Evaluation

This evidence-based practice change project implementing depression screening with Patient Health Questionnaire 9 (PHQ-9) of adults with Crohn's disease (CD) took place in an outpatient gastroenterology clinic located in a small city in Central Illinois, approximately 155 miles northeast of St. Louis and 125 miles southwest of Chicago. The implementation of the project took place from July 12, 2021, to August 20, 2021.

The location of the project was an outpatient gastroenterology clinic with a total of five providers at the time of implementation: two advanced practice registered nurses (APRN) and three physicians. One of the APRNs at the practice served as the external stakeholder for this project. Providers were recruited for participation through secure emails sent four, two, and one weeks prior to implementation. Educational materials related to the project were disseminated via email. Pre and posttest survey links were provided in emails. The providers were offered an option to meet via online platform during all phases of implementation, but no meetings were requested. All email communications provided an "opt out" opportunity from future emails; no "opt out" emails were received at any time during this project.

The evidence-based practice project gathered information through provider pretest and posttest surveys to measure provider perspective and report the number of PHQ-9 completed. The project received classification as a "Not Human Research" Quality Improvement Project (QIP) from Southern Illinois University Edwardsville Internal Review Board (IRB) on June 3, 2021.

Results/Interpretation of Findings

A total of three of the five providers participated in the project: two physicians and one APRN. All participants completed the pretest and posttest surveys. A specific question on the

pretest inquired about the estimated number of CD patients screened each month for depression. The results indicated that prior to this project no CD patients were screened for depression by the participating providers ("none", "0", "We do not routinely screen…"). The posttest survey inquired specifically about the number of adult CD patients screened with PHQ-9 during the 6-week practice change implementation; the combined total for all three providers was five. The goal to increase depression screening was met for this project with a total of five adult CD patients screened with PHQ-9.

The secondary goal evaluation of provider perspectives regarding comorbid depression and CD, and the PHQ-9 with respect to ease of use, scoring, and plans for continued use were evaluated through pretest and posttest surveys. Surveys were created and administered via Qualtrics links included in email communications. Each survey was composed of five questions scored on a five-point Likert Scale. Pretest and posttest each had two additional open-ended questions for editorial response. A single descriptive question regarding professional designation as either MD, DO, APRN, or PA began the surveys. The questions that remained the same on both surveys were:

1. Depression occurs at an increased frequency in the adult Crohn's disease population compared with the general population.
2. Routine screening for depression is the responsibility of all healthcare providers regardless of specialty.
3. I feel comfortable with identifying symptoms/diagnostic criteria of depression.
4. Routine depression screening could be integrated into my current practice without significant increase in resources or significant increased office visit time.

5. Pre: I am open to adding routine depression screening into my routine care of my adult patients with Crohn's disease.

   Post: I plan to add routine depression screening into my routine care of my adult patients with Crohn's disease.

The lowest score on any of the Likert formatted questions was neutral. Review of changes in provider perspective from pretest to posttest revealed a one-point positive shift of one provider in the answers for question one, two, and four; there was a one-point positive shift of two providers for question three. The results of the surveys indicated that the gastroenterology providers did believe that depression occurred at an increased frequency in adults with CD, routine depression screening is the responsibility of all healthcare providers, and positivity related to integration of routine depression screening into current practice. The most significant positive shift was seen in the provider level of comfort for identifying symptoms/diagnostic criteria for depression with two providers increasing their reported level of comfort by one point on the Likert scale. Two providers provided editorial responses reporting an increased familiarity with PHQ-9 because of participation in the project. PHQ-9 was identified by two providers as the tool they plan to use for any future depression screening, with one provider noting that electronic PHQ-9 is available through the electronic medical record and will be directly added to the patient's chart. These results indicate that a positive impact on practice occurred for the participating providers.

Limitations

At the time of recruitment and implementation all in-person meetings were suspended per the organization due to the SARS-CoV-2 Pandemic with limited in-person clinic visits only related to direct patient care. Routine care visits via a virtual platform had been widely adopted by the time of implementation at this clinic per stakeholder report. The opportunity to provide patients

with a self-administered PHQ-9 was absent from virtual encounters and this may have potentially decreased the encounters where the practice change was implemented.

The population of focus for this project was very specific and could be considered a sub-population of an already limited population of adults with Inflammatory Bowel Disease (IBD); it is estimated that 1.2% of adults in the Midwestern United States (U.S.) have a diagnosis of IBD (Dahlhamer et al., 2016) and the CD population represents only a segment of that estimate. This could be considered a limiting factor which was amplified by the limitation of a single clinic setting. The timeframe limitation to 6 weeks for implementation additionally contributed to the impact of the evidence-based practice. As noted above, the population of adults with CD is a fraction of the subspeciality practice; the brief timeframe was a limiting factor that directly impacted the volume of the population of interest that could be touched by this practice implementation. The implementation also occurred in late summer and there was increased potential for providers to be off work for vacation during that period. Although 50% (three) of the providers in the practice participated, it could be postulated that the ability to meet and educate about the project in person prior to implementation could have increased the number of providers willing to participate.

Highlighting the limitations of this project elucidates potential opportunities for future research. Each of the limiting factors could be addressed effectively and increase data in a manner which could potentially be statistically significant for those factors which were limited by the volume of data. Support for expanded future research is underscored by current literature identifying increasing IBD prevalence (Luther & Dave, 2019) observed by prevalence estimates of 0.9% of U.S. adults in 1999 (Nguyen et al., 2014) increasing to 1.3% in 2015 (Dahlhamer et al., 2016), and figures from 2007-2016 Population-Based National Databases estimating that

170-219 per 100,000 adults in the U.S. have a diagnosis of CD identified by International Classification of Diseases, Ninth Revision (ICD-9) codes (Ye et al., 2018).