**ABO IMPROVEMENT IN MEDICAL PRACTICE ACTIVITY**

**(CLINICAL)**

**Topic**

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| **Title of Project**: | Reduction of Dispensed Oral Morphine Equivalents (OME) for Patients with Acute Postoperative Pain in an Academic, Multiple Subspecialty, Ophthalmology Practice  |

**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 | Adverse events related to opioid pain medication are well-known and include a higher risk of postoperative complications, opioid dependence and abuse, and death. To enhance patient safety, service-specific guidelines regarding the management of opioids may be useful.  |
| **Background Information**: The month you pulled the baseline IRIS performance report and any additional information that me be pertinent: | Prior to the initiation of the quality improvement project, an assessment of the dispensing patterns of ophthalmologists within the Department of Ophthalmology at the Mayo Clinic in Rochester Minnesota was performed. This revealed a wide range of opioid dispensing practices between ophthalmic subspecialties and between providers within the same subspecialty. In some situations, the prescription levels were higher than generally recommended guidelines, likely the result of a lack of prescribing guidelines and care team inconsistency due to the frequent rotation of trainees between services. We identified an opportunity to develop education on opioid prescription expectations, department service-specific guidelines, and electronic medical record aids to improve prescribing patterns and protect patients. |
| **Project Setting**: (Please select from options below):* Group Practice
* Healthcare Network
* Hospital
* Multi-Specialty Group
* Solo Practice
* Surgical Center
* Other
 | HospitalMulti-Specialty Group |
| **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: | Physician prescribing habits for opioids for all postoperative patients treated in the Department of Ophthalmology, Mayo Clinic, Rochester, Minnesota.  |
| **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.  | **Process or Outcome Measure** (e.g. patient pain level during intravitreal injection):**Numerator statement (e.g. number of patients in who pain levels decreased by 2 points on a 0-10 scale):***Percent of patient encounters when an opioid prescription was dispensed immediately after ophthalmic surgery**Number of times a physician prescribed ≥40 OME for postoperative pain**Number of times a physician prescribed ≥80 OME for postoperative pain**Number of times a physician prescribed ≥200 OME for postoperative pain***Denominator statement (e.g. 30 consecutive patients undergoing intravitreal injection):** All patients receiving surgery by ophthalmologists through the Department of Ophthalmology, Mayo Clinic, Rochester, Minnesota in a 7-month period. |
| 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: | Determine the current state of physician and service-specific opioid prescribing patterns – (completed spring 2018)Establish adult opioid prescription guidelines by subspecialty – (completed October 1, 2018)Educate providers regarding prescription safety concerns and new adult opioid guidelines (June – October 2018)Display opioid guidelines in operating rooms and clinic (December 2018)Construct electronic medical record prescribing “soft stops” and guideline references (November 2018) |
| **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. | Department of Ophthalmology physicians representing the subspecialty services of Cornea, Cataract, Glaucoma, Oculoplastic and Orbital Surgery, Neuro-Ophthalmology, Retina, and Strabismus (Adult): Physicians will engage in determining service-specific opioid prescription guidelines and will adhere to these guidelines during pain management. |
|  Will any other ophthalmologists be requesting MOC credit for participation in this SD-PIM? | Group included 27 total participants. |

**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. | October 2017 – April 2018* Percent of patient encounters when an opioid prescription was dispensed immediately after ophthalmic surgery: 115/2613 (4%)
* Number of times a physician prescribed *≥*200 OME for postoperative pain: 5/115 (4%)
* Number of times a physician prescribed *≥*80 OME for postoperative pain: 56/115 (50%)
* Number of times a physician prescribed *≥*40 OME for postoperative pain 106/115 (92%)
 |
| **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). | October 2018 – April 2019* Percent of patient encounters when an opioid prescription was dispensed immediately after ophthalmic surgery: 81/2736 (3%)
* Number of times a physician prescribed *≥*200 OME for postoperative pain: 0 (0%)
* Number of times a physician prescribed *≥*80 OME for postoperative pain: 4/81 (5%)
* Number of times a physician prescribed *≥*40 OME for postoperative pain: 37/81 (46%)

The table below summarizes the before and after data for opioid-naïve ophthalmology patients who were prescribed an opioid in the immediate postoperative period.

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|  | Before (n=115) | After (n=81) | p value |
| Mean OME | 93 ± 63 | 41 ± 21 | <0.0001 |
| Median OME | 75 [27 - 500] | 30 [14 - 100] | 30 [14 - 100] |
| # patients given opioids > 200 OME | 5 (4%) | 0 (0%) | 0.018 |
| # patients given opioids > 80 OME | 56 (50%) | 4 (5%) | <0.0001 |
| # patients given opioids > 40 OME | 106 (92%) | 37 (46%) | <0.0001 |

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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 quality project successfully reduced the frequency and amount that opioids were prescribed postoperatively in the Department of Ophthalmology at the Mayo Clinic, Rochester, Minnesota. Our department curtailed the postoperative prescription of > 200 OME for any opioid naïve patient. Additionally, when opioids were prescribed, the majority of patients (95%) received < 80 OME, consistent with the developed prescribing guidelines. This was a significant reduction in OME dosing from before the project began. Additionally, after project initiation, 46% of opioid prescriptions were less than 40 OME. The mean OME prescribed decreased from 93 before to 39 after intervention. This significant reduction might correlate with lower risk for addition or abuse. |

**Project Reflection**

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| Did you feel the project was worthwhile, effective? | Yes |
| How might you have performed the project differently? | Monthly tracking of opioid prescribing with provider compliance feedback could be performed. This could improve guideline compliance through education in addressing inconsistency associated with rotating residents or forgetfulness.  |
| Please offer suggestions for other ophthalmologists undertaking a similar project. | To change physician prescription habits, physician to physician engagement and education is critical. |