

# Development of a Screening Questionnaire for Referral to a Free Eye Clinic

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Several common diseases of the eye require early diagnosis and frequent follow-up in order to prevent vision loss. Diseases including age-related macular degeneration, cataracts, diabetic retinopathy, and glaucoma are among the leading causes of blindness in adults. These conditions often lead to significant loss of vision when left untreated. In underserved populations, the economic burden and lack of available healthcare generally lead to these diseases being diagnosed late, if at all. Previous research has established the association between low socioeconomic status and lack of access to eye care.<sup>1,2,3,4</sup>

Our Ophthalmology Specialty Clinic (OSC) is a free eye clinic serving the underserved population of Alachua County. The clinic has consistently remained open and functional the final Tuesday of each month for the last few years. Three exam rooms with full equipment for ophthalmic work-up are utilized for patient care. One volunteer attending ophthalmologist and two to three volunteer resident ophthalmologists attend each clinic and see patients alongside medical student volunteers. Patients are initially referred by either providers at other free primary care clinics around Alachua County or local health clinics.

A screening process during intake at these clinics helps determine whether a given patient requires ophthalmic care at the OSC. Uninsured patients seen at the primary clinics who have need for an ophthalmic procedure are then referred to the We Care Physician Referral Network, a local county Department of Health service. This resource connects patients with community or hospital ophthalmologists willing to provide services free of cost. To qualify, patients

must meet referral eligibility criteria, including in-county residence, citizenship or permanent resident status, an income threshold, and documented lack of insurance eligibility.

## Challenges in Eye Clinic Referral

One recurring obstacle that developed at the eye clinic was the adequate assessment of our patients in the referring clinics to better discern more urgent and severe eye care needs. Though it would be ideal to treat all patients in a timely manner, this goal is often not feasible given the high level of demand, relatively few visitation slots, and limited resources in a free ophthalmology clinic staffed by volunteers. We determined that if patients are better screened in our referring clinics, it is possible that patients at higher risk for vision loss can be examined and treated sooner. This led to the development of a screening questionnaire, which is to be implemented in all our referring clinics.

## Referral Screening Questionnaire

Our proposed screening questionnaire consists of three parts. If any one of the criteria in **Part 1** is met, a patient is deemed to be high risk and automatically referred to the OSC. Current literature suggests significantly elevated risk of diabetic retinopathy development in patients with hemoglobin A1c measurements of 6.5% or greater.<sup>5</sup> Given our population lacks adequate healthcare, a large portion fit this group. A cut-off of 7.5% would allow the highest risk patients to be seen in a timely manner. The first question in **Part 1** would differentiate patients that are diabetic and present with a most current reported hemoglobin A1c of 7.5% or higher. Furthermore, patients with a family history of chronic open-angle glaucoma are at an increased risk of developing an

elevation in intraocular pressure (IOP) by approximately 3.8-fold compared to the average population.<sup>6</sup> These patients also have a significantly greater risk of developing glaucoma in the future.<sup>7</sup> The second question of **Part 1** distinguishes patients with a family history significant for glaucoma. The final question of **Part 1** simply prioritizes patients with recent significant vision loss, as several etiologies for this complaint may lead to permanent blindness if not evaluated and treated promptly.

If patients do not qualify for any of the three criteria in **Part 1**, **Part 2** of the questionnaire helps capture patients who may still be at high risk for significant eye disease. This section is formulated as an aggregated risk score based on other risk factors including delayed eye exam, race, and increased age. **Part 3** of the questionnaire serves a logistic purpose in assuring that patients being referred to the OSC are eligible for free treatment if needed.

### Future Directions

Through the creation of this questionnaire and proper education of our volunteers in executing the survey, we aim to establish a more effective referral system for our patients. We hope that our efforts will translate into other specialty clinics in order to provide timely care to high-risk patients. However, we expect to come across limitations of this questionnaire, and we will make and track incremental adjustments over time. Ultimately, we plan to study the efficacy of such a questionnaire and to analyze whether this intervention leads to an overall progression towards ideal patient care.

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## Ophthalmology Specialty Clinic (OSC) - Screening Questionnaire

### Part 1:

1. Are you diabetic with a hemoglobin A1c > 7.5?

Yes      No

2. Do you have a family history of glaucoma?

Yes      No

3. Have you recently experienced significant vision loss?

Yes      No

### Part 2:

4. When was your last eye exam?

Less than 1 year ago      (0)

1-2 years ago      (1)

More than 2 years ago      (2)

I've never had an eye exam      (3)

5. Race/Ethnicity

White (0) African-American (1) Latino (1) Asian (0) Other (0)

6. Are you over age 65?

Yes (1)      No (0)

### Part 3:

7. Are you a resident of Alachua County?

Yes      No

8. Do you have insurance or Medicare?

Yes      No

9. Reason for wanting to attend clinic: \_\_\_\_\_

### Grading and Guidance on Referral to Eye Clinic

**Part 1:** If the patient answers "Yes" to any of the questions in **Part 1**, then automatically refer to a community ophthalmologist, unless the patient is already being followed by an eye provider.

**Part 2:** If patient has answered "No" to all questions in Part 1, then proceed to **Part 2** and use the following point system to determine who may need referral:

3 or more points – refer

2 points – offer referral

1 point – do not refer

**Part 3** consists of automatic disqualifiers:

- If the answer to question 7 is "No," then the patient must be referred to another resource. Patients must be an Alachua County resident to qualify for We Care referral for treatment.

- If the answer to question 8 is “Yes,” then the patient can be referred to a community ophthalmologist.
- If the answer to 9 is glasses or contact lenses, do not refer the patient as they should be seen by an optometrist in the community.

**Additional Information**

If you feel a patient needs to be seen but does not meet criteria set out in this form, please discuss with the supervising attending to determine if they need to be referred.