**ABO IMPROVEMENT IN MEDICAL PRACTICE ACTIVITY**

**(NON-CLINICAL)**

**Topic**

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| **Title of Project**: | Improvement in Data Collection and Organization in Patients with Glaucoma, Glaucoma Suspect, and Ocular Hypertension |

**Project Description**

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| 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 | Patients diagnosed in our practice (2 MDs, 1 OD) with glaucoma, glaucoma suspect, or ocular hypertension undergo a variety of standard tests and data collection. However, the dates and associated data is not organized in a way that is easily accessible to providers. Because of this, some testing gets missed (gonioscopy, pachymetry) or delayed (OCT, visual fields). Additional time is required to search for the necessary data to determine the future treatment plan. I propose to develop a comprehensive template which can be used by all providers to track this data in one location. |
| **Background Information**: The month you pulled the baseline IRIS performance report and any additional information that me be pertinent: | I have used a smaller version template with my own glaucoma patients in the past. However, I have recently joined a group practice where all the doctors share in the care of the majority of the patients. No such template exists currently in our EMR (except on a few patients for which I have created one.) I have noticed that finding the data necessary to make further treatment decisions is challenging and time consuming specifically in the patients diagnosed with glaucoma or glaucoma suspect. I would like to develop and utilize this template across all glaucoma/glaucoma suspect/OHTN patients independent of which doctor is caring for the patient on a particular day. I feel this will improve patient care and assist the doctors in making good treatment recommendations moving forward. |
| **Project Setting**: (Please select from options below):* Group Practice
* Healthcare Network
* Hospital
* Multi-Specialty Group
* Solo Practice
* Surgical Center
* Other
 | Group Practice |
| **Study population**: (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: | We have numerous glaucoma patients and patients diagnosed with glaucoma suspect and OHTN. All patients in our practice diagnosed with glaucoma (any type) or glaucoma suspect or OHTN will be eligible to have a template created and data entered by the next doctor that examines them, as well template updates with each exam going forward. |
| **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 Nam**e: Glaucoma template utilized in patient's EMR chart
* **Numerator Statement**: Number of patients with glaucoma template utilized in EMR chart in a specified time period
* **Denominator Statement**: All glaucoma patients, all glaucoma suspect patients, all OHTN patients seen in specified time period
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| 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. |  |
| **Project Interventions**: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: | Create a glaucoma template to document the following dates/test results/data: Current IOP, prior IOP, Tmax, Target IOP, current IOP lowering eye drops/medications, history of drop/medication use, optic nerve cup/disc ratio, pachymetry, HVF, RNFL OCT, GCC OCT, disc photos, gonio, laser/surgery hx, FH, other health concerns (i.e., allergy to sulfa, hx kidney stones, DM2, COPD, asthma).Measure the percentage of patient charts (with diagnosis of glaucoma, glaucoma suspect, or HTN) in the last 2 months that had a glaucoma template. Implement the template with providers over a 1-week period. Re-measure the percentage of patient charts (same diagnoses) in the following 2 months that have a glaucoma template utilized. |
| **Project Team**:(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. | Myself: Create template and teach other providers how to use.Partners in Practice (1 OD, 1 MD): Utilize the template. |
| Will any other ophthalmologists be requesting MOC credit for participation in this SD-PIM? | NO |

**Project Outcomes/Results**

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| **Project Summary** | 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. |
| **Baseline Data**: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. | **Performance Measure:** Utilization of a Glaucoma Flow Template in patient charts at risk of or with glaucoma.**Numerator:** Patient visits within the last 2 months with a diagnosis of glaucoma, glaucoma suspect, or ocular HTN AND with a glaucoma flow template incorporated into the Plan section of the chart note for that day.**Denominator:** Patients visits within the last 2 months with a diagnosis of glaucoma, glaucoma suspect, or ocular HTN**Result:** Percentage of patient visits with diagnosis (of glaucoma, glaucoma suspect, or ocular HTN) in the last 2 months that had a glaucoma template as part of their Plan for that day = 7.4% (19/257) |
| **Follow-up Data**:Quantify each of the quality indicators / performance measures described above for the re-measurement period (the period following implementation of the interventions for improvement). | * A Glaucoma Flow Template was created; MD and OD staff were trained on its use and asked to utilize it with any patients at risk of or having a diagnosis of glaucoma. The Template included: current IOP, Tmax, Target IOP, current glaucoma Rx, cup/disc, pachymetry, fundus/optic nerve photos, gonio (date and results), most recent HVF, most recent OCT (RNFL and GCC), family history of glaucoma, past glaucoma-related surgical procedures, and special notes (i.e., diabetic?, hx kidney stones?, allergies?, hx of adverse reaction to glaucoma drops, etc.).
* Performance measure: Utilization of a Glaucoma Flow Template in patient charts at risk of or with glaucoma
* Numerator: Patient visits within the following 2 months with a diagnosis of glaucoma, glaucoma suspect, or ocular HTN AND with a glaucoma flow template incorporated into the Plan section of the chart note for that day
* Denominator: Patients visits within the following 2 months with a diagnosis of glaucoma, glaucoma suspect, or ocular HTN
* Result: Percentage of patient visits with diagnosis (of glaucoma, glaucoma suspect, or ocular HTN) in the following 2 months that had a glaucoma template as part of their Plan for that day = 40.9% (65/159)
* We also calculated the percentage of all patient visits during the 4-months’ time period in our practice with a diagnosis of glaucoma, glaucoma suspect, or ocular HTN, which was 31.6% (416/1,317). This is much higher than the reported average.
* The NIH reports that the mean prevalence for open angle glaucoma worldwide in 2010 was 1.96% (angle closure glaucoma added an additional 0.69%). The Glaucoma Research Foundation (2017) reports that 3 million Americans have glaucoma, but only half are aware of this fact. A meta-analysis in 2014 (Ophthalmology 121:11) estimated the prevalence of glaucoma to be 3.5% globally.
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**Project Impact**

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| 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. | This project demonstrated that use of a glaucoma flow template if possible, can be successfully introduced into the clinic day. We saw an increase from 7.4% to 40.9% in utilization after just a 1-week training period. We did not find it possible to implement the template with 100% of our glaucoma patients due to time constraints, as importing a new blank template and then filling in the data does take extra time. However, over time as the templates are implemented into more and more charts, quick updates will allow additional time to create templates in charts previously missed. Thus, in time, close to 100% of patients diagnosed with glaucoma, glaucoma suspect, and ocular HTN should be able to have such a template incorporated into their charts. Templates can also be inserted, and data added at non-clinic times (i.e., end of the day, off days, etc.).Already, I have noticed that the templates have helped our team of eye doctors realize when some data was missing (i.e., gonio or pachy) as well as when some patients were overdue for testing (i.e., HVF, OCT, etc.). Having a template helps the different providers caring for the same group of patients ensure nothing is missed. It also provides a quick summary of the patient's disease and testing status to easily plan follow up visits and tests (without having to search through the chart to see when such tests were most recently, or if ever done). |

**Project Reflection**

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| Did you feel the project was worthwhile, effective? | YES |
| How might you have performed the project differently? | I think we could have had an ever high percentage of patient charts with the Glaucoma Flow Template utilized if we had encouraged the doctors to add the template after the visit at the end of the clinic day if they encountered time constraints that didn't allow them to do it during the visit. I also think it would have been helpful to have more frequent reminders to utilize the template during the 2-month period following training, and even data on how we were doing and goals to do better. |
| Please offer suggestions for other ophthalmologists undertaking a similar project. | We found it very helpful to utilize a glaucoma template to summarize the known data and most recent testing dates for our patients with glaucoma or at risk for glaucoma. It also allowed us to easily see if anything had been missed (i.e., gonio, pachy) or was overdue (i.e., HVF, OCT). Communication is important, as well as getting all the doctors to "buy in" to the idea of a template, as it does require some extra up-front time (but pays off in future visits). |