# ZEISS VELARA Teleretinal Screening System used in an urgent care setting for the detection of undiagnosed ocular disease

## Introduction

Teleretinal imaging has been a well-documented method of reaching diabetic patients needing a retinal examination.[1] It has been shown to reduce the eye clinic burden and improve patient access in remote areas where eye care is not readily available.[2] However, the effectiveness of screening programs for detecting diabetic retinopathy and previously undiagnosed ocular disease in an urgent care setting has not been as well established. Many barriers exist to receiving timely and appropriate eye care. The most frequently cited barriers include cost, trust, communication, clinic accessibility, and the lack of a substantial doctor-patient relationship.[3]

## The expanding role of urgent care centers

In recent years, urgent care centers have become the entry point into the US healthcare system for many individuals, delivering care to an increasing number of children and adults.[1,4] This can be attributed to many factors, including convenience, cost, and accessibility.

In addition to addressing urgent medical needs, urgent care centers may also be able to provide preventative care and non-emergency acute or after-hours care. Combined with the steadily growing number of urgent care centers across the US, they are now competing with traditional hospitals and physician-run practices.

This paper evaluates using the ZEISS VELARA Teleretinal Screening System in an urgent care center for routine screening for any ocular disease in patients who have not had a recent eye exam.

> "It's really about adding another service line. It's one more tool that a physician has in their toolbox to offer a service to their patients."
>
> – Nathan Kiskila, MD
> Urgent Care General Practitioner
> President Founder & Co-Owner
> Marque Medical



*Marque Urgent Care. Newport Beach, CA*

## Marque Medical Urgent Care and Visionary Eye Institute

Marque Medical is locally owned and operates 12 urgent care clinics throughout Southern California, with its first center opening in 2011. Their Mission is "To provide the best medical care available in the shortest time possible." Their Vision is "To become the most loved, first-choice for on-demand healthcare in our communities."

When looking to expand their service lines, Marque Medical wanted to implement an ophthalmic screening solution to detect undiagnosed ocular disease in all patients not receiving timely eye examinations, rather than only screening patients with diabetes.

For expert grading of the images obtained, Marque Medical chose to partner with Dr. Ehsan Sadri of Visionary Eye Institute, a boutique-based private practice set in the heart of Newport Beach, CA. They are committed to providing the most advanced, cutting-edge technology and ensuring the highest quality visual outcomes and ocular health management for their patients. Partnering with Marque Medical, Visionary Eye Institute expanded its reach to include patients who were not receiving eye care and identify and schedule those who needed it most.

## ZEISS VELARA

The ZEISS VELARA Teleretinal Screening System was designed as a complete solution for retinal screening to facilitate early detection and treatment of diabetic eye disease. The first component of the ZEISS VELARA system is a retinal camera designed for use in a primary care setting. It is easy to use and features auto-focus, auto-alignment, and auto image capture.

*ZEISS VELARA 200 camera and tablet*



*ZEISS VELARA cloud-based grading application*

The ZEISS VELARA system also offers seamless electronic medical record (EMR) integration software and a cloud-based grading application. This grading application enables the physician to diagnose and classify all categories of diabetic retinopathy and related macular edema. It also allows for the categorization of other commonly encountered ocular diseases. In addition, the grading application contains an "other" category for less frequently encountered ophthalmic conditions.

**The decision**

When considering the ZEISS VELARA Teleretinal Screening System, Pierre Bergougnan, Chief Executive Officer of Marque Medical, was asked to describe his decision-making process. Topping his 'must-have' list was an easy-to-use system offering a fast, effective, meaningful vision care solution for their patients that integrated seamlessly into the practice workflow and aligned with their strategy for total patient care.

**Implementation**

Most healthcare systems considering a diabetic screening solution are looking to close care gaps and improve their quality metrics for diabetic eye exams.[5] Marque Medical had a slightly different vision. Rather than focusing solely on diabetic patients, Marque Medical wanted to offer retinal screening to all patients presenting to their urgent care clinics who had not recently been under the care of an optometrist or ophthalmologist. With urgent care centers becoming an entry point into the US healthcare system for many individuals, Marque Medical saw ZEISS VELARA as an opportunity to quickly discover undetected eye disease and direct patients to an eye care provider for evaluation and treatment.

"We spent a fair amount of time looking for solutions that would be easy to use, fast, and effective but meaningful to the patient. Something we call a convergent care model—where everything comes together under one roof for a walk-in-convenient platform. Vision care was something we had been missing for many years. We are very excited to have it. We think it fits nicely into our long-term strategy of being a total home care group for our patients."

– Pierre Bergougnan, Chief Executive Officer, Marque Medical

*ZEISS VELARA retinal screening report made available through EMR*

**Successes**

Almost immediately after implementing the ZEISS VELARA Teleretinal Screening System, Marque Medical and Visionary Eye Institute began to see the impact. By the end of the second month, 63 unique patients had received retinal screenings during their urgent care visits. Among them, seven patients were diagnosed with diabetic retinopathy, and 20 patients—nearly one-third of those screened—had some form of ocular pathology that warranted referral to an eye care specialist. In addition, 14 of the detected pathologies were an "Eyesight Save," a metric that the ZEISS VELARA dashboard uses to track ocular diseases that could result in vision loss if not for timely diagnosis and intervention. EyeSight Save pathologies include proliferative diabetic retinopathy, macular edema, age-related macular degeneration, and glaucoma.

The VELARA dashboard also showed that 95.3% of the images taken within those first two months were quality, gradable images—attributable to the easy-to-use ZEISS VELARA camera with its auto-focus, auto-alignment, and auto-capture features. The VELARA system also uses a proprietary photo enhancement algorithm and an easily clickable interface that streamlines workflow for the grading physician.

"We're always looking to improve our platform. You guys are supporting that. So, we're very excited about it."

– Pierre Bergougnan
Chief Executive Officer
Marque Medical

Continued client success is paramount. Included with the ZEISS VELARA Teleretinal Screen System is proper training for the camera operators to help ensure maximum utilization and operational efficiency.

In partnership with ZEISS VELARA and Visionary Eye Institute, Marque Medical has saved the sight and impacted the lives of the patients they serve. In commitment to their Mission Statement, this partnership allows them to continue offering "the best medical care available in the shortest time possible."

# References

1. Poon SJ, Schuur JD, Mehrotra A. Trends in visits to acute care venues for treatment of low-acuity conditions in the United States from 2008 to 2015. *JAMA Intern Med* 178(10):1342–9. 2018.

2. Joseph S, Kim R, Ravindran RD, Fletcher AE, Ravilla TD. Effectiveness of Teleretinal Imaging–Based Hospital Referral Compared With Universal Referral in Identifying Diabetic Retinopathy: A Cluster Randomized Clinical Trial. *JAMA Ophthalmol.* 2019;137(7):786–792. doi:10.1001/jamaophthalmol.2019.1070

3. Elam AR, Lee PP. Barriers to and Suggestions on Improving Utilization of Eye Care in High-Risk Individuals: Focus Group Results. *Int Sch Res Notices*. 2014;2014:527831. Published 2014 Oct 15. doi:10.1155/2014/527831

4. Mehrotra A, Wang MC, Lave JR, Adams JL, McGlynn EA. A comparison of patient visits to retail clinics, primary care physicians, and emergency departments. Health Aff (Millwood) 27(5):1272–82. 2008.

5. Kuo KH, Anjum S, Nguyen B, Marx JL, Roh S, Ramsey DJ. Utilization of Remote Diabetic Retinal Screening in a Suburban Healthcare System. Clin Ophthalmol. 2021;15:3865-3875 https://doi.org/10.2147/OPTH.S330913