



## Smart Technologies for the Assessment of Retinopathy (STAR)

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### LOCATION/AFFILIATION

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### APP(S), DEVICE(S), OR PLATFORM(S) USED

- Remidio Non-mydratiatic Fundus on Phone (NM-FOP) retina camera and Remidio phone app
- Topcon Harmony RS retinal screening software

### PROGRAM DESCRIPTION

The Remidio portable smart fundus camera is used to take photos of patients' eyes, and cloud software is used to transmit, interpret, and store images and results. Unlike existing solutions which require large amounts of dedicated clinical space; onerous, specialized and time-intensive processes which are impractical in a fast-moving primary care setting; and a difficult, multi-step technically-intensive process to encode, transfer, and review the images locally and remotely, this system has a number of approaches that make it more practical for diabetic retinopathy screening (DRS) in busy primary care setting workflows. Integrated wireless iPhone mobile computing technology and an on-device app with a cloud-based back end allows entry of patient information directly on the device, and capture of fundus images similarly to taking a smartphone camera photo. Integrated wireless and cloud technology allows automatic immediate upload of images and availability of images to be interpreted by ophthalmologists remotely wherever a web browser can be used. Staff can even be trained remotely to operate the camera and educated on screening best practices. Additionally, the clinical images taken are billable to patients' insurance for diabetic retinopathy screening, and the camera and support is approximately a third of the cost of the most comparable available tabletop imaging solutions, making the system a far more sustainable and scalable solution for DRS.

Our program hopes to clinically benefit patients by expanding patient access to ophthalmic care, increasing screening compliance, and saving patients with diabetes from preventable blindness through the early detection and treatment of diabetic retinopathy, the leading cause of blindness in the working age population in the U.S.

The Remidio camera does not require patients to have their eyes dilated, and photos can be taken in about five minutes, so the patient experience is quick, painless, and convenient.