SPECIAL DIABETES PROGRAM FOR INDIANS

Successes & Lessons Learned from the Diabetes Prevention Program & Health Heart Project

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Centers for American Indian and Alaska Native Health
University of Colorado – Denver, Anschutz Medical Campus
• Overview
  – Background
  – Implementation
  – Evaluation
  – Successes and Outcomes
  – Lessons Learned
  – Local-Level Successes
• SDPI: Diabetes Prevention Program & Healthy Heart Project
  • 2002 Reauthorization of SDPI
    • Congressional direction – develop a competitive grant program to demonstrate diabetes prevention and also address the most compelling complication of diabetes (cardiovascular disease)
    • Evaluation required
  • 2004 – SDPI Demonstration Projects
    • SDPI Diabetes Prevention Program (DP) – 36 programs
    • SDPI Healthy Heart Project (HH) – 30 programs
    • Collaborative development of activities
    • Comprehensive Program Evaluation
    • Coordinating Center – UCD/UA
  • 2010 – SDPI Initiatives
    • DP Program – 38 programs
    • HH Project – 30 programs
    • Transition to minimum dataset
    • Emphasis on dissemination
Diabetes Prevention Program

• Core Elements
  – Screen for prediabetes and recruit eligible individuals
  – Goal: enroll 48 people per year
  – Teach 16-session DPP/NLB curriculum in group settings
  – Individual lifestyle coaching
  – Retention/After Core
  – Community activities
  – Goals: prevention of diabetes, weight loss, lifestyle changes, improved health outcomes
Healthy Heart Project

• Core Elements
  – Screen to find people with diabetes and recruit eligible individuals
  – Goal: enroll 50 people per year
  – Intervention: intensive case management
  – Treat CVD risk factors to target goals
  – Provide education on CVD risk reduction
  – Retention
  – Community activities
  – Goals: improvement in CVD risk factors, CVD prevention
Evaluation

• Congressional direction included a full evaluation of the Demonstration Projects
• Designed as public health program evaluation, NOT research
  – **Process**: did programs successfully implement the activities? What were the lessons learned?
  – **Outcomes**: did participants improve on short-term, intermediate and long-term outcomes? What factors were associated with successful participants and programs?
• Initiatives transitioned to a minimum dataset evaluation to reduce data collection burden
• Importance of evaluation: to demonstrate effectiveness, gain support
Evaluation

• Measurements at **Grantee** Level
  – Provider: Demographic, Professional background
  – Program: Recruitment, Retention, Team activities
  – Organization: Organization effectiveness
  – Community: Community stakeholders’ perspective

• Cost Analysis
Evaluation

• Measurements at **Participant** Level
  – Clinical History
  – Medications
  – Clinical measurements such as: weight, height, waist, BP, lipid profile, & OGGT/FBG/A1c
  – Attendance
  – Self-report survey
Evaluation

• Data Collection
  – Full Evaluation (Demo. Projects)
    • Weekly and yearly data submission – on paper, by mail!
    • SDPI Diabetes Prevention Program
      – 12 types of participant-level forms
      – 8 types of grantee-level forms
    • SDPI Healthy Heart Project
      – 8 types of participant-level forms
      – 7 types of grantee-level forms
  – Minimum Dataset (Initiatives)
    • 4 forms total
    • Web-Based Data Entry System
**SDPI Assessment Timeline**

**Healthy Heart Program**

- **Start Date**
- **Baseline Assessment**
- **Year 1 Assessment**
- **Case Management Visits**
- **Year 2 Assessment**
- **Year 3 Assessment**

**Baseline Assessment**
Complete 30 days before the Start Date

**Start Date**
The first Case Management Visit

**Case Management Visits**
Monthly or quarterly visits with a Case Manager, depending on status stabilization

**Annual Assessment**
Complete yearly within 30 days of the start date’s anniversary
Program Successes & Outcomes

Diabetes Prevention Program
DP Recruitment

- **8495** eligible participants recruited into the SDPI Diabetes Prevention Program through March 31, 2016
- 75% female, 25% male
- Mean age 47 years (18 to 93)

<table>
<thead>
<tr>
<th>IHS Area</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>Oklahoma</td>
<td>18%</td>
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<tr>
<td>Bemidji</td>
<td>15%</td>
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<tr>
<td>Great Plains</td>
<td>13%</td>
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<td>Nashville</td>
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<tr>
<td>Navajo</td>
<td>5%</td>
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<tr>
<td>Albuquerque</td>
<td>3%</td>
</tr>
<tr>
<td>Billings</td>
<td>2%</td>
</tr>
</tbody>
</table>
DP Recruitment

• Billboards
• Brochures
• Calendars
• Community Activities
• Flyers
• Letters
• News Articles
• Presentations
• Referrals
DP Outcomes

• Weight Loss
• Improved Lipids
• Increased Physical Activity
• Increased Consumption of Healthy Foods
• Decreased Consumption of Unhealthy Foods

*Outcomes presented on 3314 participants who enrolled during the full evaluation phase
Cumulative Incidence of Diabetes in NIH DPP and SDPI-DP participants meeting NIH criteria (N = 648)
Cumulative Incidence of Diabetes by DPP Class Attendance

DP Outcomes

Goal Attainment: 7% Weight Loss

Post-DPP
N=2364
Year 1
1824
Year 2
1303
Year 3
1029
DP: Mean Weight

Pairwise Comparisons between Baseline (Start) and Each Program Year

<table>
<thead>
<tr>
<th>Year</th>
<th>Baseline N</th>
<th>Comparison Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-DPP</td>
<td>2364</td>
<td>1824</td>
</tr>
<tr>
<td>Year 1</td>
<td>1303</td>
<td>1824</td>
</tr>
<tr>
<td>Year 2</td>
<td>1029</td>
<td>1303</td>
</tr>
<tr>
<td>Year 3</td>
<td>1029</td>
<td>1303</td>
</tr>
</tbody>
</table>

Lbs
**DP: Mean LDL Cholesterol**

*Pairwise Comparisons between Baseline (Start) and Each Program Year*

<table>
<thead>
<tr>
<th>Year</th>
<th>Baseline</th>
<th>Comparison Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-DPP</td>
<td>N= 2233</td>
<td></td>
</tr>
<tr>
<td>Year 1</td>
<td>1770</td>
<td>1261</td>
</tr>
<tr>
<td>Year 2</td>
<td>1261</td>
<td>997</td>
</tr>
<tr>
<td>Year 3</td>
<td>997</td>
<td></td>
</tr>
</tbody>
</table>

mg/dl

- **Baseline**
- **Comparison Year**
DP: Mean HDL Cholesterol

Pairwise Comparisons between Baseline (Start) and Each Program Year

mg/dl

Baseline
Comparison Year

Post-DPP
N= 2279
Year 1
1810
Year 2
1289
Year 3
1014
**DP: Mean Frequency of Consuming Healthy and Unhealthy Foods**

*Pairwise Comparisons between Baseline (Start) and Each Program Year*

### Baseline

- **Healthy Foods**
  - 1 / day
  - 2-3 / week
  - 1 / week
  - 1-3 / month
  - <1 / month

- **Unhealthy Foods**
  - 1 / day
  - 2-3 / week
  - 1 / week
  - 1-3 / month
  - <1 / month

<table>
<thead>
<tr>
<th>Year</th>
<th>Healthy Foods</th>
<th>Unhealthy Foods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-DPP</td>
<td>N= 1959</td>
<td>N= 1957</td>
</tr>
<tr>
<td>Year 1</td>
<td>1434</td>
<td>1435</td>
</tr>
<tr>
<td>Year 2</td>
<td>1048</td>
<td>1049</td>
</tr>
<tr>
<td>Year 3</td>
<td>846</td>
<td>848</td>
</tr>
</tbody>
</table>
DP: Percent Engaging in Active Physical Activity

Pairwise Comparisons between Baseline (Start) and Each Program Year

<table>
<thead>
<tr>
<th>Year</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>1955</td>
<td></td>
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<tr>
<td>Year 1</td>
<td>1421</td>
<td></td>
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<tr>
<td>Year 2</td>
<td>1038</td>
<td></td>
</tr>
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<td>Year 3</td>
<td>831</td>
<td></td>
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Legend:
- Purple: Baseline
- Orange: Comparison Year
DP Implementation

• Intervention Activities Delivered
  – Lifestyle Balance Curriculum Sessions: 105,767
  – Lifestyle Coaching Visits: 97,348
  – After Core Activities: 44,507
  – Assessments: 25,712 (15 are Year 10)
  – Mid-Year Glycemic Measurements: 9,740
DP Retention

• After Core
• Eliminating Barriers to Participation
• Retention Activities
  – Cooking demonstrations
  – Physical activity classes
  – Cultural events and activities
  – Frequent communication and contact, i.e. greeting cards, newsletters, calendars, etc.
  – Educational games
  – MUCH MORE!
Diabetes Prevention: Reasons for Becoming Inactive

- Unable to contact: 20%
- Schedule problems: 18%
- Converted to diabetes: 11%
- Moved: 8%
- Health problems: 4%
- Did not like program: 5%
- Family problems: 3%
- No reason given: 2%
- Transportation problems: 1%
- Deceased: 1%
- Other reason: 27%
Program Successes & Outcomes

Healthy Heart Project
HH Recruitment

- **7579** Eligible participants recruited into the SDPI Healthy Heart Project through March 31, 2016
- 64% female, 36% male
- Mean age 53 years (18 to 93)
- Mean duration of diabetes 8 years
- 13% of participants diagnosed with diabetes at baseline or within the past 6 months
## HH Recruitment

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<td>Alaska</td>
<td>2%</td>
</tr>
<tr>
<td>Albuquerque</td>
<td>9%</td>
<td>Tucson</td>
<td>1%</td>
</tr>
</tbody>
</table>
HH Recruitment

- Billboards
- Brochures
- Calendars
- Community Activities
- Flyers
- Letters
- News Articles
- Presentations
- Referrals
Who can join the Project?
We are looking for people aged 18 and older who have the diagnosis of type 2 diabetes and have experienced difficulty in managing their risk of cardiovascular disease.

You should either participate in clinical visits with a care manager;

You should be willing to stay in the project for up to 12 months.

How can I join the Project?
Let the project staff know that you are interested in volunteering for the project.
They will schedule a call for a medical visit to confirm that you are eligible.
If you are interested in volunteering for the project, we will explain the project to you and answer any questions.

Please call for more information:
- Phone: 918-675-2044
- Other: 918-675-2059

What is the Heart Savers Project?
The purpose of the project is to reduce the risk of cardiovascular disease in people with diabetes.

You could have heart disease if:
- You have diabetes
- You have high blood pressure
- You have high cholesterol
- You don’t have enough physical activity
- You weigh more than you should
- You are a smoker

The Healthy Heart Program can help you manage your diabetes and reduce your risk of heart disease. Just give us a call or stop in for more information.
- Pam Nichols BSN RN CDE or Lucy Leef CNA CHR
- 715-349-8554

Why should I join the Heart Savers Project?
The Heart Savers Project can help you in several ways:
- We will watch your health closely
- We will continue to get free checkups and other needed medical tests.
- We will provide workshops on managing your diabetes and reducing your risk for cardiovascular disease.
- You will learn the best ways to prevent cardiovascular disease.

SDPI HEALTHY HEART PROJECT
St. Croix Tribal Health Clinic
715-349-8554 877-455-1901

The purpose of the program is to reduce the risk of heart disease in people with diabetes.

You could have heart disease if:
- You have diabetes
- You have high blood pressure
- You have high cholesterol
- You don’t have enough physical activity
- You weigh more than you should
- You are a smoker

The Healthy Heart Program can help you manage your diabetes and reduce your risk of heart disease. Just give us a call or stop in for more information.
- Pam Nichols BSN RN CDE or Lucy Leef CNA CHR
- 715-349-8554
HH Outcomes

- Improvement in Lipid Levels
- Decrease in Blood Pressure
- Smoking Cessation
- Improvement in Framingham CVD Risk Score
- Weight Loss
- Increase in Healthy Foods Consumption
- Decrease in Unhealthy Foods Consumption

*Outcomes presented on 3353 participants who enrolled during the full evaluation phase*
HH: Mean LDL Cholesterol

Pairwise Comparisons between Baseline (Start) and Each Program Year

Baseline
Comparison Year

<table>
<thead>
<tr>
<th>Year</th>
<th>N</th>
<th>Baseline (mg/dl)</th>
<th>Comparison Year (mg/dl)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td>2153</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 2</td>
<td>1761</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 3</td>
<td>1574</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
HH: Mean HDL Cholesterol

Pairwise Comparisons between Baseline (Start) and Each Program Year

mg/dl

Baseline
Comparison Year

Year 1
N= 2253
Year 2
1842
Year 3
1626
HH: Mean Blood Pressure

Pairwise Comparisons between Baseline (Start) and Each Program Year

<table>
<thead>
<tr>
<th>Year</th>
<th>Systolic</th>
<th>Diastolic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td>N= 2292</td>
<td></td>
</tr>
<tr>
<td>Year 2</td>
<td>1869</td>
<td></td>
</tr>
<tr>
<td>Year 3</td>
<td>1654</td>
<td></td>
</tr>
</tbody>
</table>

Baseline vs Comparison Year

Systolic:
- Year 1: 120 mm Hg
- Year 2: 120 mm Hg
- Year 3: 120 mm Hg

Diastolic:
- Year 1: 80 mm Hg
- Year 2: 80 mm Hg
- Year 3: 80 mm Hg
HH: Mean Framingham CHD Risk Score

Pairwise Comparisons between Baseline (Start) and Each Program Year

Includes LDL, HDL, blood pressure, smoking status, diabetes status, and age (set to 50-54 years). [Note: The percentage of smokers decreased about 3 percentage points each year from baseline, data not shown.]
HH: Mean Weight

Pairwise Comparisons between Baseline (Start) and Each Program Year

Baseline

Comparison Year

Lbs

Year 1
N= 2295

Year 2
1868

Year 3
1653

Year 1
Year 2
Year 3

N= 2295
1868
1653
HH: Mean Frequency of Consuming Healthy and Unhealthy Foods

Pairwise Comparisons between Baseline (Start) and Each Program Year

- Healthy Foods
  - 1 / day: Year 1 N= 1542, Year 2 N= 1302, Year 3 N= 1222
  - 2-3 / week: Year 1 N= 1542, Year 2 N= 1302, Year 3 N= 1222
  - 1 / week: Year 1 N= 1542, Year 2 N= 1302, Year 3 N= 1222
  - 1-3 / month: Year 1 N= 1542, Year 2 N= 1302, Year 3 N= 1222
  - <1 / month: Year 1 N= 1542, Year 2 N= 1302, Year 3 N= 1222

- Unhealthy Foods
  - 1 / day: Year 1 N= 1560, Year 2 N= 1313, Year 3 N= 1227
  - 2-3 / week: Year 1 N= 1560, Year 2 N= 1313, Year 3 N= 1227
  - 1 / week: Year 1 N= 1560, Year 2 N= 1313, Year 3 N= 1227
  - 1-3 / month: Year 1 N= 1560, Year 2 N= 1313, Year 3 N= 1227
  - <1 / month: Year 1 N= 1560, Year 2 N= 1313, Year 3 N= 1227
HH Implementation

• Intervention Activities Delivered
  – Case Management Visits: 136,509
  – Other Group Activities: 13,636
  – Assessments: 25,726 (71 are Year 10)
HH Retention

• Eliminating Barriers to Participation
• Retention Activities
  – Gardening
  – Cooking demonstrations
  – Physical activity classes
  – Cultural events and activities
  – Postcards, letters, cards, etc.
  – MUCH MORE!
HH: Reasons for Becoming Inactive

- Unable to contact: 18%
- Schedule problems: 12%
- Moved: 10%
- Health problems: 9%
- Did not like program: 7%
- Family problems: 2%
- No reason given: 4%
- Deceased: 6%
- Transportation problems: 1%
- Other reason: 31%
- Unable to contact: 18%
- Schedule problems: 12%
- Moved: 10%
- Health problems: 9%
- Did not like program: 7%
- Family problems: 2%
- No reason given: 4%
- Deceased: 6%
- Transportation problems: 1%
- Other reason: 31%
Lessons Learned

• Common activities
• Detailed evaluation
• Collaborative process
• Program staff
• Retention is a challenge
• Support
• Resources
Summary

• DP & HH Demonstration Projects and Initiatives have achieved good results overall
• Importance of evaluation
• Successes and lessons learned can be useful tools and resources
Local-Level Success

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