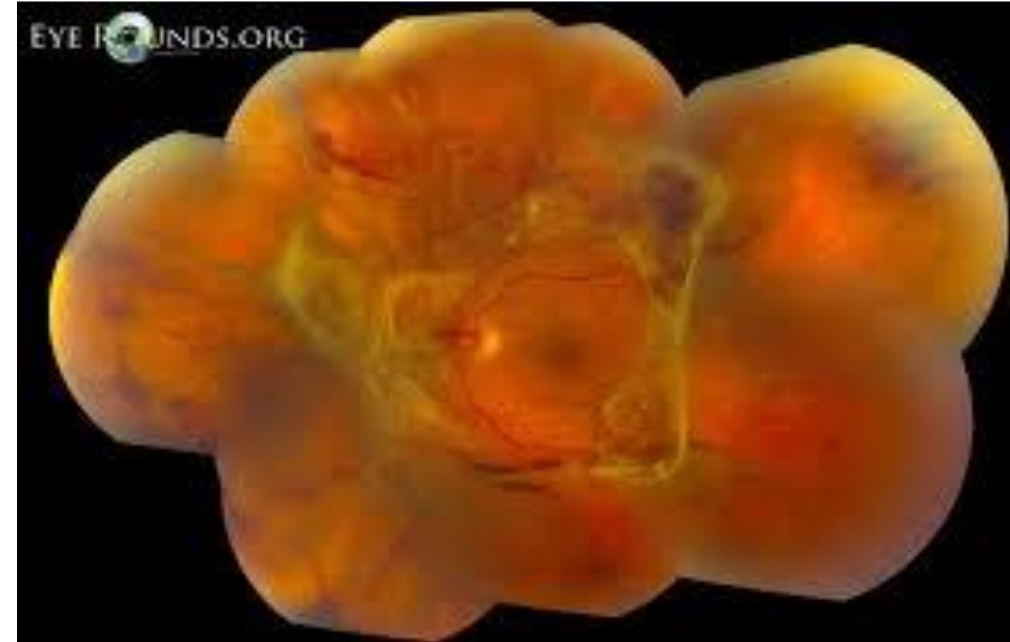
Harvard Ophthalmology Community Eye Care Program

UAR Symposium: October 27, 2022

Alice Lorch MD, MPH, Grayson W Armstrong MD, MPH, Janet Razulis MHA, and Erin Garrity MPH
Massachusetts Eye and Ear Infirmary

Problem Statement

- Early detection of diabetic retinopathy has been proven to prevent vision threatening retinal disease
- Ophthalmic societies therefore recommend annual screening retinal eye exams for patients with diabetes
- Unfortunately, national annual screening rates are low, with patients who are from racial and ethnic minority groups receiving screening less often
- At MGB, 88 % of patients with diabetes did not have a dilated exam in a one-year period, over 210,000 patients!
- Our project serves to bridge these care gaps by offering diabetic eye telemedicine screening clinics in community health centers across the MGB system.



Source:* https://pubmed.ncbi.nlm.nih.gov/31281055/
*** https://www.cdc.gov/mmwr/volumes/68/wr/mm6845a3.htm#:~:text=Nationally%2C%20the%20prevalence%20of%20having,in%2046%20states%20and%20DC.

Year 1 Accomplishments – Overview
Project Workflow

1

Automated data pull to identify:

- MGB patients with diabetes
- Patients without eye exam within past 1 year

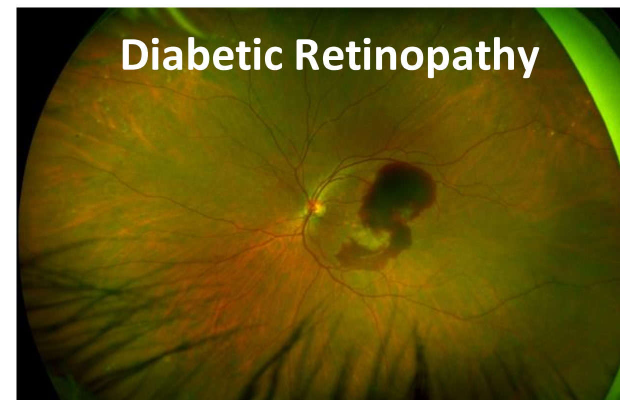
2

Fundus photo taken with Optos camera

Optos Camera

3

MEE Ophthalmologist reads image and sends report via e-consult to referring primary care provider



4

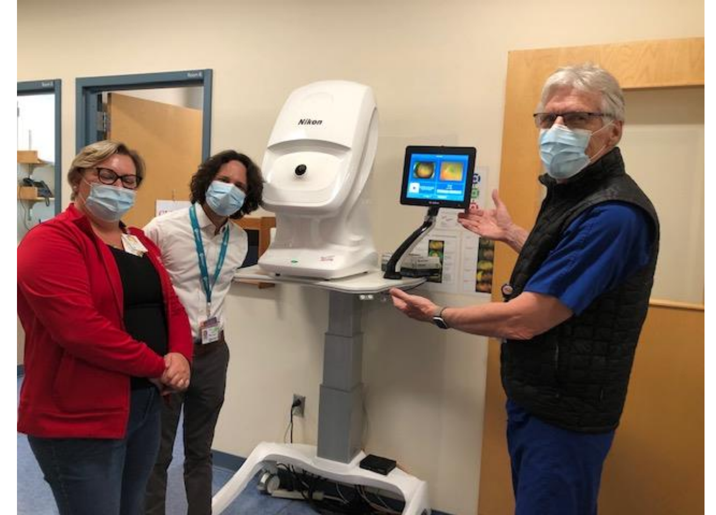
Retinopathy Detected:

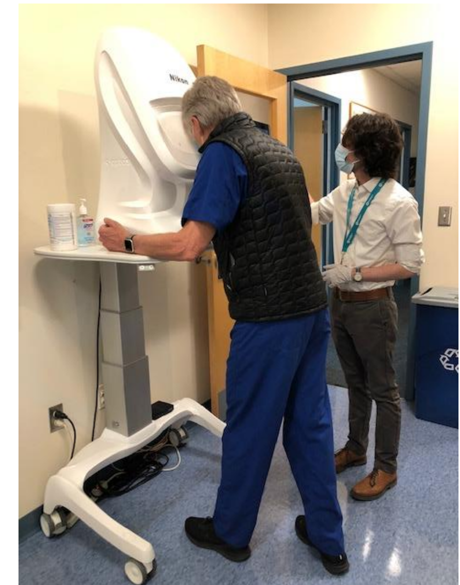
- **Referral** placed for in-person eye exam
- PCP Informed

No Retinopathy:

- PCP informed of normal exam

Year 1 Accomplishments
Major Accomplishments





- Instituted two diabetic retinopathy screening sites:
  - MGH Revere Community Health Center
  - BWH Brookside Community Health Center
- Validated MGB data on patients with and without an eye exam to distribute to screening sites for patient outreach
- Developed tracking and referral workflow to coordinate additional follow-up for patients
- Greatly expanded advertising efforts to increase visibility of this program to potential patients and to providers at our sites

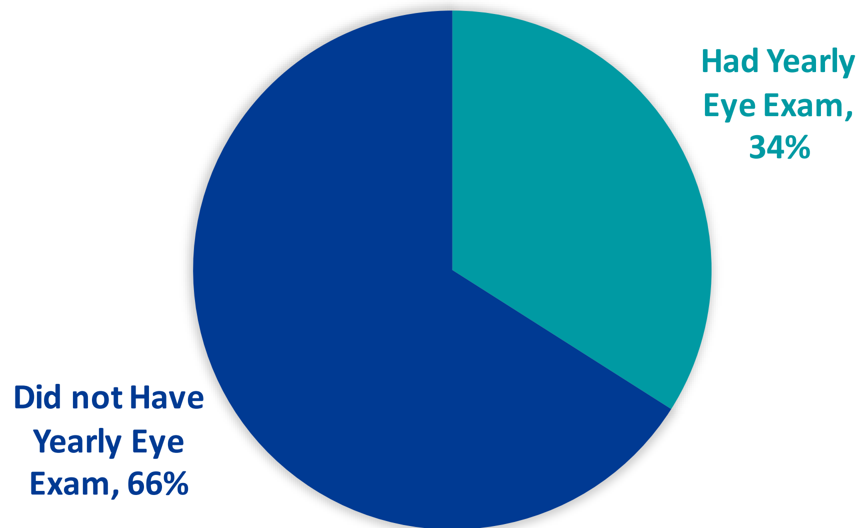
Year 1 Accomplishments
Process Metrics

	Revere	Brookside	Total
	Program to Date: Starting June 2021	Program to Date: Starting February 2022	Program to Date
Screened Patient Volume	203	250	453
Ungradable Rate	3%	16%	10%
Average Days to Read Image	4.79	3.53	4.16
Referral Rate	30%	31%	30%
Urgent Referral Rate	1%	0.40%	0.70%
Urgent Referrals into Follow-up Care	50%*	100%	66%*

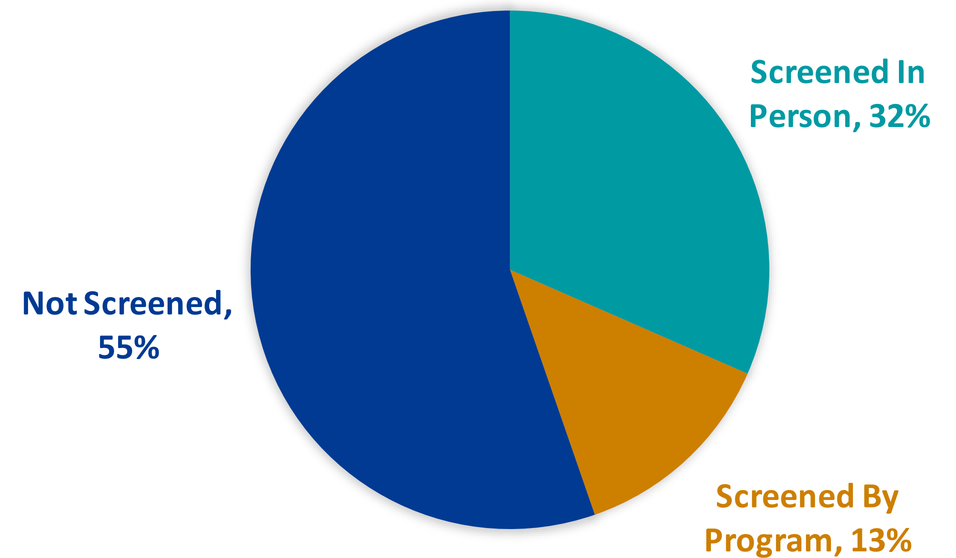
data as of 10/01/2021

* Patient was scheduled but ended up cancelling their appointment.

Year 1 Accomplishments- Revere
Clinical Outcome Metrics

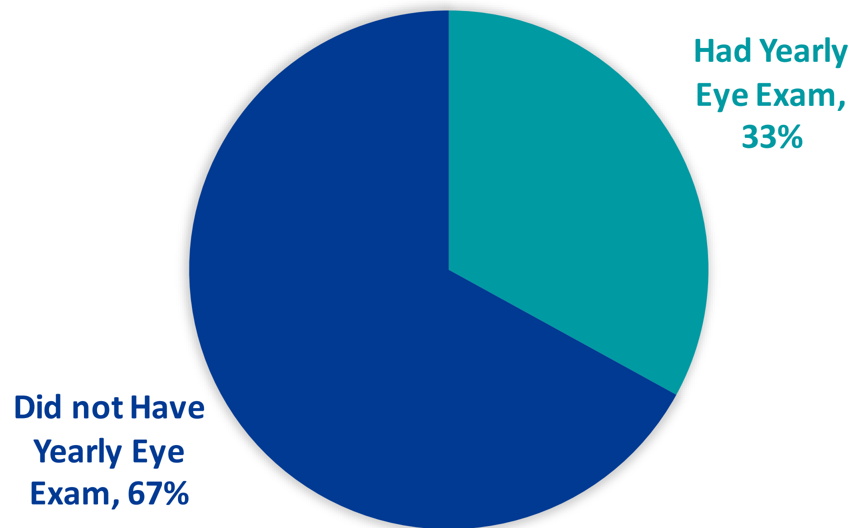


From April 2020-March 2021

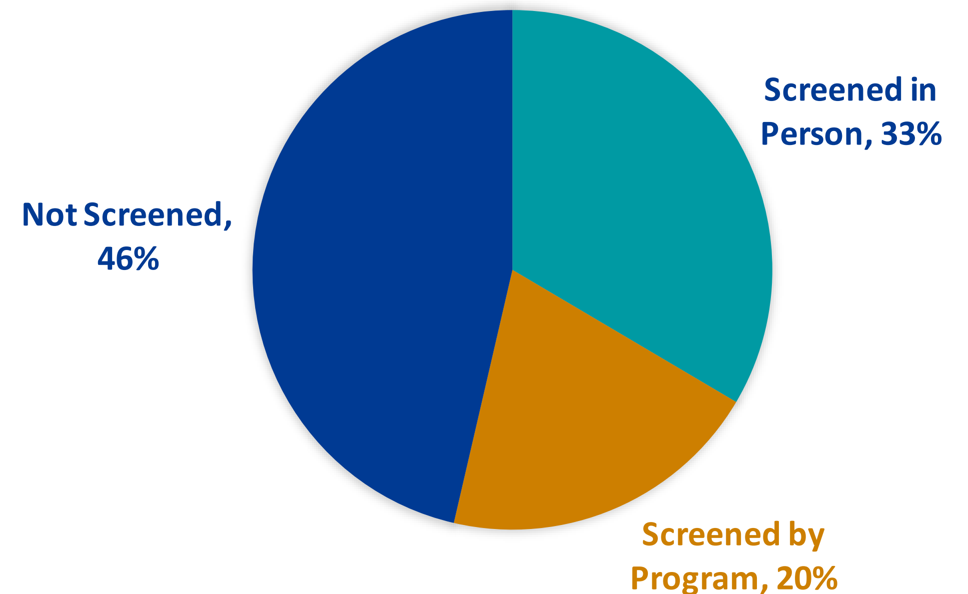


Year 1 Accomplishments- Brookside

Clinical Outcome Metrics



From September 2020-August 2021



Year 1 Challenges

Challenges

- Fluctuating Volume
- Staffing Concerns
- Screening Result Communication to Patient via PCP
- IT Issues

Lessons Learned

- Examining how different clinic dates affected patient volume
- Best practices for obtaining good images
- Good communication strategies for reaching patients and providers

Looking Ahead: Plans for Year 2

- **New Screening Site:**
  - 3rd site at BWH Southern Jamaica Plain Community Health Center
- **Increase Number of Patients Screened:**
  - Expand to additional community health centers
  - Improve numbers of patients screened at each location
- **Improve Follow-Up:**
  - Improve proportion of patients seen in-person for eye exam after being referred in
- **Workflow Improvements:**
  - Continue to refine workflow to increase patient volume
  - Decrease burden on physicians and patients
- **Work on Developing Long-Term Sustainable Financial Model:**
  - Explore new models outside of E-Consults
  - Potentially use FDA-approved Autonomous Artificial Intelligence-enabled retina cameras

Appendix

Team Members

Name	Credentials	Role/Discipline (i.e. hospitalist, nurse manager, analyst, etc.)
Project Leaders:		
Alice C. Lorch	MD, MPH	Ophthalmologist, MEE
Grayson W. Armstrong	MD, MPH	Ophthalmologist, MEE
Team Members:		
Janet Razulis	MHA	Director, Ophthalmology Admin, MEE
Erin Garrity	MPH	Project Manager, MEE
Anne Murphy		Director of Applications and Training, IT, MEE
Kevin Markt		Applications Analyst, IT, MEE
Project Sponsors:		
United Against Racism		
ALCON Foundation		
ECOCH: Community Health and Health Equity Funding		
DFCU: Digital Federal Credit Union		

Additional Registry Data

Diabetes Registry Data (as of 10.1.22)	Revere Site	Brookside Site
Diabetes Registry Volume by Health Center	1,546	1,242
Percentage of Patients Seen In-Person Pre-Program	34%	33%
Patient Volume Program to Date	203	250
Percentage of Patients Seen In-Person and Screened by Program in Last Year	45%	54%
Percentage Difference from Program Screening	11%	21%
Patient Capture Improvement Rate	31%	62%

Mass General Brigham