Spring 5-5-2023

Introduction of a Spinal Care Pathway Triage Protocol in the Secondary Care Setting

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Executive Summary: Spinal Care Pathway Triage Protocol

Introduction of the Problem

According to Depreitere et al. (2020), the 2017 Global Burden of Disease Study ranks low back pain “as the worldwide leading cause of disability," and this does not take into account middle and high back pain (p. 228). Providing cohesive, multidisciplinary care for clients with chronic back pain (CBP) has been an ongoing issue nationally and even globally. One reason is that coordinating care for CBP patients remains highly variable, especially with continued efforts to incorporate the most appropriate care modalities. Consequently, many chronic back pain sufferers receive suboptimal interprofessional care management, negatively impacting their overall health-related quality of life.

Living with and managing CBP creates personal, economic, and societal burdens that significantly affect patients, their families, the community, and the healthcare system. The health domains explicitly affected by chronic back pain include the physical, emotional, social, intellectual, and spiritual domains. Also of note, “patients [in the United States] with back pain contribute $365 billion in all-cause medical costs” (Lo et al., 2021, p. 115).

Given the multidimensionality of affected health domains and the cost associated with this chronic condition, it is reasonable to address care management from a well-defined multimodal and interprofessional team approach. The interprofessional collaborative (IPC) use of a spinal care pathway (SCP) would facilitate improved care delivery and health outcomes for this patient population. Therefore, healthcare disciplines must work together in a concerted effort to provide optimal patient-centered care on a continuum.

Pre-implementation interviews and surveys conducted with the Neuroscience Institute’s (NSI) stakeholders indicate that change was desired in care delivery for clients who experience

back pain. The pre-implementation survey results (Q1) revealed that 50% of the participatory NSI stakeholders highly agreed, and 50% agreed, that "it would be beneficial to utilize a spinal care pathway that all interprofessional collaborative teams [could] use as a decision aid tool" (N=10).

Before this DNP project, the NSI's interprofessional collaborative (IPC) teams did not utilize a specific spinal care pathway among the various disciplines. Therefore, a detailed SCP e-tool, developed by Depreitere et al. (2020), was introduced into the NSI's multidisciplinary spinal care program to streamline the delivery of care for this patient population.

The scope of the proposed change was realistic, appropriate, evaluable, and relevant to the NSI spinal care program.

Literature Review

The literature review guided my DNP project by providing data to support the translation of evidence into clinical practice. Multiple scholarly sources assert that interprofessional collaborative (IPC) teams must approach care delivery from a multimodal stance to provide the most appropriate care for chronic back pain (CBP) patients (Abass et al., 2020, Bailly et al., 2021, and Depreitere et al., 2020). In addition to promoting the most skilled CBP-managed care, collaboratively using SCPs as clinical decision-support tools can benefit healthcare providers by furnishing an evidence-based triage protocol that fosters interprofessional collaboration and can be accessed directly at the point of care.

Bailly et al. (2021), Boyle et al. (2020), and Depreitere et al. (2020) intricately explained evidence-based guidance in utilizing care pathways to provide best-practice care to patients suffering from CBP. The literature sources validate that using SCPs to manage care has improved pain and disability levels in this patient population; therefore, innovative SCP

integration methods must be implemented in all healthcare settings to fully operationalize the interprofessional collaborative use of SCPs.

According to Depreitere et al. (2020), there is a great need and desire for improvement in integrating spinal care pathways into clinical practice. “The overall aim of the care pathways is to provide timely, appropriate, and effective secondary prevention [and treatment] interventions to reduce a patient's risk of developing persistent disabling pain" (Fourney et al., 2011, as cited by Boyle et al., 2020). Hopefully, this DNP project will catalyze further dissemination and operationalization of SCPs for the ultimate well-being of our nation’s CBP patients.

Project Methods

The spinal care pathway (SCP) e-tool is an electronic clinical decision support tool that was introduced into a multidisciplinary spinal care program. This spinal care program is in a secondary healthcare setting in central Illinois. The purpose of this evidence-based quality improvement project (EBQI) was to successfully introduce a specific spinal care pathway e-tool into a multidisciplinary spinal care clinic to encourage positive changes for patients and providers alike. The ultimate goals of using the SCP e-tool were to improve providers' satisfaction with care delivery for chronic back pain (CBP) patients, increase interprofessional collaboration surrounding CBP care management, and assess providers’ satisfaction with the health outcomes of CBP patients.

The implementation strategy used in this EBQI project was Everett M. Roger’s Diffusion of Innovation (DOI) Theory (Ryan et al., 2015). Roger’s theoretical concepts facilitated the organized integration of evidence-based, best-practice use of a spinal care pathway into clinical practice. The Institute for Healthcare Improvements’ Plan-Do-Study-Act (PDSA) Model for

Improvement provided a strategic and organized approach to integrating the spinal care pathway into the NSI program (Science of Improvement, n.d.).

The EBQI project was submitted to the Institutional Review Boards at Southern Illinois University Edwardsville and Southern Illinois University School of Medicine in Springfield, Illinois. Both institutions approved the EBQI project as a Quality Improvement Project (QIP) by providing a Non-Human Subjects Research Determination.

Evaluation

The measures used to evaluate the objectives included the administration of a six-question, pre-and post-implementation survey to the eligible NSI participants via email. The five-point Likert scale was used for the survey options, and the five different answer choices the participants were able to select included: “Highly Agree,” “Agree,” “Neutral,” “Disagree,” and “Highly Disagree.” Only one choice was allowed for each survey statement. All participants’ responses were anonymous.

Beginning in July 2022, the Qualtrics surveys were emailed to NSI’s healthcare team members (N=19). The titles of these NSI team members were Certified Advanced Nurse Practitioners, Licensed Practical Nurses II, Assistant Professor of Clinical Neurology, Administrative Director, Medical Education Program Coordinator, additional Program Coordinators, Physician Assistant, Charge Nurse/Nurse Manager, Healthcare Administrator, Healthcare Technician, Medical Assistant, Acupuncturist, and Nursing Consultants. Ten participants (N=10) completed the pre-implementation survey, and one (N=1) partially completed the pre-implementation survey. Only seven participants (N=7) fully completed the post-implementation survey. Data was collected via the Qualtrics application, and descriptive statistics of the key performance indicators were calculated through the same program.

Before the implementation of the project, it was predicted that at least 50% of NSI's providers who completed the survey would be satisfied with the spinal care pathway (SCP) triage protocol and the resulting health outcomes of CBP patients triaged using the SCP e-tool. ***Figure 2*** visually represents the electronic SCP clinical decision support (e-tool) and the website link provided to the NSI participants.

Of the NSI stakeholders who participated in the (pre-Q2) survey, only 9.09% were "satisfied with the *current* [pre-implementation] triaging process for patients with chronic back pain" (N=11, ***Figure 1***). Approximately 71% of NSI staff who participated in the survey agreed, and 29% highly agreed with the post-Q2 statement: "I am satisfied with the multimodal and multidisciplinary collaborative process exemplified in the Spinal Care Pathway e-tool" (N=7). In addition, approximately 57% of participants agreed, and 43% highly agreed with the post-Q4 statement: "This Spinal Care Pathway e-tool is/will be useful for collaboratively triaging our CBP patients to the most appropriate care modalities to decrease pain and increase functionality."

One of the most significant limitations of the project was the small sample size (N=10 for complete responses on the pre-implementation survey, N=1 for partial responses on the pre-implementation survey, and N=7 for complete responses on the post-implementation survey). Also of note, the NSI department went through unit changes in which the neurosurgeons relocated to a different department and location during the implementation of this project. These changes may have interfered with the staff's time to investigate and engage with the SCP e-tool thoroughly. No personal training sessions were scheduled or held so as not to disrupt NSI's workflow during the organizational changes. However, the participants were encouraged to contact the project team if they had questions about the SCP e-tool or how to navigate through

the pathway. Encouraging providers to use the SCP was challenging due to the workflow pattern and time constraints.

Impact on Practice

The immediate impact that this EBQI project had on the multidisciplinary spinal care program was that the idea of having access to an SCP e-tool appeared to create high-interest levels among the few participants (i.e., the early adopters) who completed the surveys. Approximately 86% (N=7) of NSI providers who participated in the surveys either agreed or highly agreed that they were willing to adopt a multidisciplinary SCP to streamline care delivery for CBP patients (Post-Q5). The SCP clinical decision support e-tool can be accessed on any electronic device with internet access, which allows for an immediate impact on clinical practice. Devices such as smartphones, iPads, laptops, and desktop PCs can be used to access the online SCP e-tool directly at the point of care.

A predicted long-term impact of the increased IPC use of the SCP e-tool is that it will facilitate improved health outcomes for this patient population and improve the cost-effectiveness of healthcare utilization. Additional long-term impacts would include decreased variability of care amongst the multiple disciplines providing care to CBP patients and increased provider satisfaction with workflow and patient outcomes.

Some suggestions that would facilitate the ongoing implementation of this EBQI project would include initiating a formal SCP e-tool training period. Scheduled training sessions would have been beneficial to the project's success as they would have allowed for in-person questions and answers and opportunities for more thorough explanations of how to navigate the spinal care pathway. Other feasible sustainability plans would include consistent monitoring of the degree of patient's positive health outcomes, obtaining more stakeholder buy-in, increasing administrative

support, creating SCP policy integration strategies, evaluating human and financial resources to support innovation, and refining the usability and adaptability of the SCP e-tool as warranted.

Conclusions

The SCP e-tool is a novel clinical decision support tool that will provide a method and means to improve the delivery of care for clients suffering from CBP. It is both logical and practical to incorporate the most current, site-specific spinal care pathways into clinical practice in order to reinvigorate the triaging processes and strategically address the delivery of care issues for this patient population. The results of this evidence-based quality improvement project will provide new insights into the existing body of knowledge in which there is currently a gap in the "implementation of guideline-based care into daily clinical practice." (Koes et al., 2010 as cited by Boyle et al., 2020, p. 85).

Future recommendations would include scheduling in-person training periods where all staff can receive general stepwise instructions on the initial utilization of the SCP e-tool. Afterward, more specialized training sessions could be offered according to the staff's needs and time schedules. In the future, reaching out to more direct care providers would potentially elicit more specific responses and feedback.

Overall, the quality improvement project outcomes revealed clinical relevance to support the integration of this SCP e-tool into the NSI's everyday secondary clinical practice setting.

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Figure 1

SCP Pie Chart: Q2 PRE-Implementation Survey Response

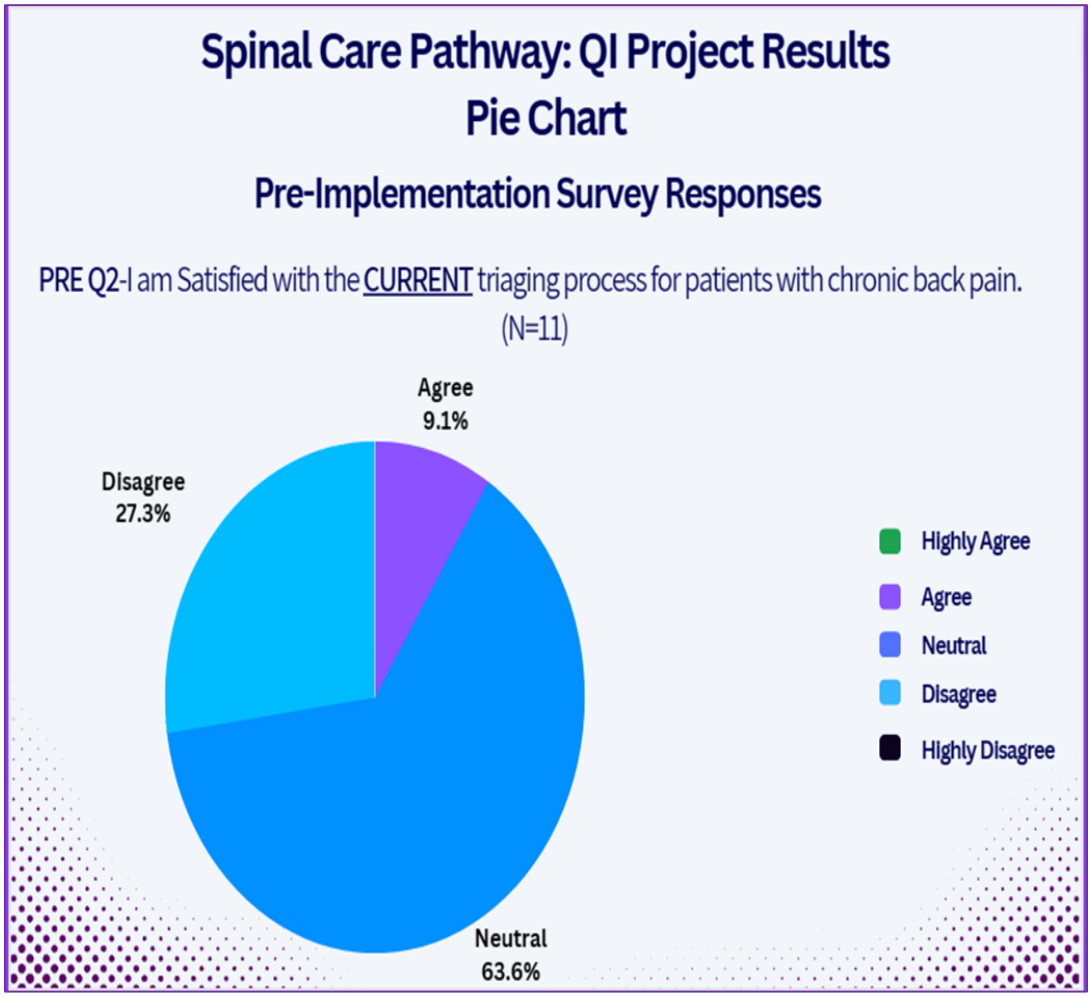
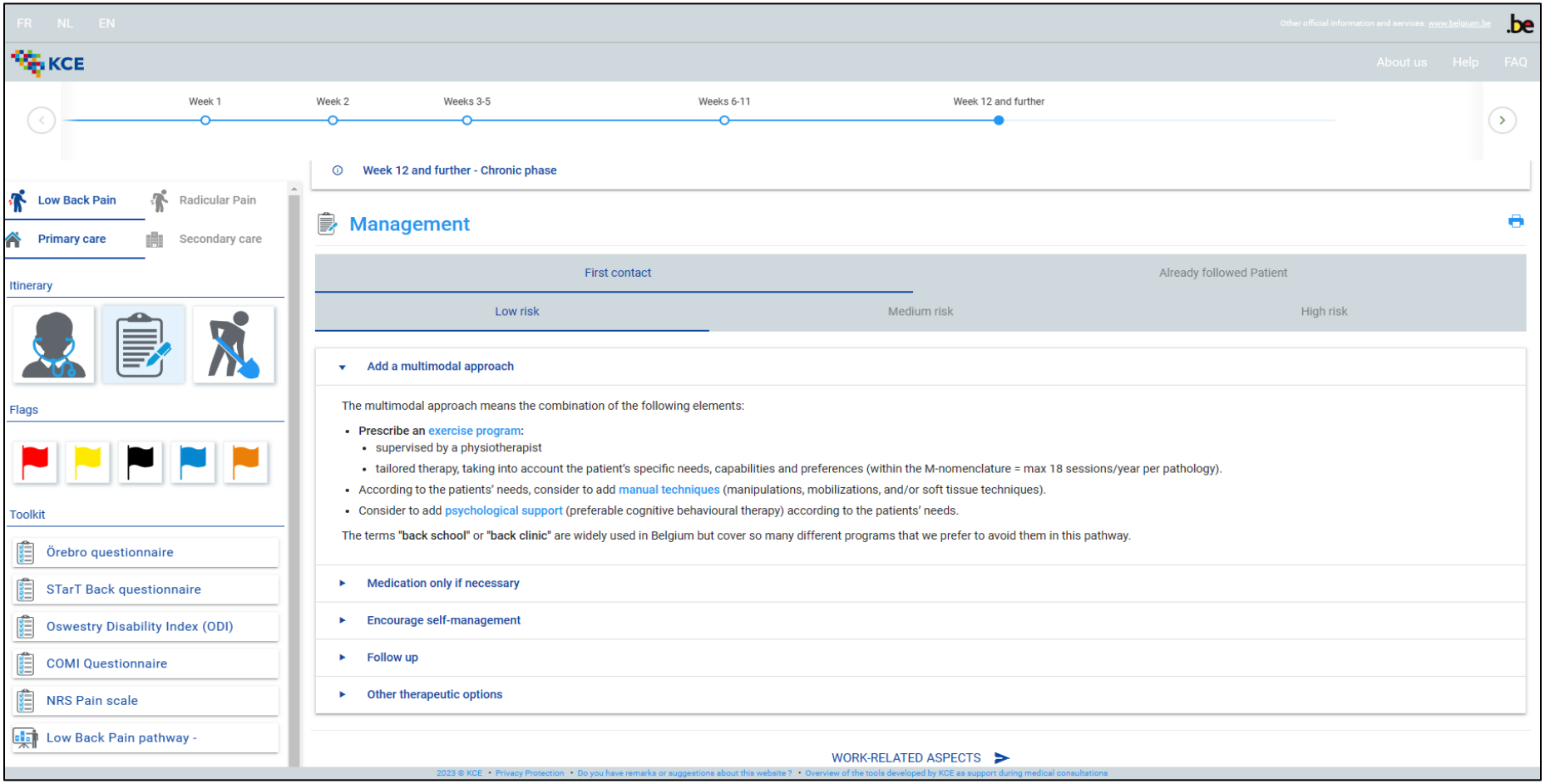


Figure 2

Online Spinal Care Pathway: Electronic Clinical Decision Support Tool (E-Tool)



Note: *Online pathway tool can be accessed at (www.lowbackpain.kce.be).

From "The pivotal role for the multidisciplinary approach at all phases and at all levels in the national pathway for the management of low back pain and radicular pain in Belgium," by B. Depreitere, P. Jonckheer, E. Coeckelberghs, A. Desomer, and P. Van Wambeke, 2020, *European Journal of Physical and Rehabilitation Medicine*, *56*(2), p. 228-236 (https://doi.org/10.23736/S1973-9087.19.05984-7). Copyright © 2020 by Edizioni Minerva Medica.