

## ABO NON-CLINICAL IMPROVEMENT IN MEDICAL PRACTICE ACTIVITY

### Topic

<b>Title of Project:</b>	Evaluation of Depression in Patients with Inherited Forms of Vision Loss
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### Project Description

<p>Describe the quality gap or issued addressed by this activity. (Included in your response to this question should be a description of the resources that informed your decision to pursue this topic, a description of what the literature says about the issue you identified, and the rationale for choosing to address this clinical project</p>	<p>Currently, my clinical research-based practice does not formally assess our patients with inherited forms of vision loss for depression, although this is likely present. Depression can be effectively treated, once identified, and untreated depression can affect patient well-being, self-care and other medical outcomes.</p>
<p><b>Background Information:</b> The month you pulled the baseline IRIS performance report and any additional information that me be pertinent:</p>	<p>Epidemiologic studies have demonstrated that vision loss is often associated with depression [1, 2]. Patients with inherited forms of eye disease often experience many forms of vision loss, including decreased best-corrected visual acuity, reduced peripheral vision, reduced contrast sensitivity, and reduced color discrimination. Nearly all these conditions have no immediate treatments available, possibly increasing the likelihood of feelings of helplessness and depression when facing challenges such as education and loss of autonomy. Several well-validated, simple survey instruments are available to assess for depressive symptoms [3, 4] and can identify patients at risk. My practice employees certified genetic counselors qualified to assist at-risk patients, including referral to appropriate medical, psychological and low-vision care.</p>
<p><b>Project Setting:</b> (Please select from options below):</p> <ul style="list-style-type: none"> <li>• Group Practice</li> <li>• Healthcare Network</li> <li>• Hospital</li> <li>• Multi-Specialty Group</li> <li>• Solo Practice</li> <li>• Surgical Center</li> <li>• Other</li> </ul>	<p>Clinical research-based practice at the Clinical Center of the National Institutes of Health/National Eye Institute (government-funded clinical research).</p>
<p><b>Study population:</b> (describe the type of patient for whom the care process will be improved, e.g., all patients in your practice, patients with diabetes, patients presenting for emergency care:</p>	<p>All new and established patients 12 years or older with known or suspected inherited vision loss.</p>

**Quality Indicators / Performance****Measures:**

It is important to carefully define outcome or performance measures that will be quantified at baseline (before the care process is changed) and at re-measurement (after you have implemented the proposed improvement) to quantify the impact of your care process change. There are two basic types of performance measures - process of care measures and outcomes of care measures.

- Process of care measures (e.g. timely treatment of diabetic retinopathy) can influence outcome measure (e.g. decreased risk of severe vision loss);
- Outcome measures can be linked to processes of care that can be improved. Generally, performance measures are expressed as rates, often as percentage rates. For example, if the intent of a project is to improve the quality of glaucoma care in your practice, you may choose to improve your rate of establishing a goal IOP in patients with newly diagnosed glaucoma, measured over a 3-month period.
- The numerator of this process measure would be the number of newly diagnosed patients during this time who have a goal IOP recorded in the medical record.
- The denominator would be the total number of patients diagnosed during that same time period.

Continuous variables (e.g. the refracted spherical equivalent after cataract surgery) can often be simplified and transformed then into percentage rates by setting a quality threshold (within 0.5 diopters in the intended spherical equivalent) which, if attained, would qualify the patient to be in the numerator (e.g. number of patients within 0.5 diopters / total number of patients). It can be advantageous but not mandatory to have more than one quality measure in order to gauge the impact of your process change. In the example above, an additional outcome measure might be the percentage of patients in whom the goal IOP is attained within the first 6 months after diagnosis. If possible, measure quality indicators for at least 30 individual patients or data points during the baseline and again during the follow up period.

**Measure Type:** Outcome

**Measure Name:** Patient Health Questionnaire depression scale (PHQ-8) for patients 18 years or older. The adolescent version of this scale, the PHQ-A will be used for those between ages 12 and 18.

**Numerator Statement:** Number of patients with psychological/psychiatric follow-up scheduled at three-month phone follow-up.

**Denominator Statement:** 50 Consecutive Patients

We realize that this may not be feasible or appropriate for all projects. Please indicate at least one measure below; either a process or outcome measure:

**Example Measure:**

- . Measure Type: Process Measure
- . Measure Name: Patient pain level during intravitreal injection
- . Numerator Statement: Number of patients in who pain levels decreased by 2 points on a 1-10 scale
- . Denominator Statement: 30 consecutive patients undergoing intravitreal injection.

<p><b>Project Interventions:</b>  Quality improvement requires that you analyze your care delivery processes and identify changes, which if implemented, will improve care and outcomes. Generally, educational interventions are thought to be weak and demonstrate little impact. The introduction of tools, strategies or systematic approaches to care delivery is more powerful. A tool is a thing, for example a preoperative checklist, or written standardized process or protocol. Strategies include changes in procedures or policies like the introduction of a surgical time out before surgery is initiated. Systematic approaches to care delivery involve a comprehensive analysis of care process and the introduction of a combination of tools and strategies designed as a complete process. Please describe the changes to your care processes you intend to introduce:</p>	<p>On-site, same-day (when possible) counseling by certified genetic counselor with referral to appropriate medical, psychological and low-vision care.</p>
<p><b>Project Team:</b>  (include roles for yourself and all members of your team):  List the individuals who will be involved in your quality improvement project (i.e., solo project, partners in practice, office staff, OR personnel, anesthesiologists) and the roles they will contribute.</p>	<p>Patients will be asked to complete the eight-item Patient Health Questionnaire depression scale (PHQ-8/ PHQ-A) survey upon checking in. Results will be tabulated, recorded in the medical record and reviewed by me. Patients who score <math>\geq 10</math> on this survey (the established cutoff score) will be asked to meet with a genetic counselor the same-day of the visit. If the patient is unable to stay for this intervention, a follow-up phone call will be made within approximately one week. Appropriate referrals will be made. After approximately three months, a follow-up phone call will be made by the counselors to ascertain whether concrete plans for psychological/psychiatric care have been made.</p> <p>Three months is likely too early to determine if depressive symptoms have improved significantly; as such, this outcome will likely be assessed later, perhaps as part of a subsequent practice quality improvement measure.</p>
<p>Will any other ophthalmologists be requesting MOC credit for participation in this SD-PIM?</p>	<p>N/A</p>

## Project Outcomes/Results

<p><b>Project Summary</b></p>	<p>In the following sections, please prepare a brief summary of the project highlighting the data collected, effectiveness of your measurement approach, interventions, and the overall impact of the project.</p>
<p><b>Baseline Data:</b> Quantify each of the quality indicators / performance measures described above for the baseline period (before interventions for improvement were introduced). Report the numerator, denominator and the calculated percentage rate for each measure.</p>	<p>Pre-Intervention:</p> <p>2) Measuring the effect of intervention in the subpopulation that screened positive. Background includes:</p> <ul style="list-style-type: none"> <li>• The PHQ-9 survey, a well-validated 10-item questionnaire designed to efficiently capture depressive symptoms, was administered to 50 consecutive adult patients in the Ophthalmic Genetics and Visual Function Branch (OGVFB) clinic of the National Eye Institute (NEI) between January 2019 and March 2019.</li> <li>• The purpose of this intervention was to evaluate whether a rapid assessment for depression during a standard day visit may facilitate identifying and appropriately referring at-risk patients.</li> <li>• This project also allowed for a view into the depressive profiles of patients seen in the NEI OGVFB clinic when demographic, genetic and clinical data from the EHR were correlated to the patients' scores.</li> <li>• The questionnaire was administered by one of two nurse coordinators at the onset of the visit. Patients with scores at or above 10, which corresponds to a level of depression deemed at least moderate, were then referred to one of two genetic counselors for further assessment on the same day.</li> <li>• Out of 50 patients screened, six (12%) had scores between 10 and 19. Of note, these patients had a prior history of mental illness, though not initially related to the vision loss. They all had obtained mental health care in the past, and some were currently under care.</li> </ul>
<p><b>Follow-up Data:</b> Quantify each of the quality indicators / performance measures described above for the re-measurement period (the period following implementation of the interventions for improvement).</p>	<ul style="list-style-type: none"> <li>• Three months after their initial evaluation, the six patients who had screened positive were called back by a genetic counselor to evaluate progress related to the management of depressive symptoms. The questionnaire was not re-administered at that time since the purpose of the call was to ascertain that the patient either had obtained care or had a plan in place to seek care.</li> <li>• Three patients were reached, and three patients did not return phone calls. Of the three patients reached, two had ongoing mental health care and one had made plans to see their primary care physician to ask for a referral and restart mental health care.</li> </ul>

## Project Impact

Compare the baseline data to the re-measurement / follow-up data and quantify the impact of the process of care changes (your project interventions). The project hopefully resulted in improvement; however, some projects may result in a diminution in quality. If a lack of improvement or reduction in quality occurred, suggest other strategies that might be more effective.

- From a practical standpoint, this project demonstrated that including the PHQ-9 questionnaire to the overall testing of patients was feasible. Factors driving feasibility included availability of nursing staff to administer the survey and record responses, and availability of genetic counselors trained in addressing the psychosocial needs of patients. More broadly, this project did raise questions about the role of specialty clinics in providing mental health screening to patients, and the means necessary to do so.
- Results in the patients who screened positive were a reminder that depression can be a chronic condition and predate a diagnosis of vision loss and point towards the need for long-term follow-up in at-risk patients. In at least one case, a measurable change (i.e., obtaining mental health services) was noted.
- The average overall PHQ-9 score in this cohort, measured at 3.8, was lower than those previously reported in patients with specific inherited eye conditions: average PHQ-9 scores in patients with retinitis pigmentosa (RP) and Stargardt disease have been measured between 10 and 14. Similarly, the proportion of respondents with a score 10 or higher was lower in this cohort (13%) than those previously reported (49% and 53%).
- Though there may have been trends, there were no significant statistical associations between clinical or demographic variables and scores. Some studies have indeed documented a lack of association between disease duration or disability level and degree of depression. Other, however, have shown some associations: between lower BCVA, increased age and higher PHQ-9 scores; between higher depression rates and visual fields less than 20 degrees or visual acuity worse than 20/40; between higher depression rates and being diagnosed later in life, and lower rates with longer disease duration, suggesting adaptation to vision loss. Such varied results may suggest nuanced associations between unique patient characteristics and depression.
- The results obtained should not be viewed as representative neither of the overall NEI OGVFB patient population nor of patients with vision loss: although randomly captured, this was a small cohort of patients participating in research studies at the NEI and representing a variety of diagnoses influencing visual abilities and physical health in functionally different ways.

## Project Reflection

Did you feel the project was worthwhile, effective?	YES
How might you have performed the project differently?	I felt that the three months for measuring change was too soon to expect a measurable difference in the survey score. Following up over a longer time on those "at risk" patients may measure a significant change in mood per se.
Please offer suggestions for other ophthalmologists undertaking a similar project.	Having a well-trained staff with some facility in speaking about mental health issues is key.