

AZ Community Grand Rounds
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Diabetes Prevention Program: Evidence, Translation, and Opportunities for Referral

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REDUCTION IN THE INCIDENCE OF TYPE 2 DIABETES WITH LIFESTYLE INTERVENTION OR METFORMIN

DIABETES PREVENTION PROGRAM RESEARCH GROUP*

Study population (n=3,234)

adults >25y, clinical prediabetes, BMI >24 (>22 in Asian Americans)
Standard lifestyle recommendations, then randomized:

Intensive lifestyle intervention

n=1,079

Metformin (850 mg BID)

n=1,073

Placebo (BID)

n=1,082



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Intensive Lifestyle Intervention (ILS)

Goals

- Achieve and maintain a weight reduction of at least 7% of initial body weight through healthy eating and physical activity
- Achieve and maintain a level of physical activity of at least 150 min/week through moderate intensity activity (mainly brisk walking)

Study subjects were also assigned fat gram goals (<25% total cal) and sometimes calorie goals

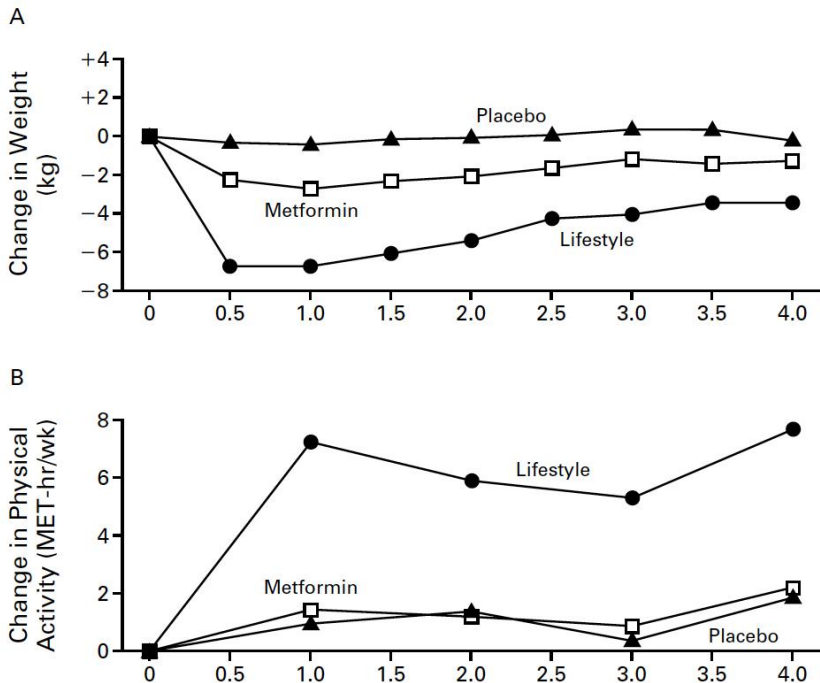


Intensive Lifestyle Intervention (ILS)

Key Aspects

- Individual case managers or “lifestyle coaches” (registered dietitians)
- Intensive, ongoing intervention
 - 16 sessions over 24 weeks, 1:1 with the lifestyle coach for individualized support
 - Supervised exercise sessions offered at least 2x per week
- Post-core phase
 - sessions at least once every 2 months
 - phone calls at least once between sessions
- Incentives (exercise videos, personal trainer, t-shirts, cooking classes, etc)

Changes in Body Weight (Panel A) and Leisure Physical Activity (Panel B)

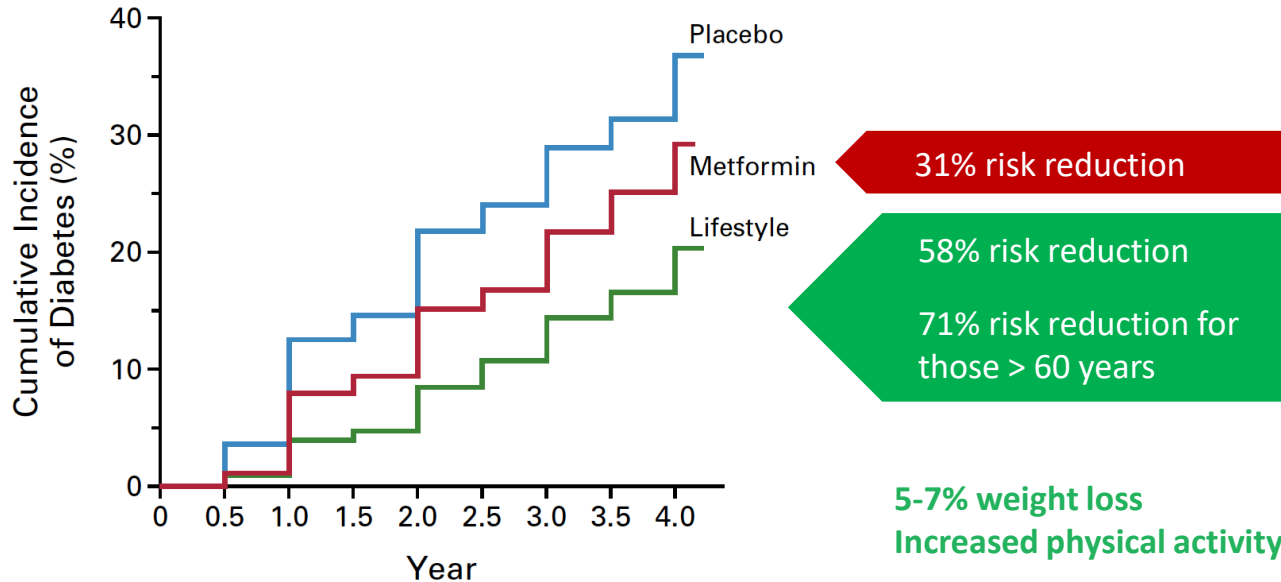


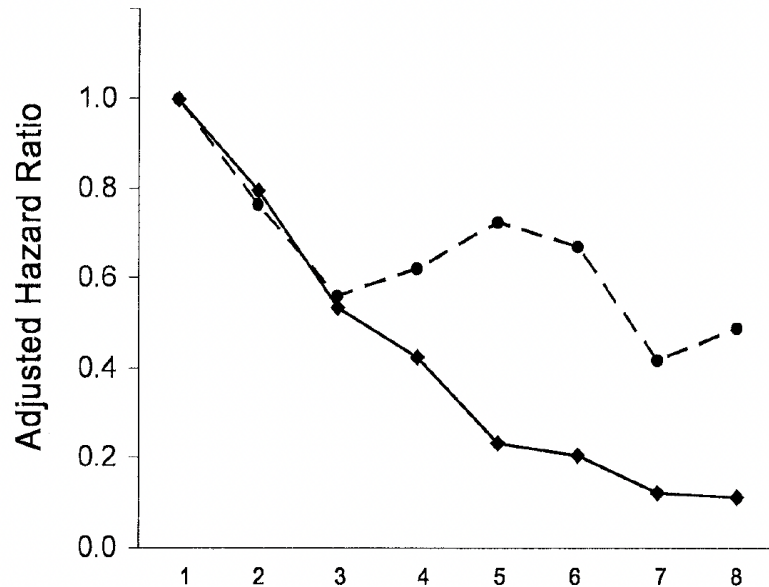
7% weight loss goal:
achieved by 49% of
participants at 6-months

150 min/wk activity goal:
achieved by 74% of
participants at 6-months

DIABETES PREVENTION PROGRAM: THE EVIDENCE

Cumulative Incidence of Diabetes According to Study Group





At weight goal	No	No	No	No	Yes	Yes	Yes	Yes
At exercise goal	No	No	Yes	Yes	No	No	Yes	Yes
At fat goal	No	Yes	No	Yes	No	Yes	No	Yes
Mean weight loss (Kg)	-1.5	-2.5	-2.2	-3.5	-11.5	-11.5	-11.8	-13.4
Sample size	134	32	226	103	51	34	208	187

Figure 2—HRs for diabetes onset over 3.2 years of follow-up in DPP ILS subgroups defined by meeting intervention goals at 1 year compared with those meeting none of the goals (group 1). The solid line is adjusted for baseline covariates used in Table 2 (other than IGR and insulin); the dashed line is also adjusted for weight change over time. ♦, adjusted HRs; ●, adjusted HRs plus weight change.

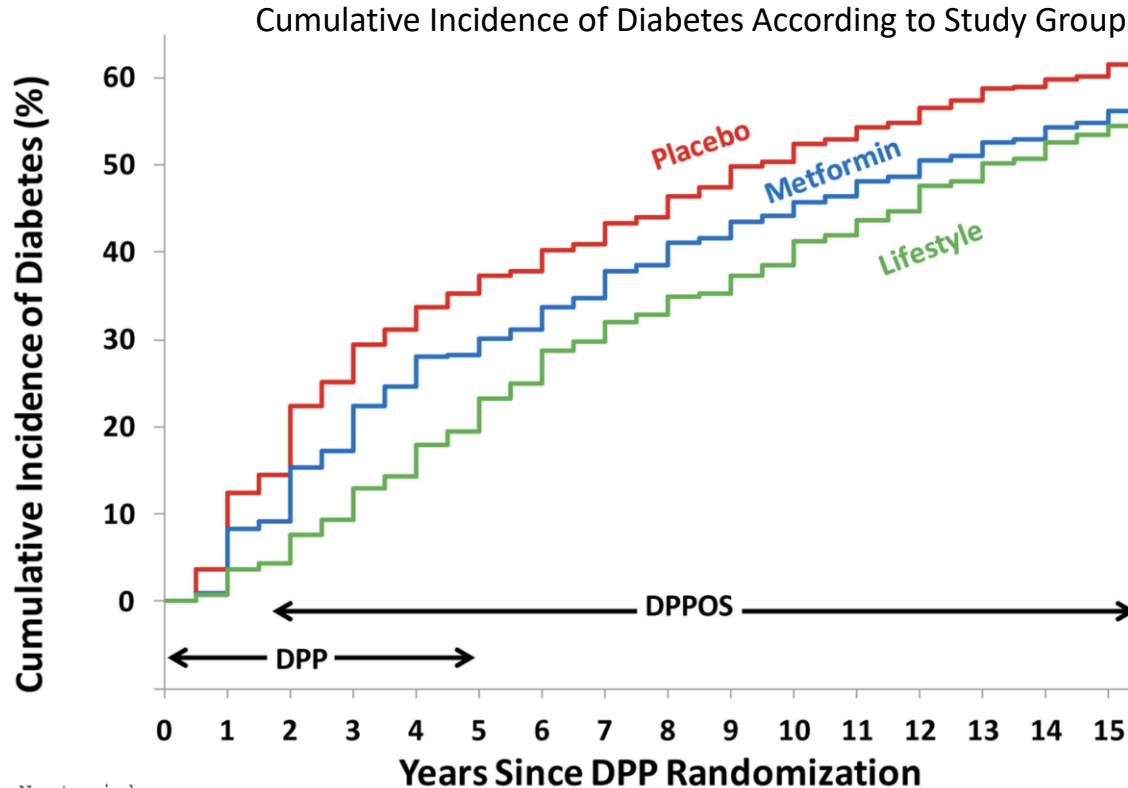
Hamman et al; Diabetes Care, 2006

Among ILS participants:

- Meeting physical activity but not weight goal still reduced risk
- Meeting weight, PA, and dietary fat goals (all three) reduced risk the most
- Weight loss was dominant determinant of reduced risk



DIABETES PREVENTION PROGRAM OUTCOMES STUDY (DPPOS)



18% risk reduction

27% risk reduction

No significant difference between Metformin and Lifestyle groups

*All groups even placebo were offered modified ILS

Diabetes Prevention Program Research Group.
Lancet Diabetes Endocrinol 2015



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Risk Reduction Persists

	After ~3y	After 10 y	After 15 y	After 20 y
ILS vs placebo	58%	34%	27%	25%
MET vs placebo	31%	18%	18%	18%

ILS and MET:

Prevention effects remain 22 years after the start of the study

In those who didn't develop T2D, lower risk of micro- and macrovascular disease



National Diabetes Prevention Program (DPP) Lifestyle Change Program



CDC-Approved Curriculum

Evidence and practice-based material focused on healthy lifestyle choices



Group Support

Emphasis on group support and group problem-solving over the course of the year.



Lifestyle Coach

Trained individual that serves as group facilitator over the course of the year



Accreditation & Reimbursement

CDC Recognition process
Medicare, Medicaid (certain states),
and some private insurance plans.



Lifestyle Change Program - *PreventT2* 2021

Sessions 1-8 Foundation

Focused on the fundamental skills required for DPP goal achievement

Sessions 9-16

Focused on the psychological, social and motivational elements of the lifestyle change process.

No longer has a dietary fat goal

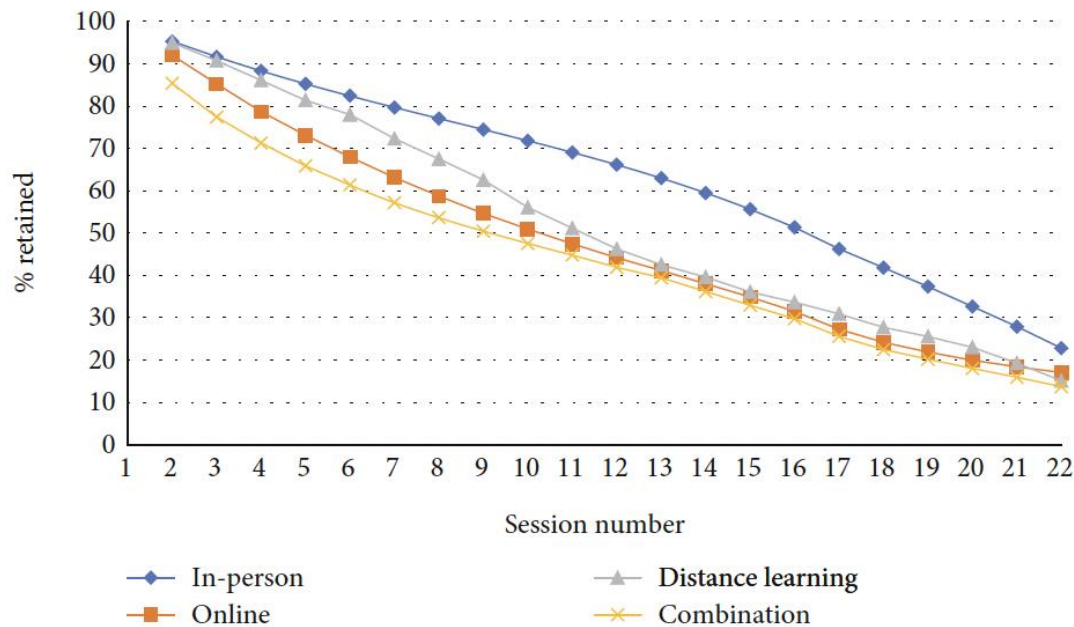


1. Introduction to the program
2. Get active to prevent T2
3. Track your activity
4. Eat well to prevent T2
5. Track your food
6. Get more active
7. Burn more calories than you take in
8. Shop and cook to prevent T2
9. Manage stress
10. Find time for fitness
11. Cope with triggers
12. Keep your heart healthy
13. Take charge of your thoughts
14. Get support
15. Eat well away from home
16. Stay motivated to prevent T2
17. When weight loss stalls
18. Take a fitness break
19. Stay active to prevent T2
20. Stay active away from home
21. More about T2
22. More about carbs
23. Have healthy food you enjoy
24. Get enough sleep
25. Get back on track
26. Prevent T2 for life



National DPP - Outcomes

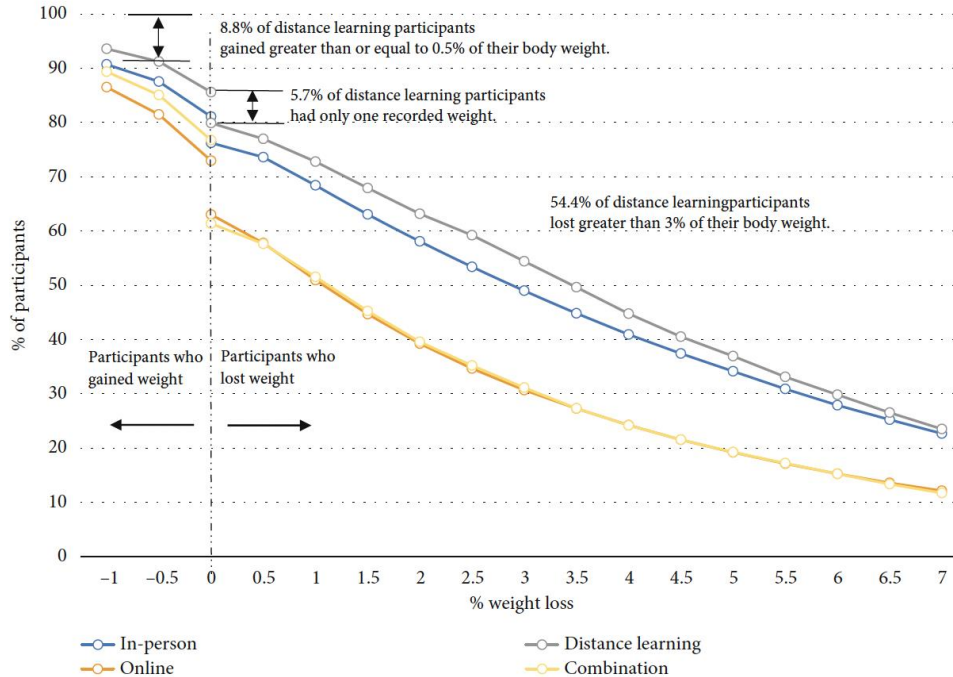
Figure 1: Percent of participants in National DPP lifestyle change program retained at each session, by organization delivery mode



Retention through session 22

- highest among **in-person** participants (22.8%)
- lowest among **combination** participants (13.7%)

Weight loss outcomes – National DPP by delivery mode



Avg weight loss:

IP – 4.4%

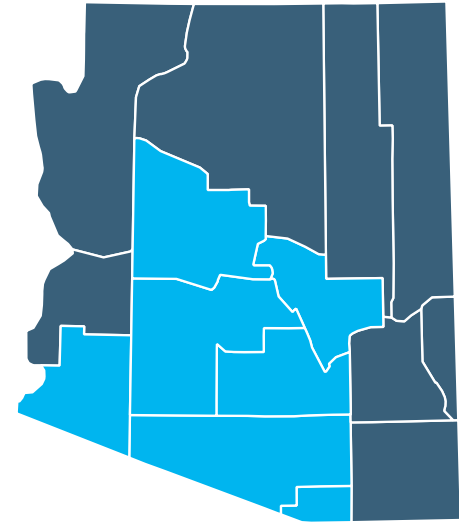
Distance – 4.7%

Online – 2.6%

Comb – 2.9%

University of Arizona Diabetes Prevention Program

- The University of Arizona Cooperative Extension DPP is offered across the state
 - In person (selected counties)
 - Remotely over Zoom
- Classes are offered in English or Spanish (depending on location/educator)
- **Free of charge to eligible participants!** (No insurance billing, no physician's referral required)



■ Counties where UA CE DPP educators are physically located



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THE UNIVERSITY OF ARIZONA DIABETES PREVENTION PROGRAM

Over

500

participants
since 2018



Arizonans from
**ALL 15
COUNTIES**
have joined our
program



FULL-PLUS
Recognition
from CDC
in person &
distance

SEEING RESULTS



Participants lose an average of

10.5 lbs (5.3%)



Hemoglobin A1c lowers
by an average of

0.2%

60.4% of participants complete the yearlong program



SAVING MONEY ON HEALTHCARE



**\$6.8
billion**

combined yearly direct
and indirect costs of
diabetes in Arizona

For every \$1
invested into our program

OVER \$5 were saved
in direct and indirect medical costs





NATIONAL DIABETES PREVENTION PROGRAM

IMPACTING SPOUSES AND CHILDREN

37% of participants reported
their household members
also lost weight

91% of participants reported
their household members
made healthy changes too

IMPROVING HEALTH BEYOND BLOOD SUGAR

Our DPP participants often report:

lower blood pressure

lower cholesterol

decreased joint pain

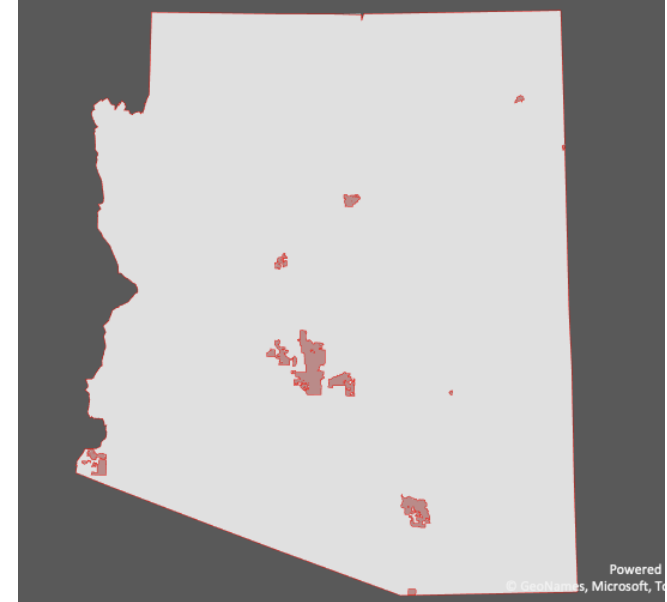
better sleep

better mood



Refer your patients to a DPP

Chinle Comprehensive Health Care Facility	Chinle	In-person
North Country HealthCare	Flagstaff	Distance Learning (live)
Red Mountain Nutrition	Mesa	In-Person with a Distance Learning Component
Mariposa Community Health Center	Nogales	In-person
San Carlos Apache Healthcare	Peridot	In-person
Arizona F.A.C.T.S. of Life	Phoenix	Combination with an Online Component
Arizona F.A.C.T.S. of Life	Phoenix	In-person
Holistic Healthcare Partners	Phoenix	Distance Learning (live)
Phoenix Indian Medical Center - Diabetes Prevention Program	Phoenix	In-person
St. Vincent de Paul Family Wellness Program	Phoenix	In-person
Unlimited Potential	Phoenix	In-Person with a Distance Learning Component
Valley of the Sun Young Men's Christian Association	Phoenix	In-person
Yavapai County Community Health Services	Prescott	In-person
J.E.M. Nutrition	San Tan Vly	In-Person with a Distance Learning Component
Campešinos Sin Fronteras	Somerton	In-person
San Luis Walk-In Clinic, Inc.	Somerton	In-person
Rightway Pharmacy LLC	Sun City	In-person
Sun Health Center for Health & Wellbeing	Surprise	In-Person with a Distance Learning Component
Banner - University Medical Center South	Tucson	In-person
Desert Life Pharmacy LLC	Tucson	In-person
P3 Health Partners	Tucson	In-person
Tucson Medical Center Pre-Diabetes Program	Tucson	In-person
University of Arizona Cooperative Extension	Tucson	Distance Learning (live)
University of Arizona Cooperative Extension	Tucson	In-Person with a Distance Learning Component
Navajo Community Health Representative/Outreach Program	Window Rock	In-Person with a Distance Learning Component
Yuma County Public Health Services District	Yuma	In-person
Yuma's Health Matters Foundation, Inc.	Yuma	Combination with an Online Component



<https://dprp.cdc.gov/registry>



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CommunityCares – AHCCCS Referral System

Arizona's Statewide Closed-Loop Referral System

AHCCCS has partnered with Contexture and Unite Us to provide CommunityCares, Arizona's Statewide Closed-Loop Referral System.



Look for Diabetes Prevention Programs on [here](#) and refer your patients with prediabetes or at high risk for type 2 diabetes.





NATIONAL DIABETES
PREVENTION PROGRAM

[Home](#) [Program Info](#) [Find a Class](#) [Resources](#) [Testimonials](#) [Contact](#)

www.preventdiabetesAZ.org

University of Arizona Cooperative Extension

Diabetes Prevention Program

[Learn About the Program →](#)

Thank you!

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