

# Telescreening of Diabetic Retinopathy

Vishal Bhatia<sup>1</sup>

<sup>1</sup>Department of Endocrinology, St Vincent's Medical Centre, Evansville, Indiana, United States

**Address for correspondence** Vishal Bhatia, Department of Endocrinology, Stg Vincent's Medical Centre, Evansville, IN 47714, United States (e-mail: mthakral007@gmail.com).

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We run a busy endocrinology program and diabetes clinic, with an average of 1,000 to 1,200 patient visits a month. Around 60 to 65% of these patients live with diabetes, and a significant number of these patients have micro- and macrovascular complications. While tools and resources are available to screen and diagnose most of these complications, timely diagnosis of retinal involvement has always been a challenge. One reason for this has been the need for a separate visit to an ophthalmologist's office. This inconvenience led to a poor eye care seeking behavior, resulted in suboptimal clinical outcomes. Such a challenge is not unique to us, and it has been reported by clinicians and diabetes care providers from across the world.<sup>1,2</sup>

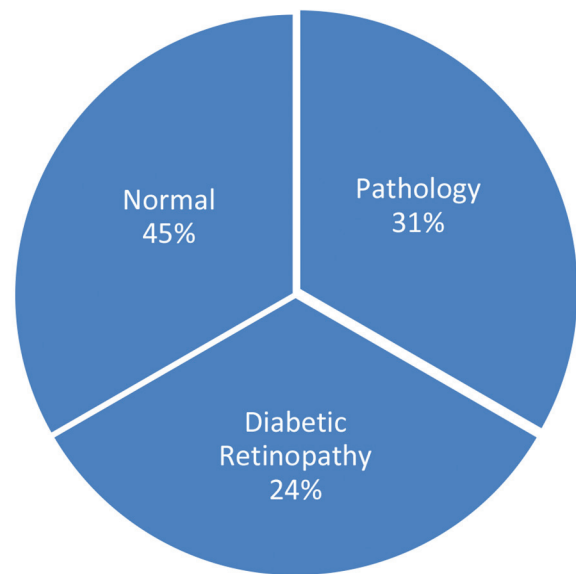
In an effort to overcome this barrier, we assessed and appraised various solutions for retinal examinations during a diabetes clinic visit. One of these is IRIS (Intelligent Retinal Imaging Systems, Pensacola, Florida, United States). Using this technology, a diabetes care provider is able to perform retinal examination during routine diabetes care visit. Retinal imaging can be performed by a trained paraclinical staff. Retinal pictures are populated in the electronic medical record, transmitted to designated ophthalmologists in Boston, and reported by them within 24 hours.

From May of 2016 onward, we have performed 800 to 1000 scans yearly, using two cameras, one in our office and one in a primary care clinic. The following data show a high-level overview of the current status of the IRIS Diabetic Retinal Examination program for St Vincent Endocrinology, Evansville, for the month of October 2018 (►Fig. 1):

Number of patients tested 59
Number of patients with pathology 18
Number of patients with diabetic retinopathy 14
Percent of patients with pathology 31%
Percent of not readable photographs 0%

## Detailed Breakdown of the Diabetic Retinopathy of the Total Number of Patients (59)

These data clearly show the value of in clinic retinal screenings for diabetic as one-fourth (24%) patients in our clinic had previously undiagnosed diabetic retinopathy and 3.4% had severe or proliferative diabetic retinopathy (►Fig. 2). This timely diagnosis of retinal conditions may have prevented potential catastrophic vision loss in addition to closing the quality care delivery gaps in these patients. Our approach has helped us triage patients who need ophthalmology referral.<sup>3</sup> This setup should be a standard of care in all diabetes treatment centers and is supported by published medicine.<sup>4,5</sup>



**Fig. 1** Overview of the current status of the IRIS Diabetic Retinal Examination program for St Vincent Endocrinology.

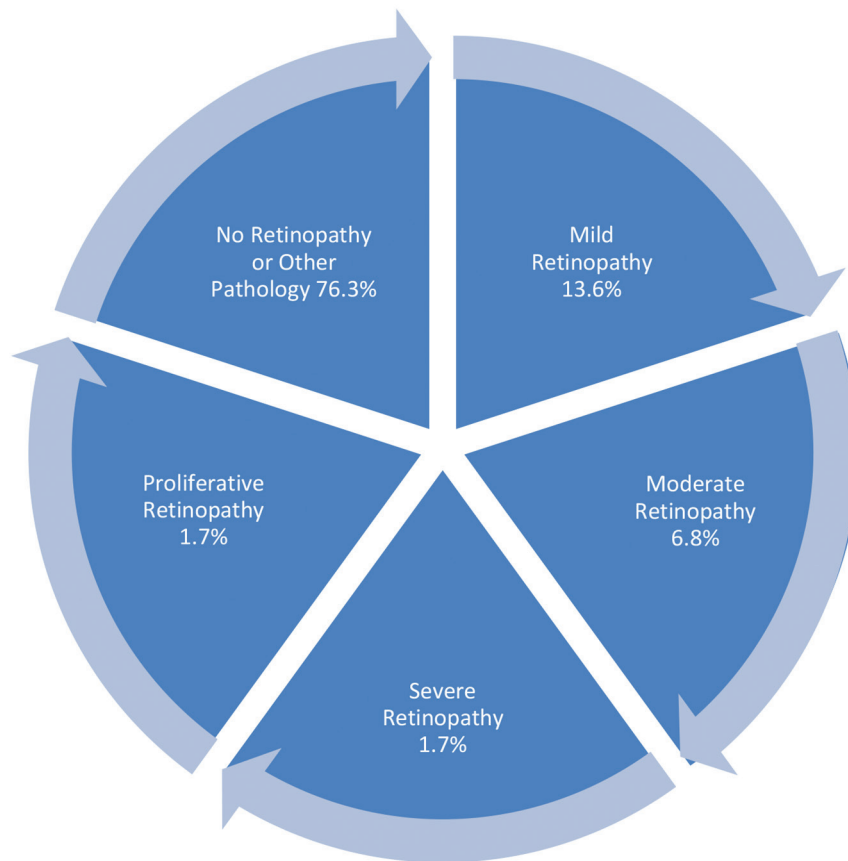
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**Fig. 2** Breakdown of the diabetic retinopathy of the total number of patients.

It also highlights the utility of modern tele medical technology, not only in underserved medical settings but across all diabetes care environments.

**Conflict of Interest**

None declared.

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