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Implementation of Electronically integrated Pediatric Screening Templates

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Introduction to the Problem

Clinical practice guidelines help providers make research-based decisions and recommendations for patients to provide the best possible outcome (Burgers et al., 2020). Through the use of the electronic health record (EHR), a person's health history, including demographic information, previous encounter documentation, medication history, radiology results, and immunizations, is readily available for review by the medical community (Centers for Medicaid and Medicare Services, 2023). The EHR can also be utilized to integrate clinical practice guidelines to better serve patient and provider needs. Using trigger tools or templates reduces errors, and the provider can develop and track diagnoses quickly (Murphy et al., 2019).

A pediatric clinic in the metro-east area of Southern Illinois did not utilize documentation templates to aid in the documentation process when diagnosing or documenting on sequela visits for depression, anxiety, ADHD, or concussions. Without clinical guideline templates, the provider spends less time in face-to-face encounters with the patient. This decline in face-to-face encounters reduces the time the provider could spend educating the patient and addressing possible concerns. Utilizing clinically-based templates promotes better patient outcomes and ensures that documentation includes all of the necessary information to follow DSM-V criteria (Grotell et al., 2021).

Literature Review

A literature review was conducted to understand the use and benefits of templates in primary care and how evidence-based clinical guidelines can be utilized to improve documentation through embedded templates in the EHR. Articles dated from 2017 to 2023 were included in the search. The Southern Illinois University Edwardsville Lovejoy library, PubMed, EBSCOhost, Cumulative Index of Nursing and Allied Health (CINAHL), and Google Scholar were search databases utilized.

Research by Murphy (2019) supported the use of trigger tools in the reduction of undesired patient outcomes and errors and improved patient safety when utilizing disease-specific data entry. The DSM-V is the most current diagnostic criteria for depression, anxiety, and ADHD. Gibson-McElroy and Pike (2023) showed that incorporating DSM-V criteria in an EHR template improves documentation quality and adherence by the provider by 50%. The templates created for the project were designed in a SOAP note outline to streamline the documentation process by the provider.

Depression, anxiety, ADHD, and concussion screening have shown an increased incidence in the adolescent population. Depression, according to the CDC (2022), in 2019, shows a prevalence of 1 in 3 high schoolers have felt sad and hopeless, and 1 in 5 students have contemplated suicide. Anxiety prevalence is up to 9.4% in children ages 3-17 years old (CDC, 2023). Walter (2020) has shown that less than half of youth who require care receive it, and 9% of youth who have an anxiety disorder have had suicidal ideation, with 6% having attempted suicide. ADHD is a lifelong condition and the most common behavioral issue in the United States, with 9.4% of children diagnosed at some point in their lifetime (Wolraich, 2019). A study

about concussion prevalence showed that children who experienced symptoms of a concussion or brain injury were 6.8%, and of those, only 3.9% sought care (Black & Zablotsky, 2021).

The use and development of templates help the practitioner collect, prepare, and organize data to obtain all the necessary information to make a comprehensive assessment during the patient encounter and streamline the documentation process to decrease the time spent on a computer (Franklin, 2021). Templates are shown to improve patient care and provide a means to document accurately and consistently (Iannello et al., 2020). This literature review showed that templates that utilize clinical guidelines improved the patient experience by allowing the provider to spend more time with the patient and also allowed for better quality documentation to support their diagnosis.

Project Methods

This intervention aimed to create templates that included evidenced-based clinical guidelines and embed them into the EHR for use during patient encounters. The templates would be implemented in a metro-east pediatrician's office that sees patients from 0 to 21 years of age. Medical staff utilized the templates to reduce time spent documenting on the computer, improve documentation quality to show support for DSM-V criteria and improve patient outcomes. The screening tools utilized to build the templates were the PHQ-9, GAD-7, Conners scale, and ACE concussion screening tool. The templates were utilized at the discretion of the providers with patients who were being evaluated for depression, anxiety, ADHD, or concussion screening.

No patient information was collected during data collection. Institutional Review Board (IRB) approval was obtained and approved through Southern Illinois University Edwardsville before the pre-survey was conducted. A pre-survey was conducted to determine the participants' satisfaction with their current documentation quality and EHR efficiency to support their

documentation. After the pre-survey, participants were given a Zoom presentation that described the project design and templates. The intervention was conducted over a 6-week period.

Evaluation

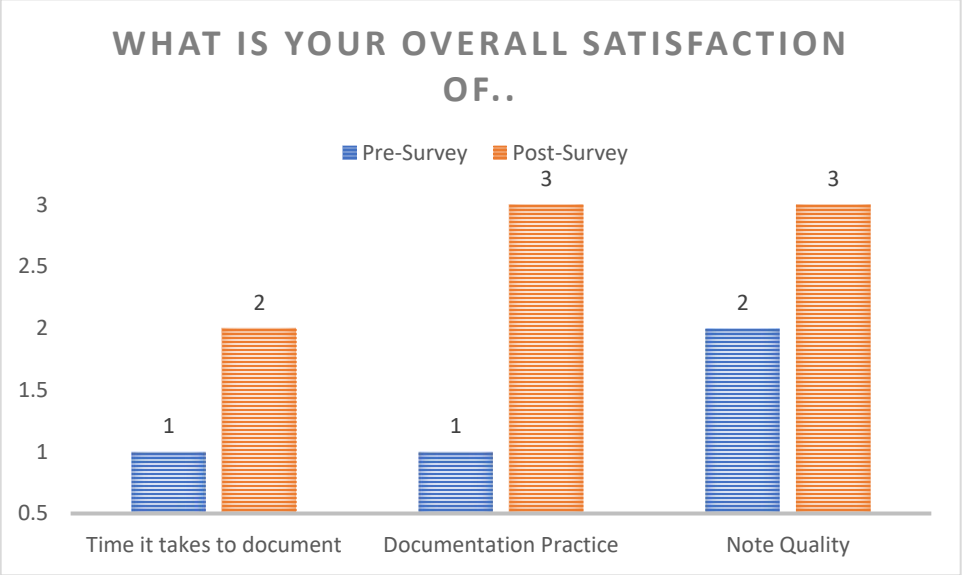
The intervention was measured by surveys that evaluated the effectiveness of current documentation, provider satisfaction with documentation in the EHR, the current population being treated for these diagnoses, and the provider's knowledge of the assessment tools. Three surveys were used to determine these outcomes. Two Likert-style surveys were provided to all providers that opted to participate in the intervention of the templates. Due to the Likert-style survey inadequately evaluating the provider's prior knowledge of using the PHQ-9, GAD-7, Conners rating scale, and the ACE concussion tool, an additional multiple-choice survey was developed. The multiple-choice survey was given to the provider, who utilized the templates and completed the Likert-style surveys after the intervention. This provider worked two days a week and saw, on average, 16-20 adolescents daily. Lack of participation from the initial total participants and reduced patient population resulted in insufficient data collection to fully support and demonstrate the effectiveness of the templates in practice. A more extensive participation base would show a better representation of the effectiveness of the templates in practice. The multiple-choice survey would be more efficient in providing data if given before and after the intervention.

Results

The Likert-style surveys were sent to a total of four providers. One provider successfully turned in the surveys and utilized the templates in practice. The data collected represents the provider who participated in the intervention. After implementation (Figure 1), the provider

showed a 66% improvement in documentation satisfaction. Overall, note quality and the time it takes to document an encounter showed a 33% improvement after implementing the templates.

Figure 1.



The note was evaluated for completeness before and after the intervention period. The provider showed a 20% increase in the thoroughness and organization of the note when utilizing the template. Overall, the provider perceived that the notes improved by 30% when utilizing the templates in practice.

The multiple-choice survey was sent to one provider after the intervention period was conducted. This survey was utilized to evaluate the knowledge of the provider regarding depression, anxiety, ADHD, and concussion screening and the provider's current patient population that was currently being treated for these conditions. The provider utilized the PHQ-9 less than ten times per week and the GAD-7 and Conner rating scale less than five times per week. The ACE concussion screening tool was used less than five times a month. The provider was asked to rate their familiarity with the diagnosis criteria for each condition, ranging from

least familiar, 1, to very familiar, 5. The provider rated a 4 out of 5 for familiarity with depression, anxiety, and concussion criteria. The provider rated her familiarity with the diagnosis criteria a 5 out of 5 for ADHD. The provider saw 30-40 adolescents diagnosed with depression and anxiety, 20-30 patients diagnosed with ADHD, and less than five patients a month diagnosed with concussion. The provider treated 90% of adolescent patients diagnosed with depression, anxiety, and ADHD with medication. The final survey question evaluated how long the provider spent diagnosing the patient during initial visits. The provider spent 35-40 minutes during the depression and anxiety encounters, 25-35 minutes for ADHD encounters, and 15-25 minutes.

Impact on Practice

Implementing evidence-based, guideline-driven templates to guide the documentation process for providers can improve patient outcomes and enhance the provider's notes to support diagnosis. The study's limitations included a need for provider buy-in, a small clinic population, and limited patient encounters. The study would benefit from a trial in a larger clinic setting with multiple provider buy-in to determine the effectiveness of the templates in practice. Tracking the tools in practice would also give insight into their effectiveness by showing that they are beneficial to the providers and are being utilized for documentation purposes.

Conclusions

Implementing evidence-based templates into the EHR provides current information for providers to utilize when encountering a patient. It also provides the necessary documentation criteria supporting the billing diagnosis. A larger sample size and provider buy-in would allow for additional data to support and show statistical evidence that templates benefit primary care.

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