

# Preventing Blindness with UW Teleophthalmology



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## Overview

To prevent blindness, we have increased diabetic eye screening by 36% at Mile Bluff Medical Center, a rural clinic in Mauston, Wisconsin, after the implementation of a teleophthalmology program. The program was expanded to UW Health primary care clinics and has engaged the interest of other healthcare organizations across Wisconsin, including Gundersen Health System, Prairie Clinic, Fort Healthcare, and the Oneida Nation.

## The Clinical Problem

Diabetic eye disease is the leading cause of blindness among working-age adults in Wisconsin, where there are currently over 135,000 adults with diabetes. Early screening and treatment can prevent 90% of blindness, but only half of adults with diabetes get their recommended yearly eye screening.

## Our Response

Dr. Yao Liu, Assistant Professor in the Department of Ophthalmology and Visual Sciences at the University of Wisconsin School of Medicine and Public Health, established a teleophthalmology program in 2015 to increase diabetic eye screening.

Working in partnership with the Mile Bluff Medical Center, a rural health clinic in Mauston, WI, patients with diabetes are referred by their primary care provider (PCP) to get their eyes screened during a regular visit, in the same building, and without having to make a second trip or appointment. The images are sent to UW Health in Madison, WI and read by UW Health eye specialists who send reports back to the primary care clinic and to patients. Patients needing further clinical evaluation or treatment are then identified and referred to local eye doctors.

Dr. Liu also conducted interviews with 20 patients with diabetes and 9 PCPs to understand patient and provider perspectives on the program, what has made it easier or harder to use teleophthalmology, and what next steps could be taken to help design solutions to increase screening rates.

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"I'm upstairs at the doctor's office and he says maybe you should get this done... you walk downstairs... sit down for 10 minutes... you get it done and you go home... I mean, it's so simple."

- Patient describing teleophthalmology

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## Benefits to This Model

- Less than 2 minutes to image both eyes
- Dilating eye drops are usually not needed
- Low-cost service
- Camera located in the primary care clinic
- Rapid referrals for those needing treatment

## Results

Diabetic eye screening rate increased by 36% at Mile Bluff, a rural clinic in Mauston, Wisconsin, the first year after teleophthalmology was introduced, and 88% of PCPs have referred one or more patients for teleophthalmology.

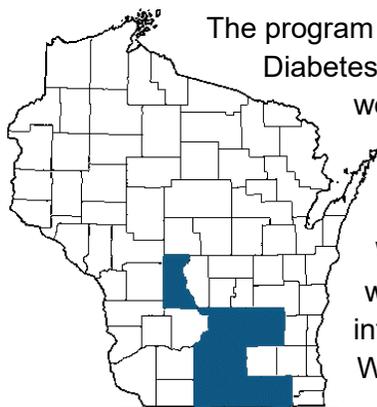
Patient interviews showed a preference for teleophthalmology over a traditional eye exam because it was quick and convenient, pupils didn't need to be dilated, and their PCP recommended the screening. While many patients were not familiar with teleophthalmology, they felt that the price, which was competitive with patient co-pays for other standard clinic visits or lab services, was a reasonable charge for the service.

Providers believed that the convenience of teleophthalmology improved patient adherence with screening, but they found it difficult to identify which patients were due for eye screening, and requested a reminder to ask patients with diabetes about eye screening.



## Lasting Impact

The goal of this ongoing teleophthalmology program is to reduce preventable blindness among patients with diabetes in Wisconsin and reach 70% screening levels (90<sup>th</sup> percentile nationally).



**Current Impact**

The program continues work at Mile Bluff in collaboration with their newly established Diabetes Quality Care Team and Patient Advisory Council to design a primary care workflow to improve screening rates. They also receive guidance from an expert advisory panel, the Wisconsin Research and Education Network (WREN) Steering Committee.

We have expanded this program to UW Health clinics in the Madison area, which serve over 17,000 patients with diabetes, and have engaged the interest of other partner healthcare organizations across the state of Wisconsin, including Gundersen Health System, Prairie Clinic, Fort Healthcare, and the Oneida Nation.

## Resources

## Toolkit

- ✓ [A Guide to Implementation for Sustained Impact in Teleophthalmology \(I-SITE\)](#)

## In the News

- ✓ [Teleophthalmology Shows Potential in Fighting, Curing Diabetic Eye Disease](#)
- ✓ [Teleophthalmology Program at Mile Bluff Medical Center](#)