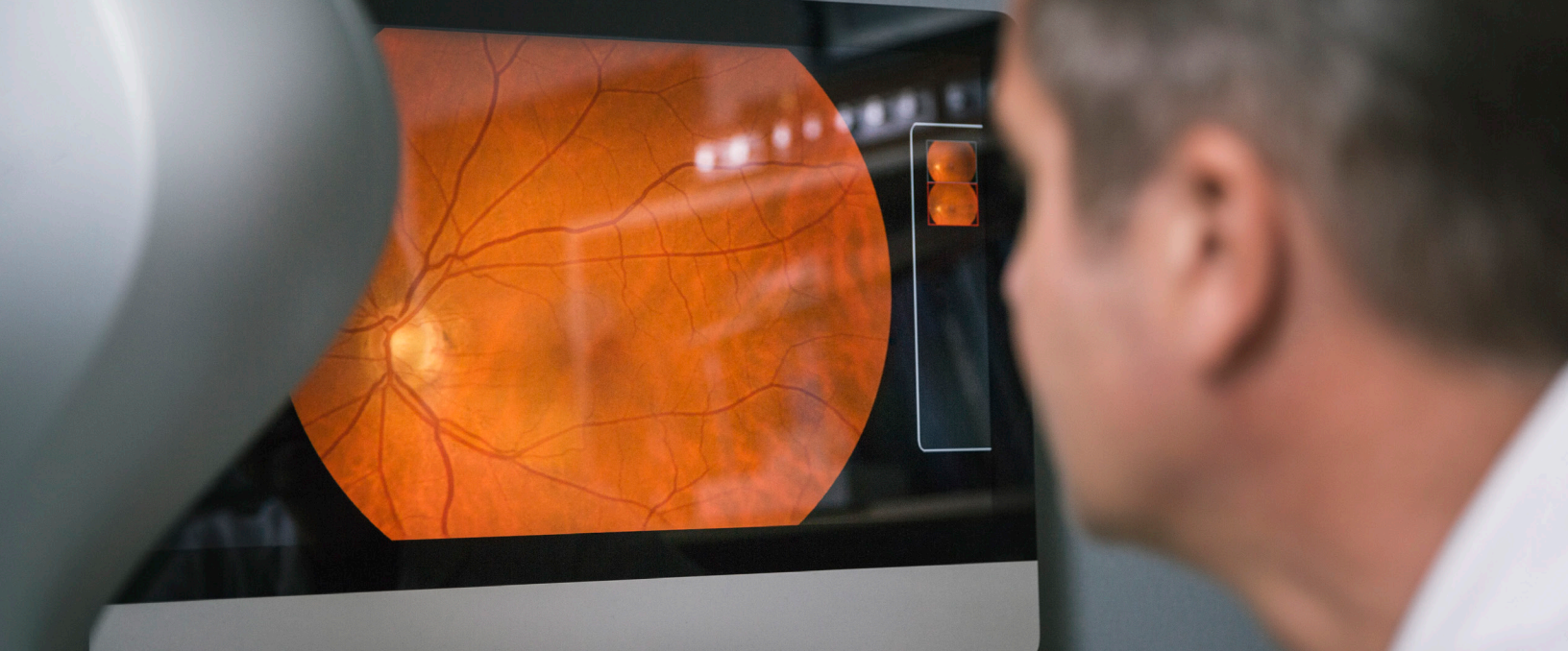# Ophthalmology

Disease Screening AI

Emmes is committed to improving public health and sees disease screening and diagnosis using artificial intelligence (AI) as the future of preventative medicine.

AI promises to expand access to health care and make disease screening and diagnosis using Machine Learning (ML) and AI more affordable.

Optic disc, retina and blood vessels

Featured Clinical Studies:

1. Emmes continues to serve as the full services provider for pivotal studies of AI diagnostic systems that autonomously diagnose patients for diabetic retinopathy (DR) and diabetic macular edema (DME).

   The initial trial that Emmes conducted resulted in the first autonomous AI system to be cleared by the FDA to provide a diagnostic decision.

   Results from the pivotal trial were published in a Nature August 2018 publication - *Pivotal trial of an autonomous AI-based diagnostic system for detection of diabetic retinopathy in primary care offices.*

2. Emmes provided full-scope services for an image collection study that supported training of Machine Learning Algorithms (MLAs) for the development of ophthalmic software to assess DR and DME in retinal images.

Key Successes:

- Established a data verification processes across multiple systems (e.g., reading center ground truth results, data from devices studied, EDC data) to ensure the validity and accuracy of your study data on an ongoing basis.

- Established a network of certified ophthalmic photographers through relationships and skilled fundus photographers across the US who can provide ground truth imaging.

- Maintained and strengthened working relationships with several world-class reading centers for image acquisition and other processes.

- Developed a training program for Primary Care Practices naïve to research to train them on study protocol and appropriate conduct of clinical trials.

For additional information on our Ophthalmology Disease Screening AI and Ophthalmology Experience, please visit www.emmes.com/ophthalmology