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#### **Title**

Characterization of Tele-Ophthalmology Use from 2011-2019

#### **Permalink**

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#### **Data Availability**

The data associated with this publication are not available for this reason: N/A

### UCDAVIS HEALTH

# Characterization of Tele-Ophthalmology Use from 2011-2019

Department of Ophthalmology

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### Introduction

- Inequities in distribution of specialty ophthalmology care<sup>1</sup>
- Increased studies demonstrating efficacy, cost efficiency of teleophthalmology<sup>2,3</sup>
- Rising concerns of compensation, perhaps hindering adoption<sup>4</sup>
- AIM: Describe tele-ophthalmology use by year, provider specialty and patient demographics

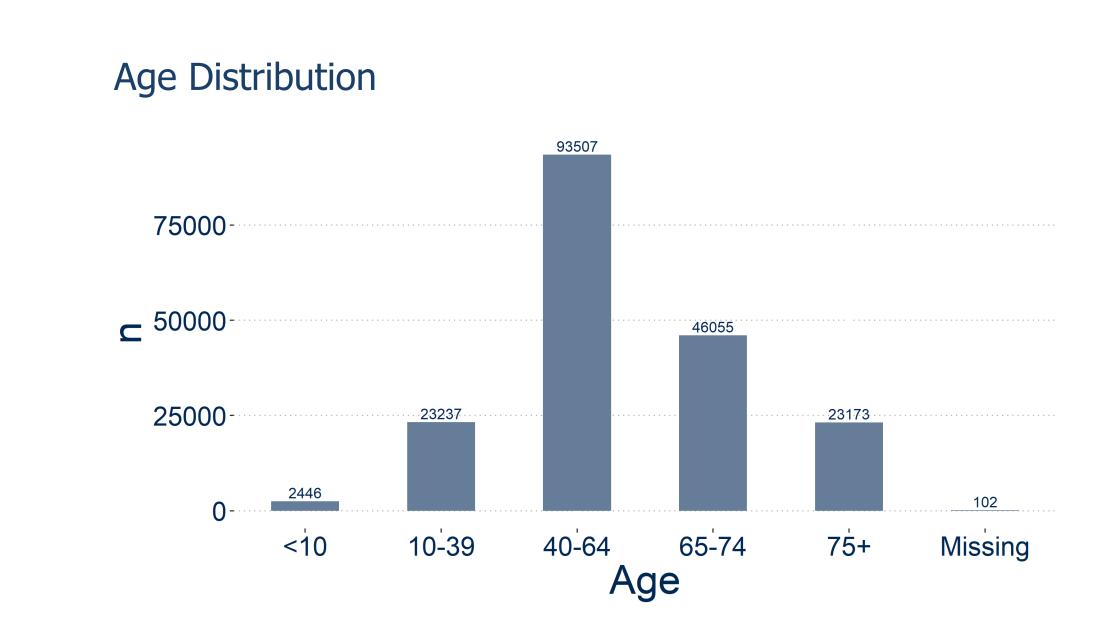
### Study Design/Methods

- Deidentified claims data from 2011-2019 from OptumLabs Data Warehouse®
- **Population**: Patients with documented tele-ophthalmology visits

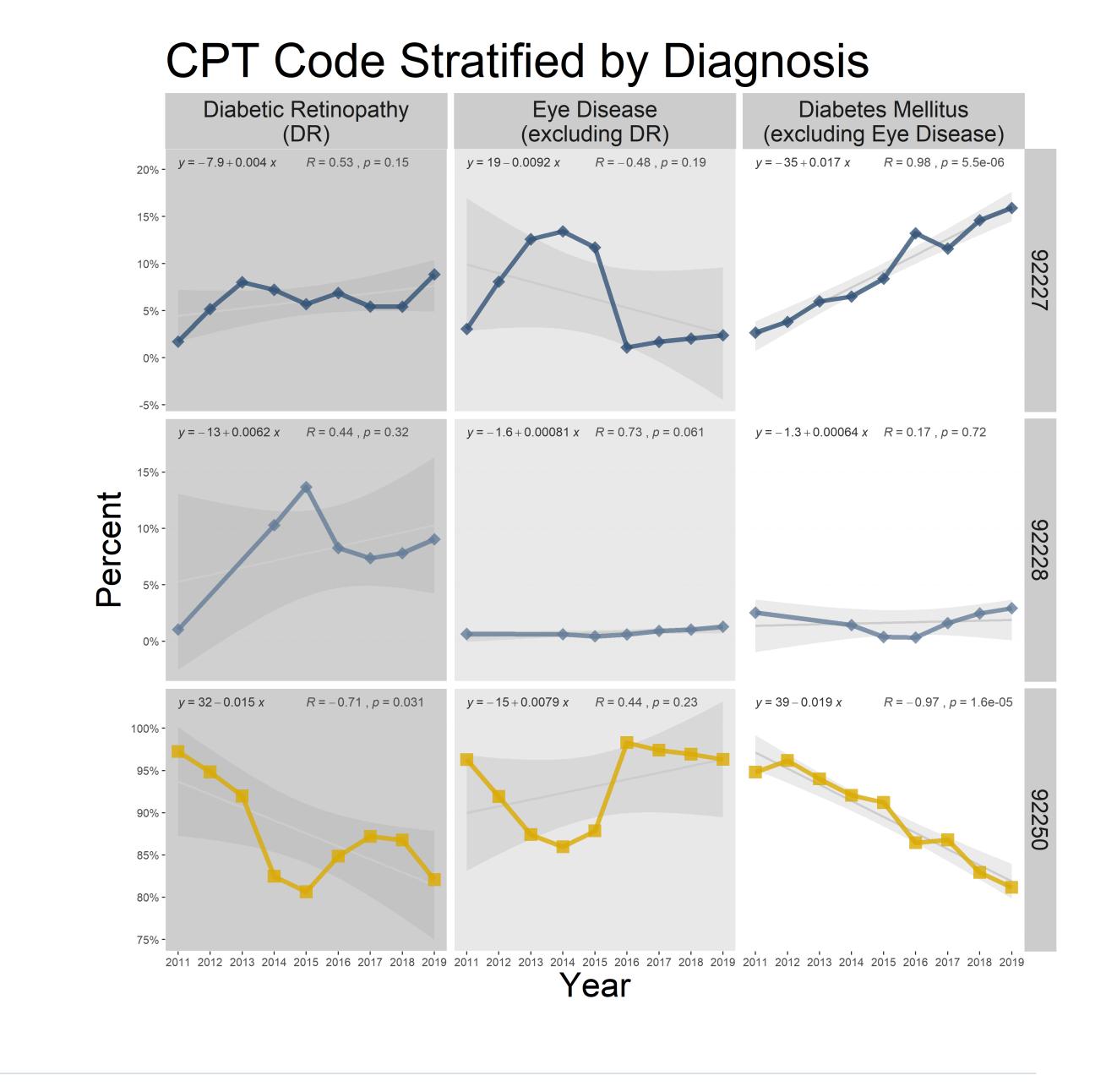
	Asynchronous Fundoscopic Image		Fundoscopic Image
<b>CPT codes</b>	92227	92228	92250
	Diabetic Retinopathy		General
Use	Screening	Monitoring	General
Avg. Reimburse	<b>\$15</b>	\$13	\$22-50
RVU	0.97	0.43	1.43

- Variables Collected: Demographics, Physician Specialty
- Descriptive statistics: t-tests & chisquare in SAS
- Plots using ggplot2 in R environment

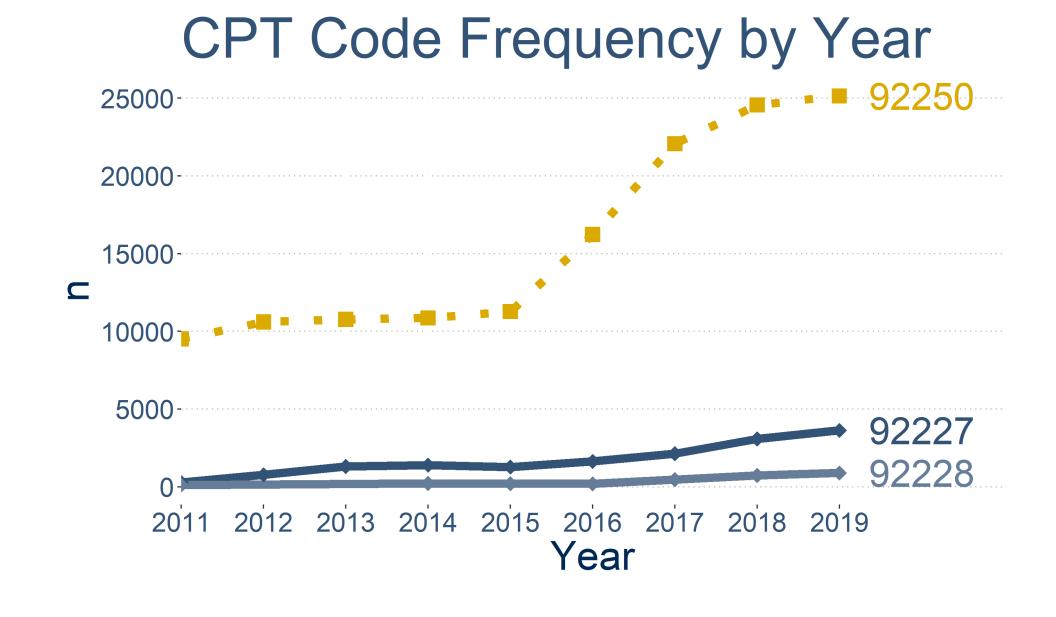
### Results



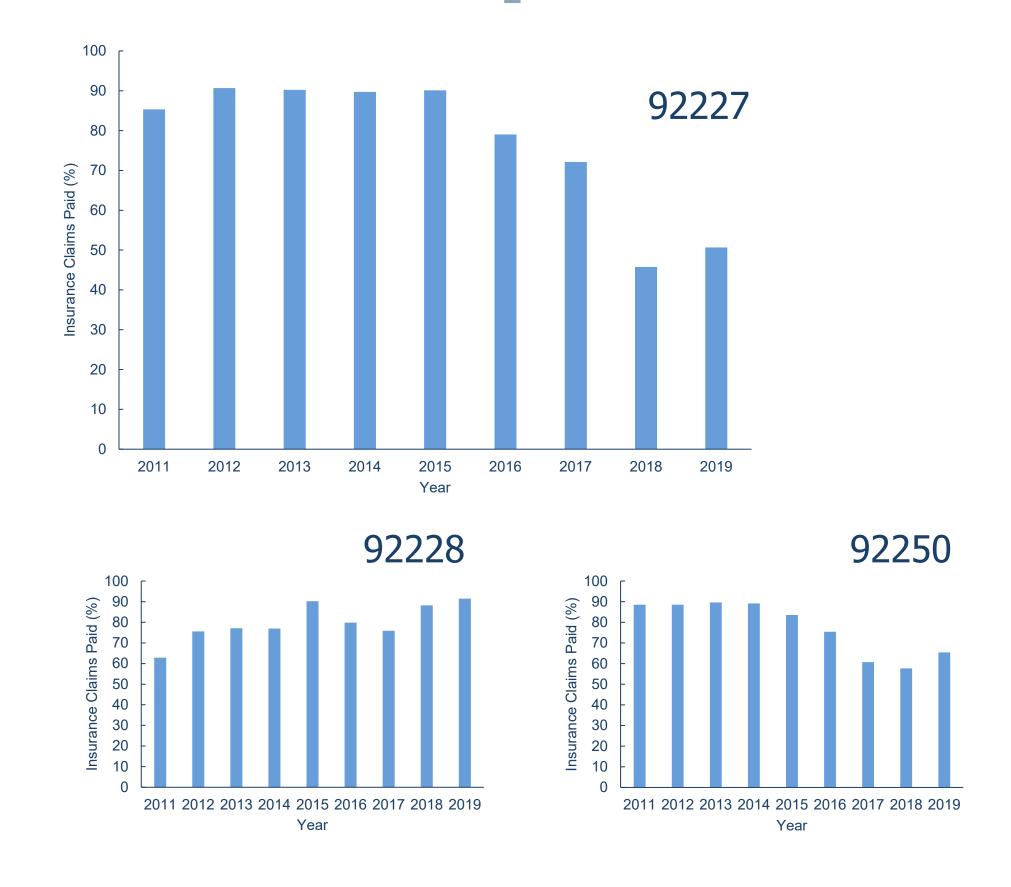
# Diabetic retinopathy screening increased

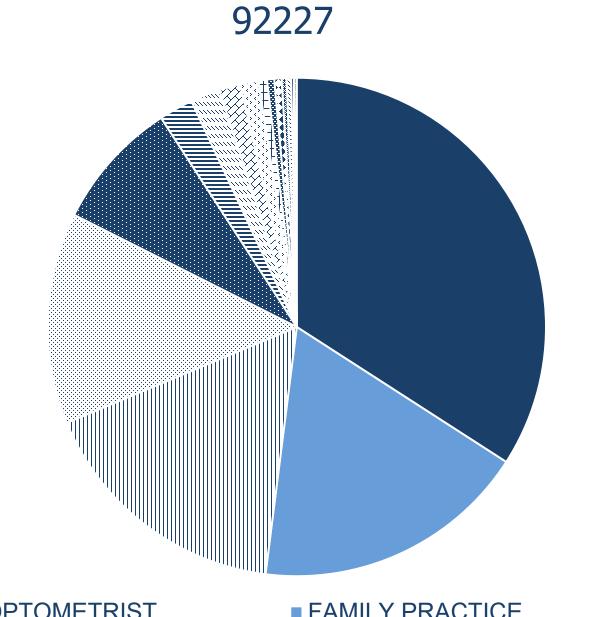


## Utilization increased











■ EMERGENCY MEDICINE ■ HOSPITALIST

**CARDIOLOGIST** 

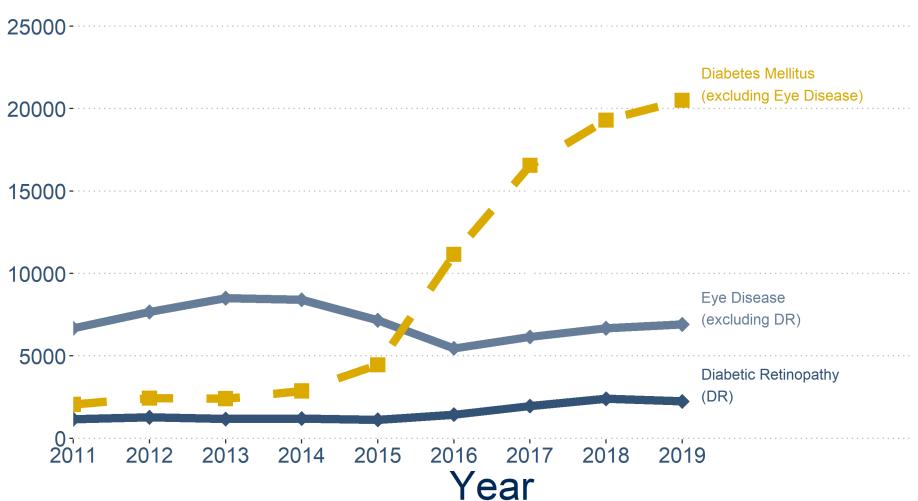
■ FAMILY PRACTICE **OPHTHALMOLOGIST ■ ENDOCRINOLOGIST** RADIOLOGIST + GENERAL PRACTITIONER \* PSYCHIATRIST **PHYSICIAN ASSISTANT** 

**INTERNIST** GASTROENTEROLOGIST \* PHYSICIAN ASSISTANT **PSYCHIATRIST** 

OPHTHALMOLOGIST OPTOMETRIST FAMILY PRACTICE # ENDOCRINOLOGIST **FAMILY PRACTITIONER** 

92228

### Frequency by Diagnosis



### Conclusions

- Unadjusted utilization rapidly increased after
- Lower proportion of claims paid in recent years

### **Future Directions**

- Claim payment amount stratified by CPT code
- Multivariable logistic regression predicting claim payment/denial

### References

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- 4. Ellis MP, Bacorn C, Luu KY, et al. Cost Analysis of Teleophthalmology Screening for Diabetic Retinopathy Using Teleophthalmology Billing Codes. Ophthalmic Surg Lasers Imaging Retina 2020;51(5):S26-S34.

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