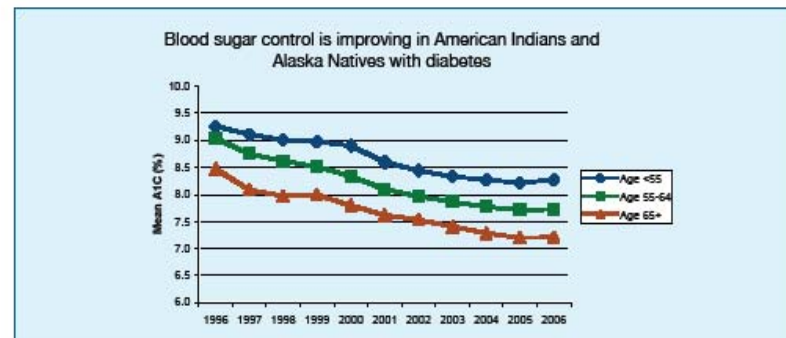


Special Diabetes Program for Indians: Improvements in Blood Sugar Control

Blood sugar control in American Indians and Alaska Natives with diabetes has steadily improved since the inception of the *Special Diabetes Program for Indians*.

- ❖ **Blood sugar control has improved** among American Indians and Alaska Natives with diabetes every year from 1996 to 2006.
- ❖ **The mean blood sugar level (A1C) in American Indians and Alaska Natives with diabetes decreased 13%** from 9.00% in 1996 to 7.85% in 2006. (A1C is a measure of long-term blood sugar control.)
- ❖ This decrease in A1C is a **major achievement over 10 years**. An A1C value of less than 7% is the goal for good blood sugar control in people with diabetes.



Mean A1C levels continue to improve (decrease).
Source: Indian Health Service Diabetes Care and Outcomes Audit

Why is this important?

- ❖ Keeping blood sugar levels as close to normal as possible can help prevent or delay diabetes-related complications, such as heart disease, stroke, blindness, amputations, and kidney disease.
- ❖ Every one-unit decrease in A1C (such as from 8% to 7%) translates to a 40% reduction in diabetes-related complications, such as blindness, kidney failure, and amputations.
- ❖ Aggressive blood sugar control reduces the risk of any cardiovascular disease event by 42%, and reduces the risk of heart attack, stroke, or death from cardiovascular disease by 57%.

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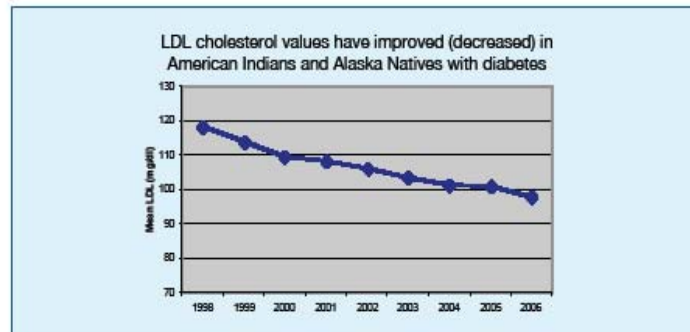


Department of Health and Human Services
Indian Health Service Division of Diabetes Treatment and Prevention
<http://www.ihs.gov/medicalprograms/diabetes/>

Special Diabetes Program for Indians: Reducing the Risk of Cardiovascular Disease

The *Special Diabetes Program for Indians* has helped American Indian and Alaska Native communities implement activities known to reduce cardiovascular disease risk.

- ❖ Since 1998, the use of aspirin or other appropriate therapy in American Indians and Alaska Natives with diabetes has increased each year. **Aspirin use in people with diabetes aged 30 or older has more than doubled** from 30% in 1999 to 69% in 2006.
- ❖ **The rate of LDL cholesterol screening has more than doubled** (33% in 1998 to 71% in 2006).
- ❖ **The mean LDL cholesterol ("bad" cholesterol) decreased 17%** from 118 mg/dl in 1998 to 98 mg/dl in 2006, surpassing the treatment goal of less than 100 mg/dl for people with diabetes.



Source: Indian Health Service Diabetes Care and Outcomes Audit

Why is this important?

- ❖ People with diabetes are at increased risk for cardiovascular disease, the number one killer of American Indian and Alaska Native adults.
- ❖ Research has shown that lowering cholesterol may help significantly reduce the chance of developing cardiovascular complications associated with diabetes, such as heart attack, stroke, or heart failure.
- ❖ People with diabetes are at increased risk of forming blood clots, which may break off and cause cardiovascular events, such as heart attacks and strokes. Regular aspirin use significantly reduces cardiovascular events in people with diabetes by helping prevent red blood cells from forming blood clots.

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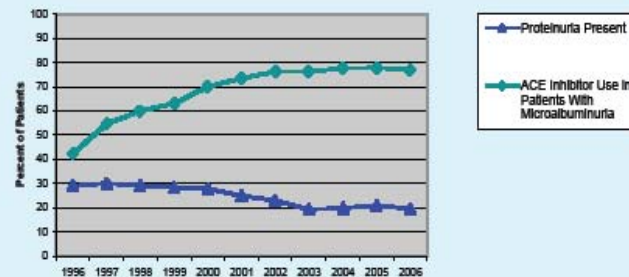
Department of Health and Human Services
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Special Diabetes Program for Indians: Improving Kidney Function

With support from the *Special Diabetes Program for Indians*, the Indian health system is achieving success in protecting kidney function and preventing and delaying kidney failure in American Indians and Alaska Natives with diabetes.

- ❖ The percent of American Indians and Alaska Natives with diabetes who have **protein in the urine (proteinuria, a sign that the kidneys are not working properly)** decreased **10%** from 29% in 1996 to 19% in 2006.
- ❖ **ACE inhibitor use in patients with diabetes increased 35%** from 42% in 1996 to 77% in 2006. ACE inhibitors are a type of medication that reduces protein in the urine and prevents or delays kidney failure.

Protein in the urine (proteinuria) is decreasing as ACE inhibitor use increases
in American Indians and Alaska Natives with diabetes



As use of ACE inhibitors increases, proteinuria decreases.
Source: Indian Health Service Diabetes Care and Outcomes Audit

Why is this important?

- ❖ Diabetes is the number one cause of kidney failure in the United States.
- ❖ Using ACE inhibitors prevents or slows the progression from diabetes-related kidney disease to kidney failure.
- ❖ Preventing kidney failure is critical to preventing people with diabetes from needing dialysis or kidney transplants. The National Kidney Foundation estimates that the care for patients with kidney failure cost the United States more than \$27 billion in 2003. The United States Renal Data System reports that the annual cost of dialysis in the Medicare population was \$250,000 per person in 2003.

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Department of Health and Human Services
Indian Health Service Division of Diabetes Treatment and Prevention
<http://www.ihs.gov/medicalprograms/diabetes/>

Special Diabetes Program for Indians: Reducing Lower Extremity Amputations

With support from the *Special Diabetes Program for Indians*, facilities in the Indian health system are implementing foot care interventions that, when introduced system-wide, have the potential to cut the risk for lower extremity (below the knee) amputations significantly.

- ❖ A clinical study in one region of the Indian Health Service (IHS), the Bemidji Area IHS, showed that the use of foot care guidelines decreased amputation rates by 50%.
- ❖ The same study showed that additional vascular surgery outreach services and the use of specialty shoes further reduced the amputation rate by half, resulting in an **overall reduction in amputations of 75%**.
- ❖ The Bemidji Area IHS and Alaska Area IHS have served as leaders in developing and distributing diabetes foot care practice guidelines for the Indian health system.



Why is this important?

- ❖ More than half of all lower extremity amputations in the United States occur in people with diabetes.
- ❖ People with diabetes are at risk for foot injuries due to numbness caused by diabetes-related nerve damage and low blood flow to the legs and feet. The most serious injury is a foot ulcer, which is at very high risk of becoming infected. Foot ulcers that do not heal are a frequent cause of amputation in people with diabetes.
- ❖ Approximately 75% of lower extremity amputations due to diabetes can be prevented through the use of appropriate diabetes care practices, minor surgery, and low-tech strategies, such as foot and nail care, shoe inserts, and specialty shoes.

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Department of Health and Human Services
Indian Health Service Division of Diabetes Treatment and Prevention
<http://www.ihs.gov/medicalprograms/diabetes/>

Clinical Goals & Diabetes

- HBA1c < 7%
 - <6.5% considered for some
- BP <130/80 mmHg
 - <120/70 mmHg can give kidneys added protection
- LDL <100 mg/dl
 - <70 mg/dl if CVD
- Triglycerides <150 mg/dl
- Aspirin or antiplatelet therapy
- Annual blood test for kidneys and liver
- Monitor weight and have it measured at each visit
- Routine foot check
- Annual diabetic foot, eye and dental exams
- Quit smoking
- Moderate alcohol consumption
- Depression screen



Testing for Prediabetes

Recommended annually for AI/AN adults over the age of 18 with any of the these risk:

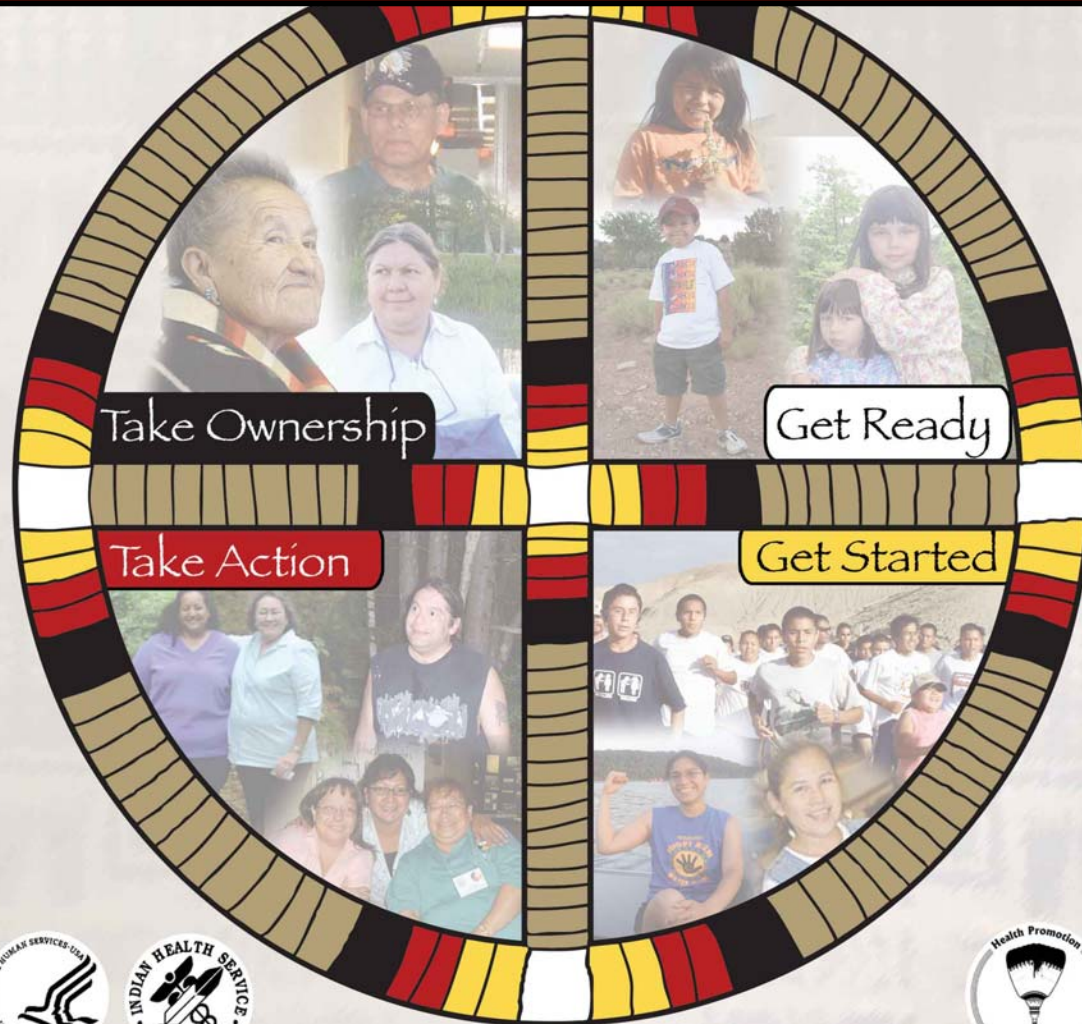
- Body mass index (BMI) > 25 kg/m²
- High Blood Pressure
- Low Healthy Cholesterol (HDL)
 - < 40 mg/dl in men or < 50 mg/dl in women
- Triglycerides (TG) > 150 mg/dl
- Women who have had gestational diabetes
 - or given birth to a baby > 9 lbs (4.0 kg)
- Your mother had diabetes complications during pregnancy, gestational diabetes or your birth weight was > 9 lbs (4.0 kg) or < 5.5 lbs (2.5 kg)
- Women with polycystic ovarian syndrome
- A family history of type 2 diabetes
- If none of these risk factors exist, testing for AI/AN is recommended every three years beginning at the age of 35

One Community's Story

The Santa Clara, Diabetes Community Action Committee on what it is to live with diabetes and the benefit of community support.

[Play Video](#)

What action can you take to move toward restoring balance?



Questions / Comments



Thank You