NORTHERN NEW ENGLAND CLINICAL & TRANSLATIONAL RESEARCH NETWORK

IMPACT PROFILE

Using EyeNuk to Screen for Diabetic Retinopathy in a Rural Primary Care Setting



The Challenge

Diabetic retinopathy (DR) is the leading cause of preventable blindness. The DR screening target recommended by the Centers for Medicare and Medicaid (67%) had never been reached at MaineHealth's Western Maine Primary Care (WMPC) in Norway, Maine. **How could a rural primary care practice increase screenings for DR?**

The Approach

WMPC was interested in piloting Artificial intelligence (AI) screening for digital retinopathy (DR) to increase DR screening rates for patients with diabetes.

1. Connect with the NNE-CTR Community Engagement & Outreach Core
2. Apply for MaineHealth's Innovation Funding Program to purchase one EyeNuk AI DR camera for the practice
3. Study the feasability and acceptability of using this technology a in primary care practice
4. Study the EyeNuk AI DR camera's impact on screening rates and follow-up at an eye care center

Research Highlights

- Patients with diabetes who were seen at WMPC - which had the EyeNuk AI DR camera - were **2.8 times more likely to be screened for digital retinopathy** than those seen at a similar rural primary care facility that did not have the EyeNuk AI DR camera.
- WMPC **screening rates increased from 54% to nearly 75%**, exceeding the Centers for Medicare and Medicaid target for the first time.
- Patients who had a positive screening at WMPC had a **high follow-up rate (74%) with an eye care specialist**. At the same time, the system was able to **avoid over 80% of referrals to specialists for low risk patients**.
- Patients had an **overall positive experience** with the new technology.

The Impact

This project demonstrated how using EyeNuk's AI DR camera in a rural primary care practice **increased screenings** for DR among patients with diabetes.

In 2025, MaineHealth **expanded the use of the EyeNuk AI DR technology** across its system. In addition to patients at MaineHealth's WMPC practice, **24 other MaineHealth primary care practices now have access to these in-office screenings.**

Key Benefits

Implementing an EyeNuk AI DR camera provides ***clinical***, ***community***, and ***economic*** benefits.

- **Clinical ▸ Procedures & Guidelines:** Increase in recommended DR screenings
- **Clinical ▸ Tools & Products:** Ability for primary care providers to perform screenings and get results immediately
- **Community ▸ Health Care Characteristics:** Increase in accessibility for DR screenings and reduction in strain on specialty eye care
- **Community ▸ Health Promotion:** Potential to treat DR sooner and prevent blindness in patients with diabetes
- **Economic ▸ Financial Savings & Benefits:** Potential to reduce the social and economic costs of blindness (e.g., reduced quality of life, general productivity losses)
- **Economic ▸ Financial Savings & Benefits:** Potential cost savings for patients who can be screened quickly at their primary care practice

The Team

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