

Centers for Disease Control and Prevention



Association between Lifestyle Coach Training and Retaining Participants in CDC-Recognized Lifestyle Change Programs for the Prevention of Type 2 Diabetes: A Mixed-Methods Analysis

Kunthea Nhim, DrPH, MPH, **Michelle Papali'i PhD, MS**,
Susan Van Aacken, MSPP, Stephanie Gruss, PhD, MSW

CDC Division of Diabetes Translation, Program Implementation Branch
 National Center for Chronic Disease Prevention and Health Promotion
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Learning Objectives

- Describe the CDC's National Diabetes Prevention Program (National DPP)
- Explain the impact of providing additional training for lifestyle coaches on participant outcomes within CDC-recognized organizations
- Discuss strategies to provide additional training for lifestyle coaches within CDC-recognized organizations

Outline

- I. Overview of the National DPP
- II. Study Objectives
- III. Design and Methods
- IV. Results
- V. Conclusions and Discussion

Overview of the National Diabetes Prevention Program

An Evidence-Based Program

The National DPP is based on the Diabetes Prevention Program (DPP) research study and several translation studies that followed.

Initial DPP Study Design & Findings

- 3,243 adults with prediabetes were randomly divided into 3 groups and monitored for 1 year:
 - Lifestyle Change**: Received intensive training & individual counseling on diet, physical activity, and behavior modification
 - Metformin**
 - Placebo**

Immediate Efficacy of Lifestyle Change Intervention:

- Participants in the lifestyle change group reduced their risk of developing diabetes by 58%, compared to a 31% reduction for the metformin group¹
- Only 5% of the lifestyle change group developed diabetes, compared to 11% of the placebo group¹
- Participants in the lifestyle change group aged 60 and older reduced their risk by 71%¹

Lasting Impact of Lifestyle Change Intervention:

- 10 years later, those in the lifestyle change group were still 33% less likely to develop diabetes²

Elements of the Lifestyle Change Program

Program Start

1-6 Months: Weekly Sessions (16 minimum)

7-12 Months: Monthly Sessions (6 minimum)

Program End

PROGRAM GOAL: Help participants make lasting behavior changes

- eating healthier
- increasing physical activity
- improving problem-solving skills

PARTICIPANT GOAL: Lose 5 – 7% of body weight

PARTICIPANT GOAL: Maintain weight loss

CDC's National Diabetes Prevention Program

1 The core of the National DPP is a CDC-recognized, year-long lifestyle change program that offers participants a full year of programming and consists of:

- A TRAINED LIFESTYLE COACH
- CDC-APPROVED CURRICULUM
- GROUP SUPPORT OVER THE COURSE OF A YEAR

2 Successful implementation happens because of a variety of public-private partnerships including: community organizations, private insurers, employers, health care organizations, faith-based organizations, and government agencies. Together organizations work to:

- Build a workforce that can implement the lifestyle change program effectively
- Ensure quality and standardized reporting
- Deliver the lifestyle change program through organizations nationwide
- Increase referrals to and participation in the lifestyle change program

http://www.cdc.gov/diabetes/prevention/pdf/dpp_infographic.pdf

Evaluation

A National Effort to Prevent Type 2 Diabetes: Participant-Level Evaluation of CDC's National DPP³

Overall Findings:

- Participants attended a median of 14 sessions over an average 172 days in the program (median 134 days)
- Participants reported a weekly average of 152 minutes of physical activity (median 128 minutes) with 41.8% meeting the physical activity goal of 150 minutes per week

Key Finding Relevant to this Analysis:

Duration and Intensity:

- For every additional session attended, participants lost 0.3% of body weight (p < 0.0001)
- Median weight loss 6.0% among participants attending at least 17 sessions and remaining in the program for 7-12 months (i.e., retention) compared with 1.9% among those attending 2-16 sessions and remaining in the program 1-6 months

CDC Diabetes Prevention Recognition Program (DPRP) Quality Component

To achieve full CDC recognition, organizations meet key DPRP requirements for 24 consecutive months

Pending Recognition (Months 1 – 24) → **Full Recognition (Months 24+)**

Achieve "pending-recognition" status when satisfy Requirements 1 – 4:

- Application Submission
- DPRP-Approved Curriculum
- Program Duration (12 months)
- Program Intensity

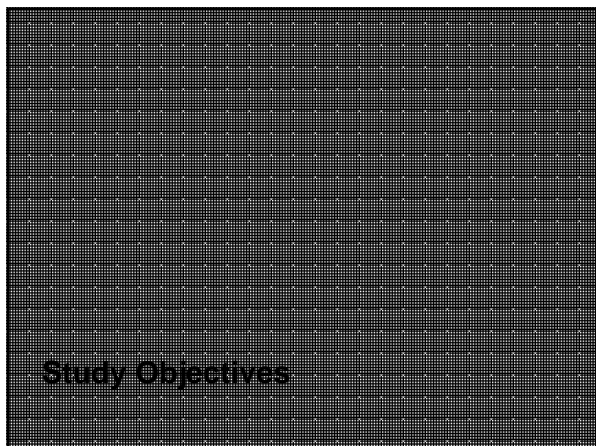
Achieve "full-recognition" status when satisfy Requirements 5 – 11 for 24 months:

- Months 1 – 6 Session Attendance
- Body Weight Documentation
- Physical Activity Documentation
- Weight Loss Achieved at Month 6
- Months 7 – 12 Session Attendance
- Weight Loss Achieved at Month 12
- Participant Eligibility Requirement

<http://www.cdc.gov/diabetes/prevention/pdf/dpp-standards.pdf>


Literature Review - Lifestyle Coaches

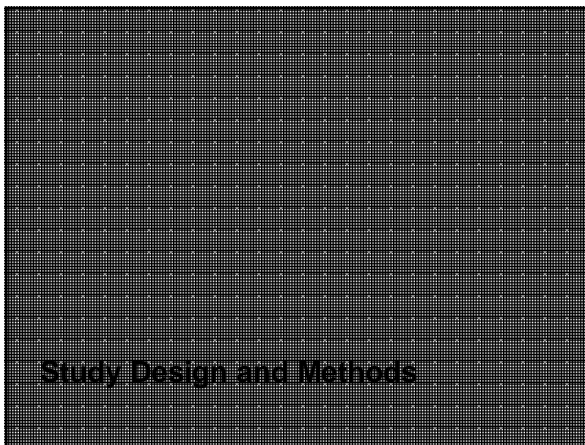
Study	Key Findings
Meta-analysis: effectiveness of real-world lifestyle interventions based on Diabetes Prevention Program	Health professionals and lay community workers can effectively deliver the program ^{4,5}
Special Diabetes Program for Indians Diabetes Prevention Program (SDPI-DP)	<ul style="list-style-type: none"> Sites with older, experienced staff were more successful in retaining participants⁶ Sites with fewer professionally prepared staff were less successful in reducing participant BMI⁷



Study Objectives

- Describe characteristics of participants who enrolled in CDC-recognized lifestyle change programs funded through the CDC's cooperative agreement DP12-1212
- Assess the relationship between requiring additional training for the lifestyle coaches and
 1. the number of sessions participants attended during months 7-12 (i.e., retention)
 2. the number of days from the first to the last session participants attended over the year-long lifestyle change program

CDC NATIONAL ORGANIZATION GRANTEEES 2012- 2015	
CDC funds multi- state networks with one or more sites to: 1) Increase # of CDC-recognized organizations offering lifestyle change programs 2) Expand coverage through relationships with employers and insurers that lead to benefit coverage and reimbursement for delivery organizations	
	AL, CO, FL, IA, KY, LA, MS, MI, MT, OH, OK, PA, SC, TN, WA, WV
	CA, CO, FL, NM, NY, WI
	CA, IN, MD, MI, TN
	NY, PA
	CO, IA, TN, WA
	AK, CA, CO, IL, LA, MA, MI, MN, NE, NJ, OH, PA, SC, TN, WA, WI



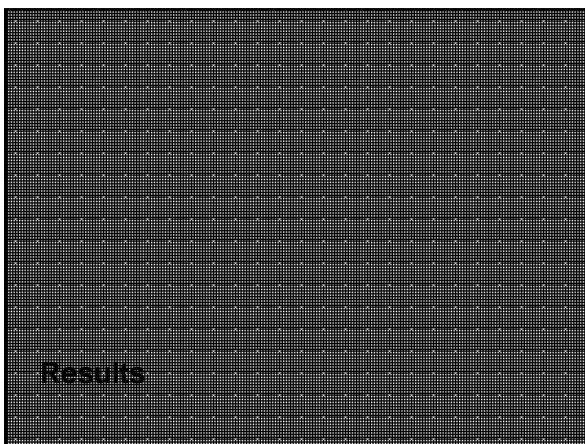
Study Design and Statistical Methods

Study Design:

- *Sample:*
 - 8,235 adult participants with prediabetes
 - attended 4+ sessions over year-long lifestyle change program
 - 107 sites
 - October 2012 - September 2015
- *Design:* Mixed-methods were used to triangulate results from the quantitative analyses of participant-, site-, and grantee-level outcomes with qualitative analyses of the grantees' progress reports

Statistical Methods:

- Multilevel linear regression model with random intercept
 - Dependent variables: participant attendance M 7-12 & duration
 - Independent variables: participant-level demographics, and site-level requirements for lifestyle coach training
- Qualitative data assessed for common themes



Descriptive and Bivariate Analysis

Analysis based on eligible adults who completed the year-long program and attended 4 or more sessions (n=8,235).

Descriptive and Bivariate Analysis

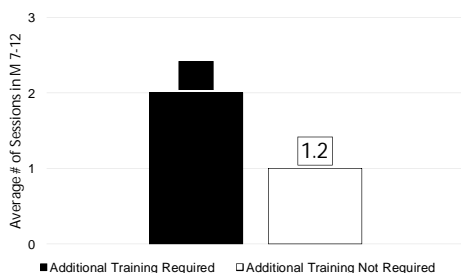
Number of eligible adults who completed the year-long program and attended ≥4 sessions: 8,235

	Additional training required (n=49)	Additional training not required (n=58)	P-value
Age in years			<0.0001*
18-44	19.1%	16.8%	
45-64	56.9%	41.8%	
65+	24.0%	41.4%	
Gender			0.0001*
Male	17.8%	21.2%	
Female	82.2%	78.8%	
Race/ethnicity			<0.0001*
Hispanic	7.9%	14.1%	
Non-Hispanic Black	12.5%	13.6%	
Other ²	31.3%	40.0%	
Non-Hispanic White	48.3%	32.3%	
BMI in kg/m²			<0.0001*
BMI < 25	2.4%	2.6%	
BMI 25-30	23.6%	29.4%	
BMI ≥30	74.0%	68.0%	
Prediabetes eligibility			0.430
Risk test only	39.3%	40.1%	
Blood test or GDM	60.7%	59.9%	

*p < 0.05 using Pearson Chi-Square Test or Fisher's Exact

Descriptive and Bivariate Analysis

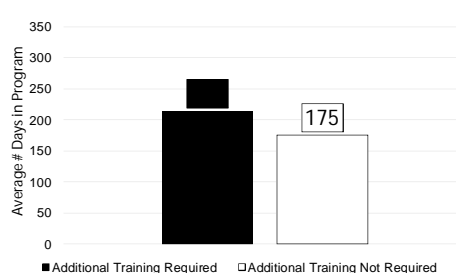
Sites requiring additional training for lifestyle coaches have:



*p < 0.0001 using two-sample t-test

Descriptive and Bivariate Analysis

Sites requiring additional training for lifestyle coaches have:



*p < 0.0001 using two-sample t-test

Multilevel Analysis

Adjusted for age, sex, race/ethnicity, BMI, prediabetes determination

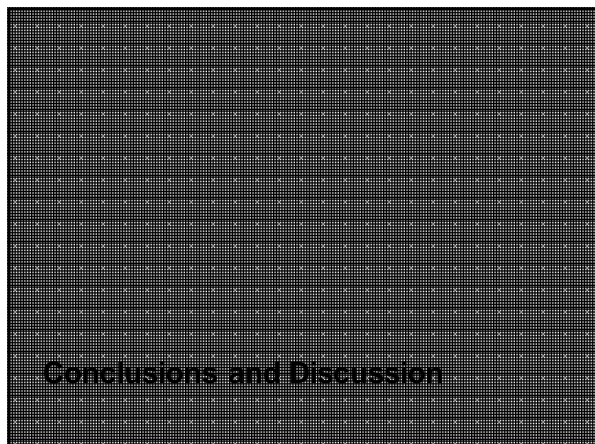
Sites requiring additional training for lifestyle coaches:

- Higher average participant session attendance during months 7-12: average increase of 0.7 sessions
- Higher average participant duration in the program: 37 days longer

Qualitative Analysis

Common themes related to additional training provided for lifestyle coaches:

1. **Ongoing development and capacity building**
 - Motivational interviewing
 - Team building/community building in small groups
 - Data collection, management, and interpretation
 - Cultural competency
2. **Mentorship programs – pairing more experienced lifestyle coaches or master trainers with new lifestyle coaches**
 - Share experiences and lessons learned
 - Observe class facilitation and identify areas for improvement
 - Support to address common challenges in meeting DPRP Standards requirements



Discussion and Recommendations

- Requiring additional training was effective for retaining participants
- Providing lifestyle coaches with a sufficient amount of training and ongoing support may help build skills to keep participants engaged and improve program quality
- For organizations with a multisite delivery network, a lifestyle coach mentoring program providing opportunities for coaches to share lessons learned and address common challenges may help retain participants in the program longer

Study Limitations:

- Observational, retrospective study
- Limited to the DP12-1212 grantees and their affiliate sites and cannot be generalized to other CDC-recognized organizations
- Type and/or quality of training not available

Questions and Discussion

Division of Diabetes Translation
National Center for Chronic Disease Prevention and Health Promotion
Centers for Disease Control and Prevention
www.cdc.gov/diabetes/prevention

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1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov

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For more information, please contact:
Kunthea Nhim, KNhim@cdc.gov

Presenter contacts:
Susan Van Aacken, SVanaacken@cdc.gov
Michelle Papali'i, MPapali'i@cdc.gov



References

1. U.S. Department of Health and Human Services. Diabetes Prevention Program (DPP) Fact Sheet. Available at: https://www.niddk.nih.gov/about-niddk/research-areas/diabetes/diabetes-prevention-program-dpp/Documents/DPP_508.pdf.
2. Diabetes Prevention Program Research Group. (2009). 10-Year Follow-Up of Diabetes Incidence and Weight Loss in the Diabetes Prevention Program Outcomes Study. *Lancet*, 374(9702):1677-1686.
3. Ely, E.K., et. al. (2017). A National Effort to Prevent Type 2 Diabetes: Participant-Level Evaluation of CDC's National Diabetes Prevention Program. *Diabetes Care*, dc162099. <https://doi.org/10.2337/dc16-2099>
4. Ali, M.K., Echouffo-Tcheugui, J., & Williamson, D.F. (2012). How Effective Were Lifestyle Interventions in Real-World Settings that Were Modeled on the Diabetes Prevention Program? *Health Affairs*, 31(1):67-75.
5. Albright, A.L. & Gregg, E.W. (2013). Preventing Type 2 Diabetes in Communities across the U.S.: The National Diabetes Prevention Program. *American Journal of Preventive Medicine*, 44(4 Suppl 4):S346-S351.
6. Jiang, L., et al. (2015). Participant and Site Characteristics Related to Participant Retention in a Diabetes Prevention Translational Project. *Prevention Science*, 16(1): 41-52.
7. Jiang, L., et al. (2015). Socioeconomic Disparities in Weight and Behavioral Outcomes Among American Indian and Alaska Native Participants of a Translational Lifestyle Intervention Project. *Diabetes Care*, 38(11):2090-2099.