



# The Indian Health Service- Joslin Vision Network Teleophthalmology Program

Diabetes is the leading cause of blindness among adults. American Indians and Alaska Natives with diabetes are particularly susceptible to diabetes-related blindness, largely because less than half of them get an annual diabetic eye exam. The Indian Health Service-Joslin Vision Network (IHS-JVN) Teleophthalmology Program was established in 2000 to use telemedicine technology to provide accurate, cost-effective annual eye exams to American Indians and Alaska Natives. After more than 21,000 eye exams across the nation, this program has proven its effectiveness in decreasing diabetes-related blindness in American Indians and Alaska Natives.

## What is diabetes-related blindness?

Virtually all people with diabetes develop damage to blood vessels in their eyes. This condition is called diabetic retinopathy. The damage to the blood vessels can sometimes grow to dangerous levels, ultimately leading to blindness. People with diabetic retinopathy usually do not experience visual symptoms until it is too late and blindness has irreparably set in.

The good news is that timely, annual eye exams of people with diabetes can help prevent diabetes-related blindness. These exams identify people at high risk for losing their sight who need to be treated to prevent further vision loss. Furthermore, eye exams and laser treatment of high-risk individuals is very cost effective, saving hundreds of millions of dollars each year by preventing diabetes-related vision loss.

## The IHS-JVN Teleophthalmology Program: Increasing access to eye care

Many American Indians and Alaska Natives with diabetes live far from health care centers that can provide nationally accepted standards of eye care, including eye exams that could identify those at high risk for diabetes-related blindness.

The IHS-JVN Teleophthalmology Program addresses this gap in health care by using telemedicine technology to reduce the incidence and severity of diabetes-related vision loss. This innovative technology uses a digital camera with special computer software to transmit photographs of a patient's eye to the National IHS-JVN Reading Center located in Phoenix. IHS eye doctors, specially trained by the Joslin Diabetes Center, interpret the images and send a report to the patient and primary care physician. The report includes the level of diabetic retinopathy, presence of any non-diabetic eye disease, and a recommended course of treatment.

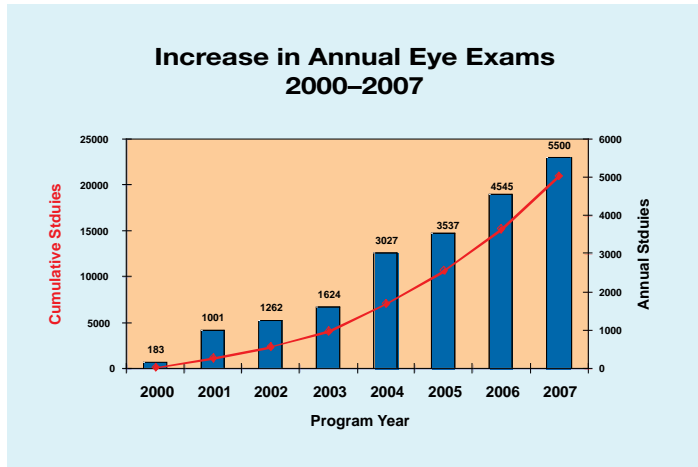
Blindness caused by diabetes can be prevented. In fact, early diagnosis and treatment of diabetic retinopathy can reduce severe vision loss by more than 95%. The IHS-JVN Teleophthalmology Program is leading the way to improving early identification of American Indians and Alaska Natives at risk of losing their sight.

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## Results from the IHS-JVN Teleophthalmology Program

The IHS-JVN Teleophthalmology Program has provided more than 21,000 eye exams to American Indians and Alaska Natives in 17 states.



The IHS-JVN Teleophthalmology Program has increased annual eye exams by 50% and increased access to laser treatment to prevent blindness by 51%—using methods that are more cost-effective than conventional eye care.

A four-year study of the program demonstrated the program's effectiveness at increasing access to nationally accepted standards of eye care and treatment to prevent blindness:

- ❖ 50% increase in annual eye exams.
- ❖ 51% increase in laser treatments to prevent blindness.
- ❖ Lower cost with quality equal to or better than a normal eye exam.

## Spreading quality eye care throughout the Indian health system

At existing appropriation levels, the Indian Health Service and the Joslin Vision Network can continue to support the 65 sites that currently have access to the IHS-JVN Teleophthalmology Program. Additional appropriations would allow the program to implement necessary upgrades to its services and technology including:

- ❖ The ability to offer mobile eye care services.
- ❖ Technical upgrades at the National IHS-JVN Reading Center.
- ❖ Computer-assisted decision making tools to improve diagnostic accuracy.
- ❖ Streamlined incorporation of eye exam data into the IHS electronic health record.

Continued program support is necessary to ensure that more American Indian and Alaska Native communities have access to nationally accepted standards of eye care through this program, which has been proven to reduce diabetes-related blindness in an efficient, cost-effective manner.