

Special Diabetes Program for Indians: Demonstration Projects Successful Translations of Diabetes Science

The *Special Diabetes Program for Indians (SDPI) Demonstration Projects* showed that research-based diabetes prevention and treatment interventions could be translated successfully and achieve their intended results in American Indian and Alaska Native (AI/AN) communities.

Overview of the Demonstration Projects

- The SDPI Diabetes Prevention Program (SDPI DP) focused on reducing risk of diabetes in high risk individuals.
- The SDPI Healthy Heart Project (SDPI HH) aimed to reduce risk of cardiovascular disease in individuals with diabetes.
- Funding was \$27.4 million per year from 2004 through 2009.
- 66 grant programs were funded in IHS, tribal, and urban community-based programs and health care settings—located in all 12 IHS Areas and 19 states serving 110 diverse tribal communities in large/small and rural/urban settings.

SDPI Diabetes Prevention Program (SDPI DP)

- SDPI DP adapted the effective lifestyle intervention used in the National Institutes of Health-led Diabetes Prevention Program (NIH DPP) clinical trial and created the Lifestyle Balance curriculum.
- 36 SDPI DP grant programs implemented an intensive lifestyle program utilizing the Lifestyle Balance curriculum.
- The SDPI DP lifestyle intervention consisted of 16 Lifestyle Balance group classes followed by individual coaching sessions on healthy eating, physical activity, and weight loss.
- 2,373 participants at high risk for diabetes completed the follow-up assessment conducted within one month after finishing their last group class.

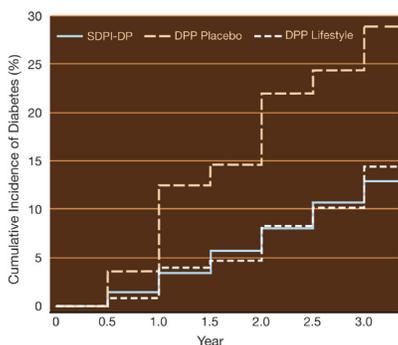
SDPI DP Results

Following the lifestyle intervention, SDPI DP participants achieved significant improvements in key diabetes risk factors at the follow-up assessment:

- Participants lost an average of 9 pounds—the same average weight loss achieved by the American Indian subgroup of NIH DPP lifestyle intervention participants.
- More participants ate healthy foods once or more each week (86% versus 73% at baseline).
- More participants ate unhealthy foods less than once each week (82% versus 54% at baseline).
- More participants performed 150 minutes of exercise a week (57% versus 23% at baseline).

As in the NIH DPP lifestyle intervention group, the SDPI DP participants achieved improvements in diabetes risk factors and a similar low incidence of diabetes (Figure 1).

Figure 1. Cumulative Incidence of Diabetes in SDPI DP and NIH DPP



Results:

- The diabetes incidence rate for NIH DPP lifestyle intervention participants was 4.8% per year (58% fewer cases of diabetes compared with the 11% incidence rate for the NIH DPP placebo group participants).
- The diabetes incidence rate for SDPI DP participants was 4.0% per year—similar to the incidence rate for the NIH DPP lifestyle group.

Note: Results of NIH DPP and SDPI DP are superimposed in the graph for comparison, but participant characteristics and study design were not identical.

Source: 1) Evaluation of the SDPI Diabetes Prevention Program

2) Knowler WC, Barrett-Connor E, Fowler SE, Hamman RF, Lachin JM, Walker EA, et al., Diabetes Prevention Program Research Group. Reduction in the incidence of type 2 diabetes with lifestyle intervention or metformin. *New England Journal of Medicine*. 2002 Feb 7;346(6):393-403.



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SDPI Healthy Heart Project (SDPI HH)

- Controlling CVD risk factors, particularly blood pressure, LDL cholesterol, and smoking, can substantially reduce the occurrence of CVD, the leading cause of death in AI/AN people, especially those with diabetes.
- 30 SDPI HH grant programs implemented an intensive case management intervention with people with diabetes, including medical care and patient education designed to change CVD risk behaviors and improve clinical measures such as blood pressure and lipids.
- A total of 3,373 participants completed the baseline assessment.

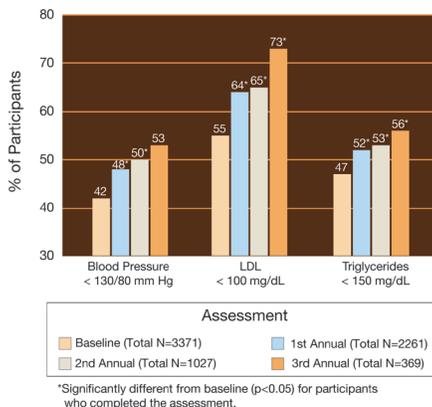
SDPI HH Results

Following the SDPI HH intervention, participants made improvements in key cardiovascular risk reduction behaviors from baseline to the third annual assessment.

- More participants were non-smokers (89% versus 79% at baseline).
- More participants ate healthy foods (86% versus 78% at baseline) one per week and more participants ate unhealthy foods less than once per week (81% versus 68% at baseline).
- More participants performed 150 minutes of exercise each week (40% versus 27%).

Along with changes in lifestyle behaviors, SDPI HH participants showed significant improvements in achieving clinical CVD risk factor targets (Figure 2).

Figure 2. SDPI HH Achievement of CVD Risk Factor Targets



Results:

At the third annual assessments:

- 53% met the target goal for blood pressure (versus 42% at baseline).
- 73% reached the LDL cholesterol target (versus 55% at baseline).
- 56% reached the triglyceride target (a risk factor target associated with CVD) compared with 47% at baseline.

Source: Evaluation of the SDPI Healthy Heart Project

SDPI HH succeeded in implementing intensive case management to reduce cardiovascular risk factors in AI/AN people with diabetes and, in turn, participants reduced their 10-year risk of developing coronary heart disease.

Just as Congress envisioned, the SDPI Demonstration Projects showed that research-based interventions could be successfully translated in AI/AN communities. Even more importantly, they reduced the risk of developing diabetes in high risk individuals and reduced cardiovascular disease risk factors in people with diabetes. These results have significant implications for preserving health and reducing health care costs.