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Efficacy of an Appointment Specialist in Reducing Loss to Follow Up in a Retina Practice

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Efficacy of an Appointment Specialist in Reducing Loss to Follow Up in a Retina Practice

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(*) indicates primary project advisor

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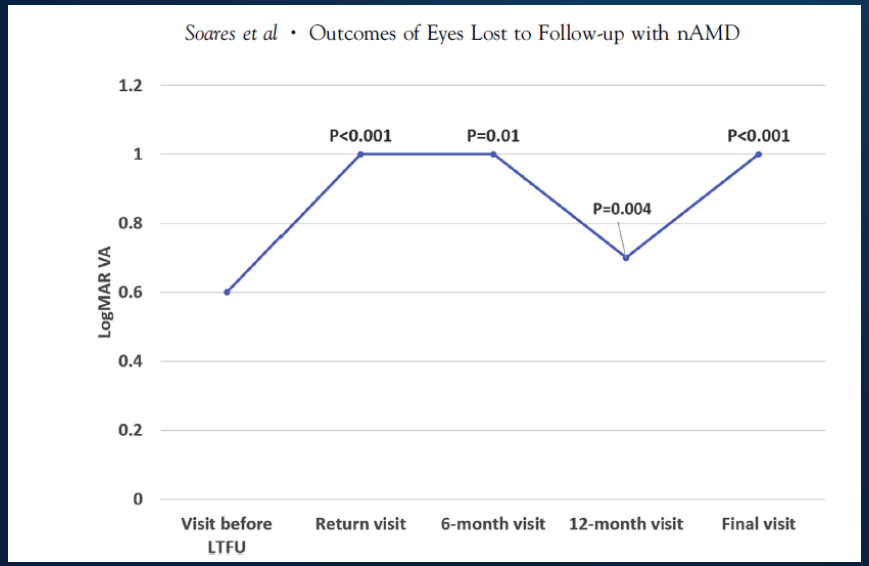
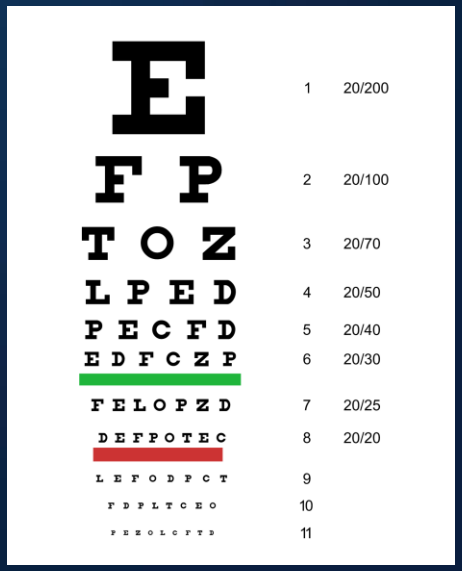
Introduction

- Retinal disease can require burdensome treatment load for patients (q4wks)
- Studies have shown this burden has led to:
  - Significant loss to follow up
  - Missed appointments may lead to irreversible damage, poor outcomes





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Objectives

Objectives

- Assess the efficacy of an appointment specialist in mitigating patient loss to followup
- Characterize common reasons for missed appointments
- Stratify results based on patient socio-demographic information

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Research Question & Hypothesis

Research Question

Can an appointment specialist mitigate the loss to follow up rate in the treatment of retinal disease in a retina practice servicing an urban and suburban population?

Hypothesis

The loss to follow up rate of patients receiving treatment in a retina practice servicing an urban and suburban population may be reduced by employing a fulltime appointment specialist.

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Approach

- Study design: retrospective cohort study
- Population: patients receiving intravitreal injections for retinal disease (wet-AMD, DR, RVO)
- Intervention: appointment specialist following up on missed appointments, 2x phone call reminders for patients who missed appointments, final letter mailed to patients who could not be contacted

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Review of methods

- Outcome:
  - Primary: rate of rescheduled visits (LTFU)
  - Secondary analysis: efficacy of multiple phone calls, sociodemographic factors

- Data:
  -appointment specialist call log
    -patient reported reasons for missed visit (free text)
    -call outcome (categorized)
    -dates of all phone calls and letter mailing

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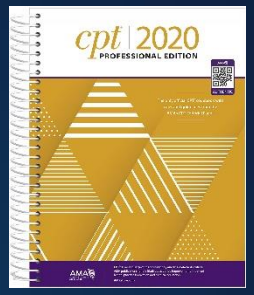
Review of methods



IRS

- Data (continued)
  -Billing data
    -CPT procedure codes
    -EMR demographic information
- -Regional Adjusted Gross Income (AGI)
    -Internal Revenue Service Zip Code, tax data (IRS.gov)
- Analysis:
  - independent variable: appointment specialist intervention (phone calls, letter), sociodemographic factors
  - dependent variable: rescheduled rate (LTFU rate)
  - Statistical anaylsis: Chi-squared, binary logistic regression (SPSS)

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Methods Rationale

- Multiple data sources (billing data, EMR, call log, gov tax info) cross referenced and organized in central database

  - Coordinated models for reducing "did not attend" visits and rescheduling patients have proved successful
    - Pediatrics clinic utilizing appointment reminders and followup on missed visits significantly reduced did not attend rate (Theodore 2017)
  - Centralized information allows for overall assessment of the efficacy of this program
  - Granular information collected allows for identification of strengths/weaknesses of program

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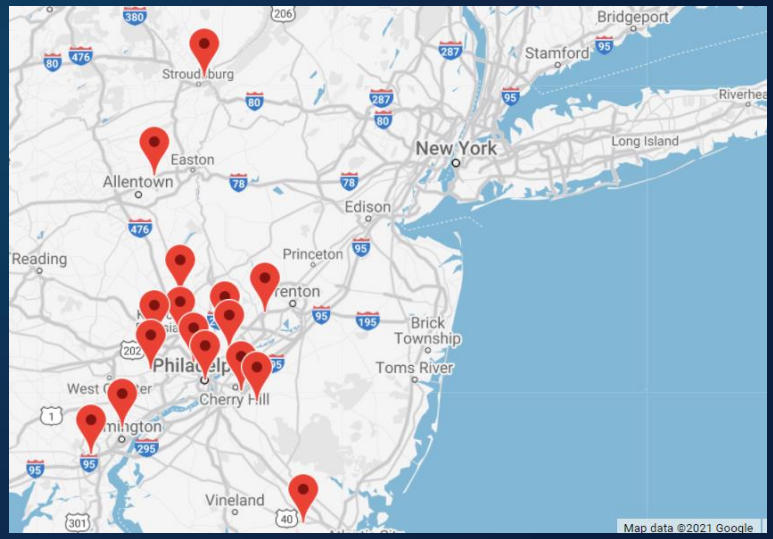
Results

Baseline Sociodemographic Information for Patients Who Missed an Intravitreal Injection Visit (2018-2020)

	n (number of visits)	% (of total visits)
Total Missed Visits	8,794	-
Sex		
Female	4,167	47.4
Male	3,484	39.6
Age* (years)		
1st Quartile [<61]	2,228	25.3
2nd Quartile [61-72]	2,204	25.1
3rd Quartile [73-84]	2,181	24.8
4th Quartile [>84]	2,180	24.8
Race		
White	5,326	60.6
African American	1,203	13.7
Hispanic or Latino	467	5.3
Asian	173	2.0
Native American	9	0.1
Hawaiian/Pacific Island	4	0.0
Unknown	469	5.3
Regional AGI ($)		
1st Quartile [<49K]	1,916	21.8
2nd Quartile [50-62K]	1,928	21.9
3rd Quartile [63-85K]	1,897	21.6
4th Quartile [>85K]	1,873	24.6



*Age: average = 71.5, standard deviation = 15.8

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Results

Patient reported reasons for missed intravitreal injection visits (2018-2020), n = 2,829

Reason for Missed Visit	n (number of missed visits)	% (of missed visits with reason)	% (of total missed visits)
Medical Issue	776	27.4	8.6
Hospitalization	720	25.4	8.0
Insurance/Financial	311	11.0	3.5
Deceased	212	7.5	2.4
Personal	208	7.4	2.3
Moved	163	5.8	1.8
Transportation	122	4.3	1.4
Changed Doctors	108	3.8	1.2
Forgot	88	3.1	1.0
Work	44	1.6	0.5
Refused Treatment	32	1.1	0.4
Follow up with other doctor	24	0.8	0.3
Weather	21	0.7	0.2

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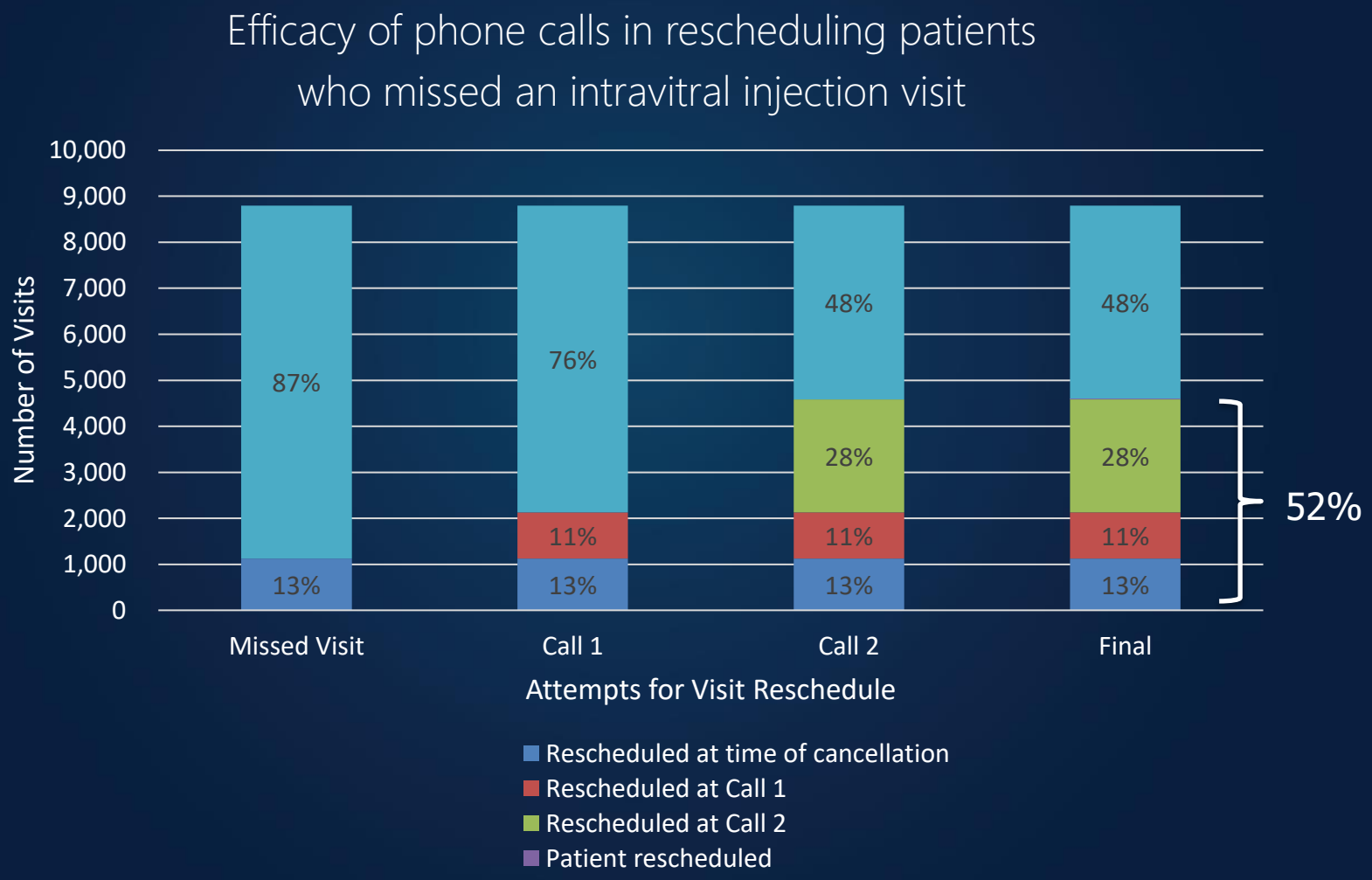
Results



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Results

Sociodemographic risk factors for failure to reschedule missed intravitreal injection visit

	Rescheduled, n (%)	Univariate Model		Multivariate Model*	
		OR (95% CI)	p-value	OR (95% CI)	p-value
Sex					
Female	2,264 of 4,167 (54.3)	0.96 (0.9-1.1)	0.37	-	-
Male	1,929 of 3,484 (55.4)	Reference			
Age (years)					
1st Quartile [<61]	1,223 of 2,228 (54.9)	Reference	-	Reference	-
2nd Quartile [61-72]	1,209 of 2,204 (54.9)	1.0 (0.9-1.1)	0.98	0.93 (0.8-1.1)	0.27
3rd Quartile [73-84]	1,156 of 2,181 (47.0)	0.93 (0.8-1.0)	0.21	0.87 (0.8-1.0)	**0.03**
4th Quartile [>84]	1,015 of 2,180 (46.6)	0.72 (0.6-0.8)	**<0.001**	0.70 (0.6-0.8)	**<0.001**
Race					
White	2,858 of 5,326 (53.7)	Reference	-	-	-
African American	714 of 1,203 (59.4)	1.26 (1.1-1.4)	**<0.001**	-	-
Hispanic or Latino	252 of 467 (54.0)	1.0 (0.8-1.2)	0.90	-	-
Asian	94 of 173 (54.3)	1.03 (0.8-1.4)	0.86	-	-
Native American	4 of 9 (44.4)	0.69 (0.2-2.6)	0.58	-	-
Hawaiian/Pacific Island	1 of 4 (25.0)	0.29 (0.0-2.8)	0.28	-	-
Unknown	270 of 469 (57.6)	1.17 (1.0-1.4)	0.10	-	-
Regional AGI					
1st Quartile [<49K]	1,072 of 1,916 (55.9)	1.00 (0.9-1.1)	0.99	0.91 (0.8-1.0)	0.15
2nd Quartile [50-62K]	1,017 of 1,928 (52.7)	0.88 (0.8-1.0)	**<0.05**	0.83 (0.7-0.9)	**<0.01**
3rd Quartile [63-85K]	1,031 of 1,897 (54.3)	0.94 (0.8-1.1)	0.32	0.90 (0.8-1.0)	0.12
4th Quartile [>85K]	1,048 of 1,873 (56.0)	Reference	-	Reference	-

*Stepwise backward likelihood procedure utilized for multivariate model selection.

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Conclusions

- Direct phone calls to patients who missed intravitreal injects are efficacious for rescheduling patients
  - 11% escheduled on first call
  - 28% rescheduled on second call
  - >50% of missed visits rescheduled during study period
- Patients miss appointments for diverse reasons including:
  - Medical Issues
  - Hospitilzation
  - Insurance/Financial

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Conclusions

- Some sociodemographic factors were associated with worse response to a direct phone call intervention for missed appointments
  - Older age, over 73 and *especially* over 84
  - 2nd lowest quartile of regional AGI ($50-62K)
- Race and sex were *not* significant sociodemographic factors in our model
- These findings corroborate previous observations of association between low AGI and poor outcomes in retina care (specifically LTFU)
- Elderly patients and patients with significant co-morbid medial conditions may be at risk for missed appointments, poor outcomes

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Future Directions

- Continued implementation of the program is recommended given > 50% of missed visits rescheduled in study period

- Supplemental interventions may be needed to address weak areas of the program
  - alternative patient contact #'s such as family member
  - continued advocacy for patient visit adherence during each visit
  - coordination with primay care physician
  - flexible scheduling for patients that cannot miss work for visit
  - Intake screening for risk factors/self reported concerns regarding follow up for proactive mitigation

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