

# optomap

## TELEMEDICINE PROGRAMS



**optomap has been implemented in many large telehealth programs used in tens of thousands of subjects. The addition of optomap has demonstrated increased disease detection rates and shown significant efficiency benefits.**

Results published suggest that **optomap** may be an essential element to an ocular telehealth screening program.<sup>1-8</sup> Ease of capture and review allow for point of care evaluation thereby reducing reading center burden.<sup>1-10</sup>

### CLINICAL SUMMARY

- Ocular telemedicine programs that include **optomap** ultra-widefield imaging have a nearly double detection rate of diabetic retinopathy detection and more effectively identify patients at high risk for progression.<sup>3,4</sup>
- Implementing **optomap** reduces ungradable rates from 81% to 2%, image capture time by 50% and image evaluation time by 28%, due to the ability to easily image through small pupils and media opacity.<sup>3</sup>
- Software provided with the device allows for remote image review and efficient review of multi-layer images (color, red and green channels).<sup>2</sup>
- **optomap** has also demonstrated that 20% of subjects have non-diabetic ocular findings identified on retinal imaging, regardless of the severity of their retinopathy.<sup>5</sup>

*“It has become the default imaging system...because it has greater clinical accuracy, requires fewer images, incorporates automatic image acquisition, and lowers the proportion of poor images from which readers cannot make a diagnosis of DR/DME severity level.”<sup>10</sup>*

— *Telemedicine and e-Health*. 2020.

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# CLINICAL SUMMARY

## optomap® for Telemedicine Programs



OptosAdvance screen showing multimodality comprehensive patient review

- Diabetic retinopathy was identified 17% more frequently after **optomap** was implemented and peripheral lesions may have suggested a more severe diabetic retinopathy level in up to 13% of patients, consistent with other published studies.<sup>1,2,4,5,6,7</sup>
- Recent research that found the presence of DR lesions located predominantly in the periphery also identified a subset of eyes at a nearly 5-fold increased risk of diabetic retinopathy progression.<sup>8</sup>
- Implementing **optomap** reduced the ungradable rate by 81%.<sup>3</sup> Traditional fundus photography has a reported ungradable rate of up to 20%. This is likely due to the ability to easily image through small pupils and media opacity.<sup>1</sup>
- **optomap** evaluation time, per patient, was reduced by 28% due to the utility of the multi-layer images (color, red and green channels) to identify diabetic retinopathy changes.<sup>2</sup>
- In one study, nondiabetic retinal lesions were detected in 20% of subjects without DR using UWF imaging.<sup>9</sup>
- Adding **optomap** to one Internal Medicine DR department increased the screening rate from 53% to 72% where 28% of patients were not previously seen in the ophthalmology department.<sup>11</sup>
- Optos provides a comprehensive image management solution called OptosAdvance which enables clinicians to review, refer, and archive images from many eye care diagnostic devices.
- Referrals for further investigation or treatment can be quickly and securely sent through OptosAdvance because of the browser design. Live consultation with colleagues via online meetings invoked from within OptosAdvance supports collaboration between colleagues at different locations about shared patients.

#### References:

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- <sup>2</sup> Real-Time Ultrawide field Image Evaluation of Retinopathy in Diabetes Telemedicine Program. Diabetes Care. 2015.
- <sup>3</sup> Identification of Diabetic Retinopathy and Ungradable Image Rate with Ultrawidefield Imaging in a National Teleophthalmology Program. Ophthalmology. 2016.
- <sup>4</sup> Implementation of an Ocular Telehealth Program using Ultrawidefield images to Increase Diabetic Screening. ARVO. Poster 2072, 2015.
- <sup>5</sup> Telemedicine for diabetic retinopathy screening using an ultra-widefield fundus camera. Clinical Ophthalmology. 2018.
- <sup>6</sup> Nonmydriatic Ultrawide field retinal Imaging compared with dilated Standard 7-field 35mm photography and retinal Specialist examination for evaluation of diabetic retinopathy. American Journal of Ophthalmology. 2012.
- <sup>7</sup> Peripheral lesions identified by mydriatic ultrawide field imaging: distribution and potential impact on diabetic retinopathy severity. Ophthalmology. 2013 Dec;120(12):2587-2595.
- <sup>8</sup> New vessels detected on wide-field imaging compared to two-field and seven-field imaging: implications for diabetic retinopathy screening image analysis. Br J Ophthalmol. 2015 Dec;99(12):1606-9.
- <sup>9</sup> Comparison of Nondiabetic Retinal Findings Identified With Nonmydriatic Fundus Photography vs Ultrawide Field Imaging in an Ocular Telehealth Program. JAMA Ophthalmol. 2016 Mar;134(3):330-4.
- <sup>10</sup> The Indian Health Service Primary Care-Based Teleophthalmology Program for Diabetic Eye Disease Surveillance and Management. Telemedicine and e-Health. 2020.
- <sup>11</sup> The Utility of Ultra-widefield Retinal Imaging with Telemedicine for Diabetic Retinopathy Screening. IOVS. 2021.



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