A Quality Improvement Project: The Migraine Toolkit for Primary Care

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Background

Oregon, with a population of over 4.24 million (U.S. Census, 2022), lacks adequate neurology specialists and headache subspecialists. Throughout the state, these providers either have extremely long wait lists for new patients or are not accepting new referrals. This situation creates a service delivery bottleneck, increasing the overall headache burden across the region. With a disease prevalence of 15.9% (Burch et al., 2021), there may be around 674,000 patients with migraine needing care in Oregon alone. The shortfall between specialists and patients suffering from migraine disease means that primary care providers (PCPs) will be increasingly relied upon to treat refractory migraine (Wilbanks, 2022).

However, many PCPs are uneasy with or have insufficient knowledge to confidently treat migraine disease beyond familiar first- or second-line approaches (Huang & Minen, 2020). As the second most disabling condition worldwide, insufficient migraine management affects all levels of society–individuals, families, communities, and the economy (Burch et al., 2019). Luckily, with a combination of focused PCP education, printed educational materials (PEMs), and better identification and assessment of patients' migraine burden, PCPs can often manage migraine disease themselves (Minen et al., 2016). With this knowledge, the Migraine Toolkit for Primary Care (MTPC) aimed to equip the Southwest Family Physicians (SWFP) clinic with tools needed to enhance provider knowledge and improve outcomes in patients with migraine disease.

Clinical Questions

Improve Patient Outcomes

Will implementing the HIT-6 assessment to at least 80% of SWFP patients presenting with headache complaints lead to a functionally significant improvement in those patients' migraine disease burden, as evidenced by a reduction of 5 or more points on follow-up HIT-6 scores, compared to their initial score?

Enhance Provider Knowledge, Confidence, & Guideline Understanding

Will the participation of PCPs at SWFP in the MTPC result in at least a 25% increase in their knowledge of current migraine science, confidence in managing migraine disease, and understanding of guideline-based standards of care, as measured by a comparative analysis of pre- and post-intervention survey responses?

Interventions

PCP-focused interventions included a survey administered to PCPs using Qualtrics to assess their baseline knowledge, confidence, and guideline adherence in migraine management. A 30-minute educational lunch session was held at the clinic for PCPs and supplemented with PEMs which provided targeted and relevant insights into migraine care. A follow-up PCP survey was conducted four months after the educational session to evaluate the intervention's impact and retention.

Patient-focused interventions were implemented immediately following the PCP education session as well. Printed headache logs and an educational brochure distributed to the clinic to improve patients' knowledge of their disease and enhance self-management strategies. The ID Migraine screening and HIT-6 assessment were implemented by clinic MAs, targeting patients with headache complaints. These tools were also integrated into the EHR for ease of disease burden tracking.

Outcomes and Results

Quantitative Outcomes:

The project achieved average PCP increases of 78.3% in knowledge, 33.7% in confidence, and 54.8% in guideline adherence. These results surpassed the first SMART goal of a >25% increase in all three domains, indicating a substantial impact on providers. However, patient outcome data, as measured by HIT-6 scores, were limited due to a low number of follow-up visits in the data collection period, with scores indicating both improvement and worsening in headache burden among the few tracked patients. The survey participation rate among PCPs was 70%, but less than 20% effectively and consistently utilized ID Migraine and HIT-6.

Qualitative Feedback:

Feedback from PCPs was predominantly positive, highlighting the patient PEMs were well-received, though utilization was low. MAs found the administration of the ID Migraine and HIT-6 assessments to be straightforward, although remembering to administer these tools for certain patients proved challenging.

Challenges and Difficulties:

Engaging PCPs and ensuring consistent data collection posed significant challenges, with the project often deprioritized due to the busy nature of the clinic environment and the diverse demands on PCPs' time. Data analysis was compromised by inconsistent use of unique identifiers in surveys,

suggesting a need for more streamlined data collection methods in future projects. Additionally, the low quantity of HIT-6 follow-ups was unexpected, highlighting the difficulties in tracking long-term patient outcomes within the project's timeframe.

Evidence of Association:

The project's interventions led to measurable improvements in provider knowledge, confidence, and guideline adherence, thus meeting the established provider-focused SMART goal. While it is challenging to determine the short-term reduction in migraine burden conclusively, the project's integration into the clinic's EHR and the distribution of PEMs are promising steps toward sustained impact.

Conclusion, Discussion, and Recommendations Forward

The MTPC achieved its provider-focused SMART goal with notable increases in knowledge, confidence, and guideline adherence among PCPs. Despite implementation and data collection challenges, particularly with limited follow-up patient data, the project laid a solid foundation for ongoing improvements in migraine care. There are some components or methods used in this project that could have been done differently to be more effective. For example, employing unique, trackable survey links for PCPs would allow for pre- and post-intervention surveys to be reliably tracked, allowing for a more robust analysis of results. Implementing triggers and reminder systems within the EHR and providing a specific training session for MAs could improve the consistency and comprehensiveness of migraine screening and follow-up assessments, ensuring a richer dataset for evaluating patient outcomes.

Buy-in was low among providers; this was understandable as PCPs have a high number of priorities vying for their attention daily. Migraine management can fall low on the priority totem due to its lack of direct financial incentives, reimbursement, and stigma. However, elevating the project's priority for PCPs through showcasing direct benefits to patient care and integrating project metrics into quality improvement frameworks could bolster participation and commitment. Finding a clinical landscape of PCPs who are already interested in improving their management of migraine disease could be beneficial to this end.

Finally, it was fortunate that SWFP had a built-in mechanism for the DNP student to come in and present a 30-minute educational session to PCPs. However, considering recommendations forward, this would be seen as both an opportunity and financial cost to this and other clinics if the MTPC were to be continued or expanded. The lunchtime educational session prevented PCPs from learning about a different topic that may be more beneficial or pertinent to their practices. If the MTPC were to continue

forward, finding a way to offer continuing education units for attendance and participation in the project would be helpful. The creation of PEMs also incurred a financial burden.

Looking ahead, regular updates and training sessions are vital to keep providers informed about the latest migraine treatment and management developments, reinforcing the project's educational objectives. Further development of the EHR to automate patient identification for migraine screening and to facilitate easier tracking of treatment outcomes will support both the project's data analysis needs and the practical aspects of migraine management, such as Prior Authorization requests. Artificial Intelligence could be helpful toward this goal, if implemented by EHR developers. Finally, a website was created to disseminate all resources provided by the MTPC for future PCP and patient reference. Continuous updating of this website and components will ensure they stay up-to-date with the latest science.

References

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