± 0.5	≤ 0.001
Health behaviors			
Aerobic exercise (min/wk)	87 ± 94.7	13 ± 97.3	0.01
Range-of-motion exercise (min/wk)	35 ± 49.2	9 ± 55.8	≤ 0.001
Cognitive symptom management (0–3)†	1.3 ± 0.9	0.4 ± 0.9	≤ 0.001
Communication with physician (0–5)†	2.9 ± 1.2	0.2 ± 1.0	≤ 0.001
Self-efficacy (1–10)†	5.2 ± 2.2	0.5 ± 2.4	≤ 0.001
Health care utilization‡			
Physician visits (n, past 6 mo)	5.5 ± 6.0	–0.4 ± 7.2	0.19
Emergency department visits (n, past 6 mo)	0.4 ± 0.9	–0.1 ± 1.0	≤ 0.05
Hospitalizations (n, past 6 mo)	0.2 ± 0.6	–0.1 ± 0.7	0.14
Days in hospital (past 6 mo)	1.2 ± 5.9	–0.5 ± 7.3	0.12

Most studies do not provide useful utilization results; health status results were compelling and consistent but difficult to interpret

Lorig KR et al. *Eff Clin Pract* 2001; 4: 256-62.

*A lower score is better.

†A higher score is better.

‡Participants were asked to report utilization in the 6 months preceding the follow-up survey.

- Assumptions

- no effect beyond two years
- impact limited to completers (71%)
- costs assigned to all participants
- costs: \$375/participant based on statewide survey
- inpatient: \$ 2,336/day
 - U.S. Census Bureau, State and Metropolitan Area Data Book
- emergency department: \$1,140/visit
 - AHRQ, Medical Expenditure Panel Survey

- Effects

- 1 quality adjusted life week per year per participant
- utilization

	Baseline (6 months)	Annualized	12 month reduction	Annual post-CDSMP
ED visits	0.4	0.8	0.1	0.7
Hospitalizations	0.2	0.4	0.1	0.3
Hospital days	1.2	2.4	0.5	1.9

- Calculations

- person-years of exposure x effect estimate

- e.g. ED visits:

- reduction of 0.1 visit per person-year
 - $0.1 * 5566 \text{ person-years} = 556.6 = 557$ fewer ED visits
 - cost/ED visit = \$1,140
 - $\$1,140/\text{visit} * 557 \text{ visits} = \$634,980$

Year	Enrolled	Completers (enrolled * .71)	Person-years/ completer	Person- years
2005	53	38	2	76
2006	366	260	2	520
2007	816	579	2	1158
2008	1376	977	2	1954
2009	1308	929	2	1858
Total	3919			5566

Results: Workshops

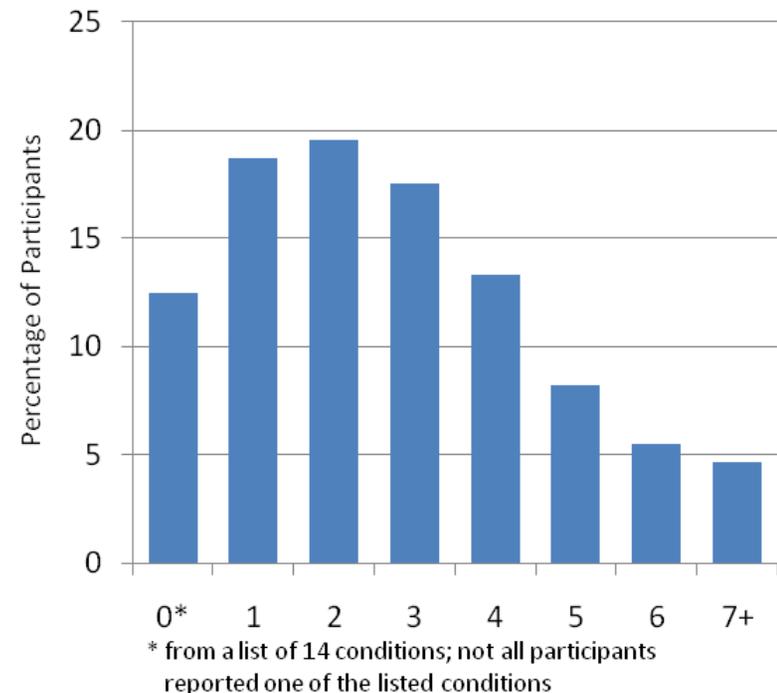
- 376 workshops 2005-09
 - Living Well: 334 (88.8%)
 - Tomando: 33 (8.8%)
 - Positive Self-Mgt: 9 (2.4%)
 - data collection began Nov 08
- Participation: mean 10.4 per workshop
- Geography
 - 27/36 counties
 - 10 conduct 10+ programs
 - 14 conduct 5- programs
- Participant cost
 - 68 workshops (18.1%) required participants to pay
 - average =\$25
 - 25% charged \$10-
 - 20% charged \$40+



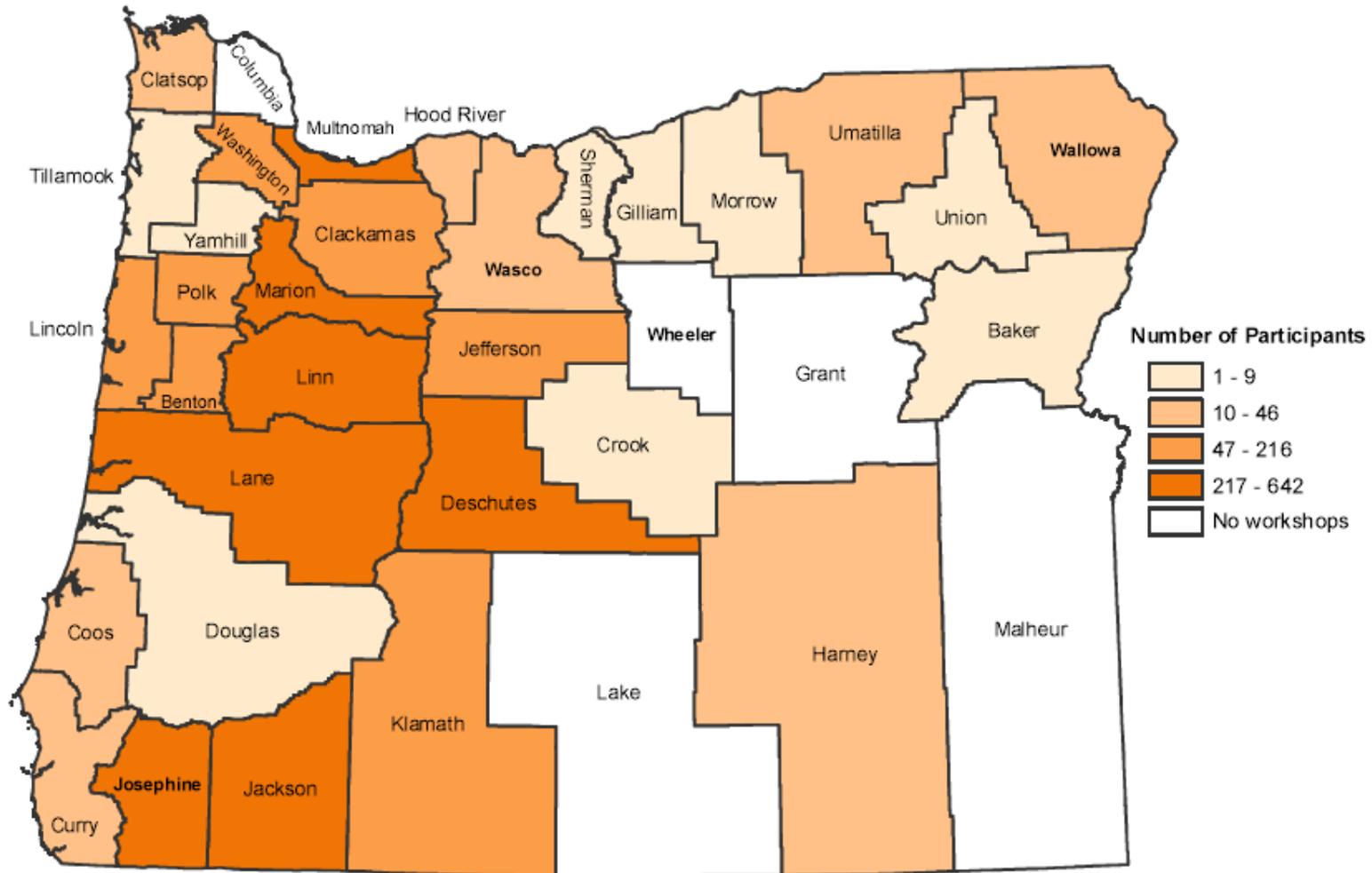
Results: Participants

- 3,919 participants 2005-09 (3,916 with data)
 - 3,571 chronic disease participants
 - 345 supporters
 - mean age=62 years
 - 76% women
 - Race/ethnicity
 - Hispanic: 437 (11.2%)
 - African American: 50 (1.3%)
 - Native American: 118 (3.0%)
 - chronic conditions
 - mean=2.7
 - 20% report 4+ conditions
 - “completion” rate: 71% of participants attended 4 or more sessions

Number of chronic diseases among Living Well participants



Participants: Geographic distribution



From Oregon Department of Human Services. Living Well with Chronic Conditions: Data Report. Portland: Department of Human Services, January 2010.

Results: Participant “reunions”

- 49 participants from southern Oregon
 - Most useful/helpful material: action planning (n=20, 41%)
 - Confidence managing condition: increased for 38 (78%), no increase for 2 (4%)
 - Communication with clinicians: 22 (45%) discussed Living Well with physician
- Note: Limited sample from one site
 - potential for selection bias inflating evaluation

“[My doctor] had heard about the program and recommended I attend”

- *Living Well Participant*

Results: Health, quality of life

- Previous studies show health, QoL improvements among CDSMP participants subjective health status
 - vitality and fatigue
 - role limitations
 - psychological well-being
 - physical activity
 - ability to manage chronic conditions
 - disease specific self-efficacy
 - clinician communication
- Challenge: difficult to translate findings into understandable metrics (e.g. change scores on scales)



Review of Findings on Chronic Disease Self-Management Program (CDSMP) Outcomes:
*Physical, Emotional & Health-Related Quality of Life,
Healthcare Utilization and Costs*

“[I] always wanted to do a running race and the [Living Well program] sparked my confidence. I’ve run 2 races. I will run the “Aloha 8 mile Run” even if I have to walk.”

- Living Well Participant

Results: Quality-adjusted life years

- QALY: measure of disease burden weighing quantity (i.e. length) of life by quality of life
 - one year of perfect health=1 QALY
 - two years of life at half the quality of life compared to perfect health=1 QALY
- CDSMP estimated to provide 1 week per year of “perfect health” (i.e. one “quality-adjusted life week”)
 - insufficient follow-up to see actual increases in longevity—no studies have demonstrated CDSMP effects on length of life

Results: QALYs and utilization

Estimated Impact of Living Well in Participants to Date		
Living Well impact on	Estimated impact	
Quality adjusted life years	107 years gained	
<i>Healthcare utilization</i>	<i>Utilization avoided</i>	<i>Costs avoided</i>
ED visits	557 ED visits	\$634,980
Hospitalizations	557 hospitalizations	
Hospital days	2,783 hospital days	\$6,501,088

Living Well is estimated to have saved \$1,446 per participant.

Estimates made based on most appropriate results to date—there is substantial variation around utilization effect sizes in previous studies, common to such research

Hypothetical Living Well impact

What if 5% of Oregonians with chronic disease (78,300) were enrolled in Living Well?

Potential Impact of Enrolling 5% of Eligible Oregonians		
Living Well impact on	Estimated impact	
QALYs	2,138 years gained	
<i>Healthcare utilization</i>	<i>Utilization avoided</i>	<i>Costs avoided</i>
ED visits	11,119 ED visits	\$12,675,660
Hospitalizations	11,119 hospitalizations	
Hospital days	55,593 hospital days	\$129,865,248

Substantial program and logistic challenges of “ramping up”

Results: Living Well summary

- Effectively implemented across Oregon
 - good geographic, demographic representation
 - well received : evaluations, participation rates
- Highly likely to have improved quality of life, health status, physical and psychological well-being, disease-specific coping
- Likely to have improved healthcare utilization
 - reduction in avoidable acute care episodes
 - less confidence in precision of utilization estimates

Limitations

- No comprehensive Oregon outcome data
 - requires extrapolation of findings from other settings
- Substantial variation around findings used to estimate Living Well utilization impact
- Relatively little external validation of CDSMP for minority/underserved populations
- Validation of CDSMP conducted in “real world” settings, but experience may vary across settings

“In the future, findings combining results from several studies in community settings may provide better estimates of what can be expected in practice...”

Recommendations



- Expand program reach
 - specific approaches to get hard-to-reach and “hardly reached” groups
 - expand options for delivery (e.g. online)
- Sustainability and integration
 - Develop business model
 - Living Well as integral to disease control
 - part of medical home, chronic care model
 - program benefit and costs linked
 - Conduct comprehensive evaluation of Living Well

“[R]esults of thorough evaluation of Oregon’s Living Well outcomes would be the most informative for statewide policy decisions.

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