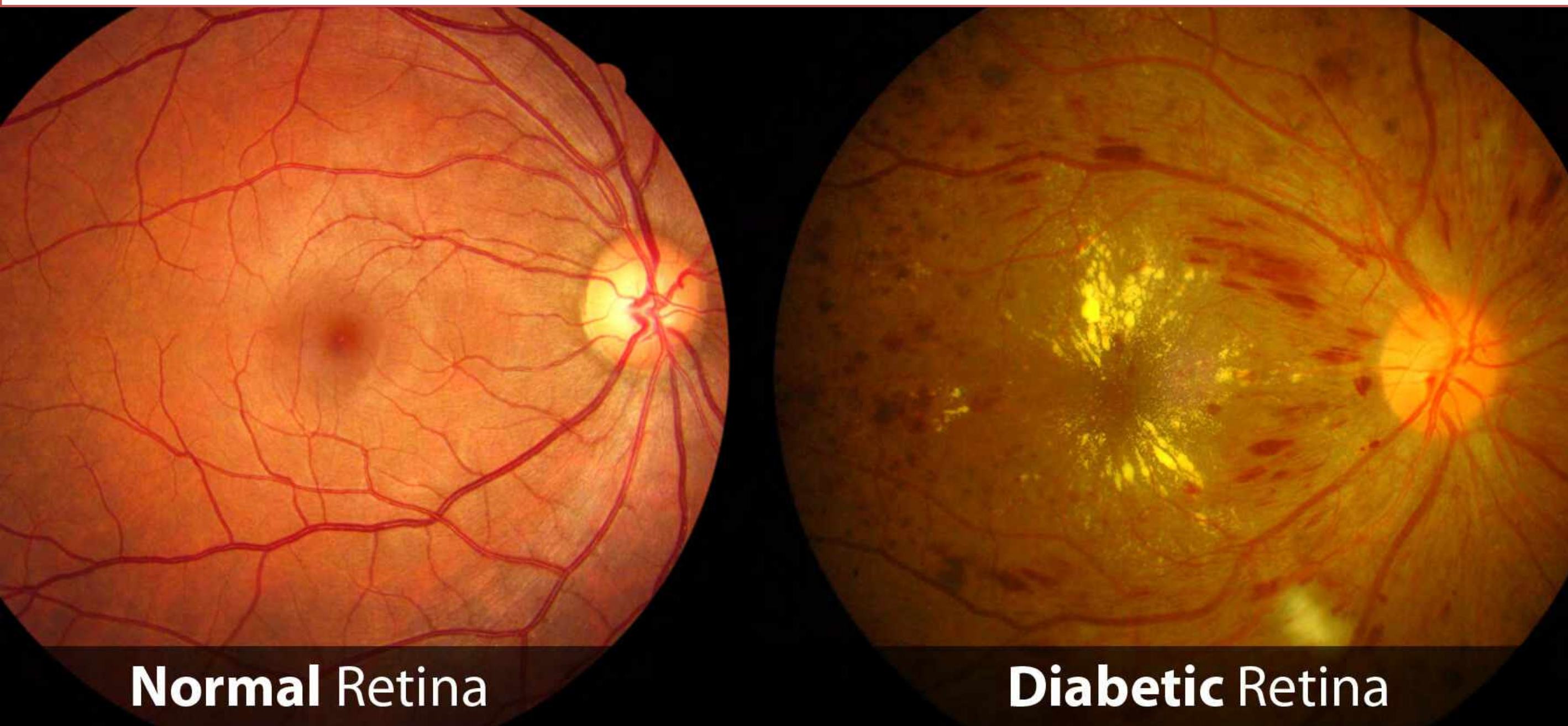


# Description of a pharmacist-led teleophthalmology service to provide diabetic retinal exams for underserved patients with diabetes

Rebecca Leon, PharmD, APh  
 California Health Sciences University – College of Pharmacy, Clovis, CA

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### COST CONSIDERATIONS

Welch Allyn RetinaVue® 100 Imager (advanced handheld retinal camera)	\$5,000 one-time purchase cost
Welch Allyn monthly subscription fee (per RetinaVue® 100 Imager camera)	\$188 per month (FCMG's contracted price)
Welch Allyn ophthalmologist reading fee	\$15 per patient exam (FCMG's contacted price)

### RECOUPING COSTS

2019 MediCal reimbursement	\$42.13 per patient DRE
2019 Fresno County Medicare reimbursement	\$54.20 per patient DRE

### COST SAVINGS

How much a patient can expect to pay for an in-person ophthalmologist exam without insurance	\$200 initial exam; \$128 follow-up exams
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### ADAPTABILITY

- 1 During a patient's diabetes clinic visit, pharmacist will offer to provide a DRE.
- 2 Using an advanced handheld retinal camera, pharmacist will capture retinal digital images (RDI). It takes 15-20 minutes to capture RDI of both eyes.
- 3 RDI are securely transmitted electronically to a specialized reading center, where photographs are graded by off-site ophthalmologists. Turnaround time for the ophthalmologist report of the photographs is 24-48 hours.
- 4 Patients with signs of DR, or when retinal photos are unacceptable, and/or if abnormalities are detected will be referred for in-person ophthalmologist exams for comprehensive assessment.

### METHODOLOGY

- Completion of annual diabetic eye examination is defined as having one gradable image during the annual diabetes visit, reviewed and graded by ophthalmologists.
- Data to be collected from chart reviews and patient clinic visits:
  - Characteristics associated with nonadherence with annual diabetic eye examination (age, gender, duration of diabetes, compliance with recommended glycated hemoglobin A1c measurements, health insurance coverage)
- Health care claims data will be used to calculate the referral rate to an ophthalmologist among those with positive finding of DR in the patient population.

### BACKGROUND + SIGNIFICANCE

- Fresno has one of the highest rates of diabetes in California.
  - Many poor and uninsured patients lack access to regular care and specialists.
- Diabetic retinopathy (DR): most frequent complication of diabetes and leading cause of preventable blindness in adults.
  - Early detection and treatment reduce risk of blindness by 95%.
  - <60% patients with diabetes get an annual diabetic retinal exam (DRE) in the US;
  - Even lower DRE compliance rates in underserved populations due to barriers to care.
- Teleophthalmology: emerging strategy for improving DR screening through retinal imaging with remote interpretation.
  - Demonstrated by numerous studies worldwide to be a reliable and cost-efficient alternative to traditional, in-person dilated eye examinations.
  - Helps preserves vision and decreases overall burden to health care system.
  - Reduces barriers and increases much-needed access to eye care in both rural and urban communities.
- Pharmacists: potential resource to increase access to health care.
  - Most accessible and frequently visited members of the healthcare team.
  - Already provide diabetes care management, including blood glucose monitoring, patient education, diabetic foot exams and medication therapy management.

### NEW PARTNERSHIP → NEW SERVICE

- In January 2020, a creative partnership led to the development of a new pharmacist-led service that can expand the role pharmacists play in diabetes care management:
- Using an advanced handheld non-mydriatic retina camera on loan from First Choice Medical Group (FCMG), this ambulatory care pharmacist will perform DRE, without chemical dilation, for patients with diabetes at Clinica Sierra Vista – Fresno (a federally qualified health center).

### OBJECTIVE

This study will assess whether the establishment of a new pharmacist-led teleophthalmology service is an effective and efficient way to increase completion of annual eye examinations among underserved, low-income patients with diabetes.

### RESULTS + CONCLUSIONS

This study is a research in-progress. Estimated study duration is 3 years. It is hypothesized that this new pharmacist-led teleophthalmology service will increase patient access to eye care and improve patient compliance with diabetic retinal exams, especially in underserved populations in the Fresno area.