

Using Practice Facilitation to Improve Depression Management in Rural Pediatric Primary Care Practices

Rebecca A. Baum, MD; Suzanne Hoholik, MBOE, MBA; Heather Maciejewski, BA; Ujjwal Ramtekkar, MD

Abstract

Introduction: Depression is a common and serious mental health condition frequently encountered in pediatric primary care. Pediatricians report discomfort in managing depression due in part to limited training and limited access to mental health care, which is accentuated in rural areas. **Methods:** We developed an evidence-based, quality improvement project designed to help pediatricians increase screening and initial management of depression in the primary care setting. We recruited practices from a pediatric accountable care organization as part of a larger quality improvement portfolio that used a practice facilitation model to support practices with data collection and project management. Practitioners received training on quality improvement, depression screening, and a depression management plan (referred to as the depression management bundle). Practices completed Plan-Do-Study-Act cycles to improve their performance. **Results:** We recruited 4 practices in rural Ohio to participate. Screening increased from 0% to 81% within 6 months. All 4 practices measured documentation of the depression management bundle for patients diagnosed with depression. Composite data from these practices showed an increase in documentation from 59% to 86% by month 6. **Conclusions:** This study provides preliminary support for the use of practice facilitation combined with skills training to increase screening and improve documentation of depression management in rural primary care practices, where specialty mental health resources may be limited. Further research is needed to determine if this approach can be successfully disseminated and if patient outcomes improved. (*Pediatr Qual Saf* 2020;3:e295; doi: 10.1097/pq9.000000000000295; Published online May 13, 2020.)

INTRODUCTION

Recent evidence indicates that the prevalence of adolescent depression is increasing, with estimates suggesting that depression affects around 11% of U.S. teens.¹ Depression results in poor social and academic functioning and is a risk factor for completed suicide,² which now ranks

as the second leading cause of death for youth between the ages of 10 and 24 years, resulting in about 4,600 lives lost annually.^{3,4} The American Academy of Pediatrics (AAP) and other health care organizations recommend universal screening for depression in the primary care setting to identify youth at risk and to provide timely access to treatment.^{5,6}

The AAP has developed mental health competencies⁷ recommending that pediatricians should be able to identify and provide initial management for the treatment of depression. However, pediatricians report lack of comfort in this area, likely stemming in part from inadequate training during residency, which is then perpetuated in the general practice setting.^{8–12} Not surprisingly, studies suggest that care for adolescents with depression is lacking: screening in the primary care setting remains low,^{13–15} and access to timely, evidence-based treatment is limited.^{16,17} Stigma associated with mental illness further complicates treatment.¹⁸ Access to mental health specialists is particularly challenging in rural America, where mental health workforce shortages may be accentuated, and primary care practitioners may be more likely to provide mental health care with limited specialty supports. In rural America, suicide occurs at a higher rate than in urban areas.¹⁹ Several strategies have been developed to assist pediatricians in delivering mental health services in their

From the *Department of Pediatrics, Nationwide Children's Hospital, Columbus, Ohio.

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*Corresponding author. Address: Rebecca A. Baum, MD, Division of Developmental Behavioral Pediatrics, Nationwide Children's Hospital, Columbus, OH

PH: 614-722-2438; fax: 614-355-4451

We presented preliminary data on this work at the Institute for Healthcare Improvement's 29th National Forum on Quality Improvement in Health Care, December 2017, Orlando, Fla.

Email: rebecca.baum@nationwidechildrens.org

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office, including child psychiatry access programs (<https://nncpap.org/>), integrated behavioral health programs,²⁰ teleconsultation services (<https://echo.unm.edu/>), and targeted quality improvement (QI) efforts.^{21,22}

Accountable care organizations (ACOs) are uniquely positioned to address the mental health of the population that they serve by leveraging quality measures, network resources, and financial incentives.²³ Partners For Kids (PFK) is a pediatric ACO affiliated with Nationwide Children's Hospital that manages the health care of around 330,000 Medicaid-insured children across a 34-county region throughout central and southeastern Ohio using a risk-based model.²⁴ This service area includes approximately 85,250 youth between 11 and 18 years old who reside in both urban and rural areas, including Appalachia. PFK is a partnership between independent, community physicians, Nationwide Children's Hospital, and Ohio's 5 Medicaid managed care plans. PFK has developed a comprehensive QI program that encompasses many aspects of child health, including immunizations, health supervision, and dental health.

Because QI projects can be difficult for practitioners to implement, PFK chose the practice facilitation (PF) model to bring QI to primary care practices. In the PF model, facilitators or coaches train the medical and office staff at the pediatric practice on the Institute for Healthcare Improvement Model for Improvement²³ and help the team develop practice-specific aims, drivers, and interventions using baseline data. The facilitators manage QI projects by assisting in data collection and measurement.²⁵ QI specialists provide practices with a menu of potential projects, support project development, and implementation and offer evidenced-based resources to encourage project completion.²⁶ Practices use the Plan, Do, Study Act (PDSA) cycles to implement small tests of change and systematically measure the effect of change. Building on the existing literature regarding pediatricians' lack of comfort and training in this area, we developed a depression management project as part of the PFK QI portfolio. In this report, we describe the progress of 4 pediatric practices in rural Ohio.

METHODS

Recruitment

Practice recruitment began in 2015 by PFK QI specialists through e-mail, word of mouth, and practice visits. All PFK practices ($n = 29$) were invited to participate, and enrollment occurred on a rolling basis. We offered continuing education credits, and Maintenance of Certification Part 4 points to pediatricians who completed the project. This QI program was not considered human subject research. Therefore, review and approval by the Institution Review Board at Nationwide Children's Hospital were not required.

Project Design

The project was developed using evidence-based depression guidelines from the AAP and U.S. Preventive Services

Task Force.^{5,6} Measures were chosen from those proposed by Lewandowski et al²⁷ and consisted of documentation of the following components: screening results, safety assessment, interventions delivered or recommended, and follow-up plan. Together, these elements comprised the depression management bundle. As described by Lewandowski et al,²⁷ intervention for mild depression may include "brief supportive counseling," whereas moderate depression may also require referral and medication. We thus conceptualized the spectrum of interventions to include brief supportive counseling (which we termed "first-line advice"), referral, consultation, and/or medication. We defined first-line advice as the use of communication and influence skills informed by motivational interviewing techniques and the "common factors" approach, as recommended by the AAP.⁷ This approach suggests that there are specific components of care, such as hope, empathy, and shared decision-making,¹¹ that generically improve patient outcomes, regardless of diagnosis.²⁸ In the definition of first-line advice, we also included strategies from cognitive behavioral therapy that can be flexibly deployed in practice, an approach referred to as the "common elements" approach. This approach suggests that certain therapeutic procedures are effective for the treatment of specific symptom clusters or conditions. For example, common elements effective in the treatment of depressed mood and major depressive disorder include psychoeducation, behavioral activation, and cognitive restructuring.^{29,30} The remaining component of the depression management bundle, the follow-up plan, included instructions to follow up with either primary care or mental health specialists in a specific time frame.

Based on national data suggesting that pediatricians lack comfort and expertise in managing depression, we developed an interactive learning session for participating practices. This session was open to all practitioners and office staff and was conducted by the project's medical lead, a developmental-behavioral pediatrician (DBP). We designed the session to improve participants' knowledge and skills regarding the identification and management of depression in primary care using both the common factors and common elements approach. Content for this session was based upon the AAP's Guidelines for Adolescent Depression in Primary Care^{5,31} and, as described by Baum et al,²² all aspects of the depression management bundle (eg, screening, safety assessment, intervention, and follow-up plan) were discussed. We provided practices with a change package that included a validated screening instrument (eg, Patient Health Questionnaire-9 (PHQ-9) modified for teens); educational materials for staff and parents, and a project checklist. The project checklist described the use of a crisis plan for mental health emergencies and suggested documentation for the depression management bundle (see Project Checklist, Supplemental Digital Content, which lists the components of the depression management bundle under the heading "components of an effective management plan," <http://links.lww.com/PQ9/A180>).

To begin the project, participating practices reviewed baseline data gathered by the PF lead and developed their aim statements. Sample aim statements included (1) for depression screening—increase the percentage of patients ages 11–18 screened for depression during health supervision visits from X% to Y% and (2) for depression management—increase the percentage of patients ages 11–18 diagnosed with depression with documentation of a depression management bundle from X% to Y%. During months 0–3, practices received training on managing depression in primary care, instituted processes within their electronic health record (EHR) to identify eligible patients to be screened, and completed the project checklist to ensure that they were implementing necessary elements of the project. In months 4–6, the teams worked on improving workflow issues with process mapping, using visual reminders to ensure providers reviewed completed forms, properly documenting in the EHR, and providing recommended education to parents.

Data Collection

PF leads conducted monthly chart audits to track each practices’ progress and the effects of their interventions. To determine progress on depression screening, PF leads created reports in each practice’s EHR to identify eligible patients ages 11–18 seen in the previous month for a health supervision visit (as defined by the presence of the following: Current Procedural Terminology (CPT) codes: 99381, 99382, 99391, 99392, 99461; Healthcare Common Procedure Coding System codes: G0438, G0439; International Classification of Diseases (ICD)-9 Clinical Modification (CM) codes: V70.0, V70.3, V70.5, V70.6, V70.8, V70.9; and ICD-10-CM codes: Z00.129, Z00.121, Z02.0, Z02.4, Z02.5). The previous month’s patients comprised the denominator. The numerator comprised eligible patients ages 11–18, seen for a health supervision visit during the measurement period with a completed depression screening tool, identified by the CPT code for depression screening (96127, brief emotional/behavior assessment). Because not all practitioners billed for depression screening, PF leads also performed a manual chart review looking for the presence of PHQ-9 scores in the patient’s chart.

To determine progress on the documentation of a depression management bundle, PF leads conducted a manual chart review to identify patients seen for a health supervision visit during the measurement period with depression, defined by the presence of the term “depression” in visit notes, visit diagnoses, or problem list. These patients comprised the denominator. Patients with documentation of a completed depression management bundle comprised the numerator. Documentation of all elements of the depression management bundle was required for successful completion.

Analysis

Data analysis was completed using Microsoft Excel (Excel version 2016) and control charts showing statistical

process control. Control charts (p-charts) of both the process measure (depression screening) and the outcome measure (depression management bundle) were presented monthly to the practice team as a way to show progress, address process issues, and celebrate improvements. Per Nelson rules, a centerline shift was used to indicate a statistically significant change.

RESULTS

Four practices had enrolled in the project by 2017 (Table 1). Before the start of the project, practices reported that depression screening at health supervision visits was not a standard practice. To confirm, we sampled 15 charts/mo to establish a baseline for depression screening. Screening increased from 0% to 28% within 3 months, with initial QI interventions and to 81% with subsequent interventions within 6 months (Fig. 1). Practices completed several PDSAs to increase screening. For example, the staff at 2 practices expressed concern that parents may be resistant to screening and/or may influence the patient’s response. Initially, these practices requested that patients complete the questionnaire in the examination room, whereas the nurse asked the parent medical history questions to engage the parent in other tasks. After testing this new process for 1 week, practices found that it negatively impacted their workflow. Parents of returning patients had minimal medical history to update, and patients needed more time to complete the screening tool, resulting in incomplete results. With this PDSA, practices saw only a small improvement in depression screening, from 0% to 8.5%. In a subsequent PDSA cycle, the workflow was changed such that patients completed the screening tool at check-in, whereas parents completed other paperwork. Patients gave completed forms to the nurse during the rooming process, and physicians scored and reviewed the results with the patient during the visit. This change reduced negative impacts on patient flow. With this process, practices saw an improvement in depression screening from 8.5% to 40%. Visual reminders for office staff were also effective at increasing depression screening. Throughout the project, screening peaked at 86% in month 9, and screening was consistent at around 80% once practices standardized the process for form completion.

All practices implemented and measured documentation of the depression management bundle. Before the start of the project, practices varied widely in their documentation of depression care for the relatively

Table 1. Characteristics of Participating Practices

| Participating Practice | No. Pediatric Medical Providers | No. Office Staff | % Medicaid Patients |
|------------------------|---------------------------------|------------------|---------------------|
| 1 | 5 | 13 | 48 |
| 2 | 2 | 5 | 40 |
| 3 | 5 | 14 | 60 |
| 4 | 10 | 13 | 40 |

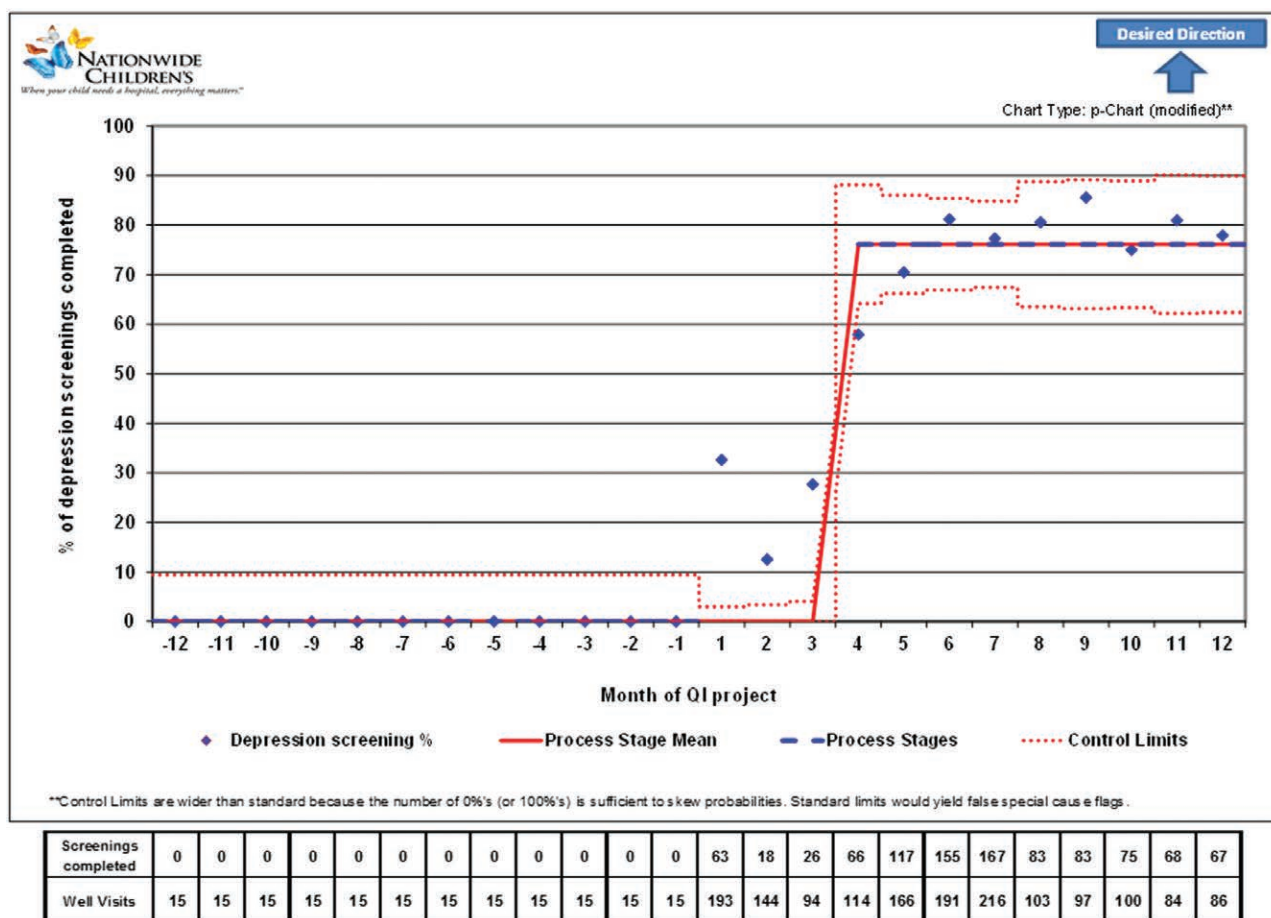


Fig. 1. Improvements in depression screening in 4 participating practices.

small number of patients with depression seen at health supervision visits (Fig. 2). After training and throughout the project, practices created templates in their EHR to increase adherence to the depression management bundle and improve documentation. Composite data from these practices showed an increase in documentation from 59% preintervention to 86% at month 6 and 100% by month 12 with a marked decrease in variation.

DISCUSSION

Of the 4 rural community practices involved in PFK's depression project, all experienced significant increases in depression screening, with screening increasing from 0% to 81% within 6 months. This result highlights the feasibility of universal depression screening in the primary care setting following the AAP and U.S. Preventive Services Task Force recommendations. Universal screening offers an opportunity for early identification and more timely intervention. Involving office staff in project development and implementation may have further improved screening, as these front-line staff are often responsible for patient flow logistics that are important for implementation. Previous studies have also demonstrated that

factors related to the practice environment may improve uptake,³² possibly by changing office culture to reprioritize mental care.¹¹

These practices also focused on the implementation and documentation of the depression management bundle for children diagnosed with depression. If these practices were indeed better able to manage patients with mild-to-moderate depression in the primary care setting, this could translate into an increase in the number of children identified with and receiving initial treatment for depression who may have otherwise been missed in the absence of proactive screening or if referral alone was the only intervention provided. In 1 practice, for example, adolescent depression diagnosis increased from 21 children in 2015 to 34 in 2016, a 62% increase. Given current barriers regarding inadequate identification of children with depression, as well as inadequate treatment for those identified with depression, this could translate into significant improvements in care.

The use of the PF model, developed in the context of an ACO to support pediatric practices in this work, assisted in project development, implementation, and data collection, which often serve as barriers to participation in QI efforts. The PF model can assist practices with these time-intensive activities through the support of the ACO,

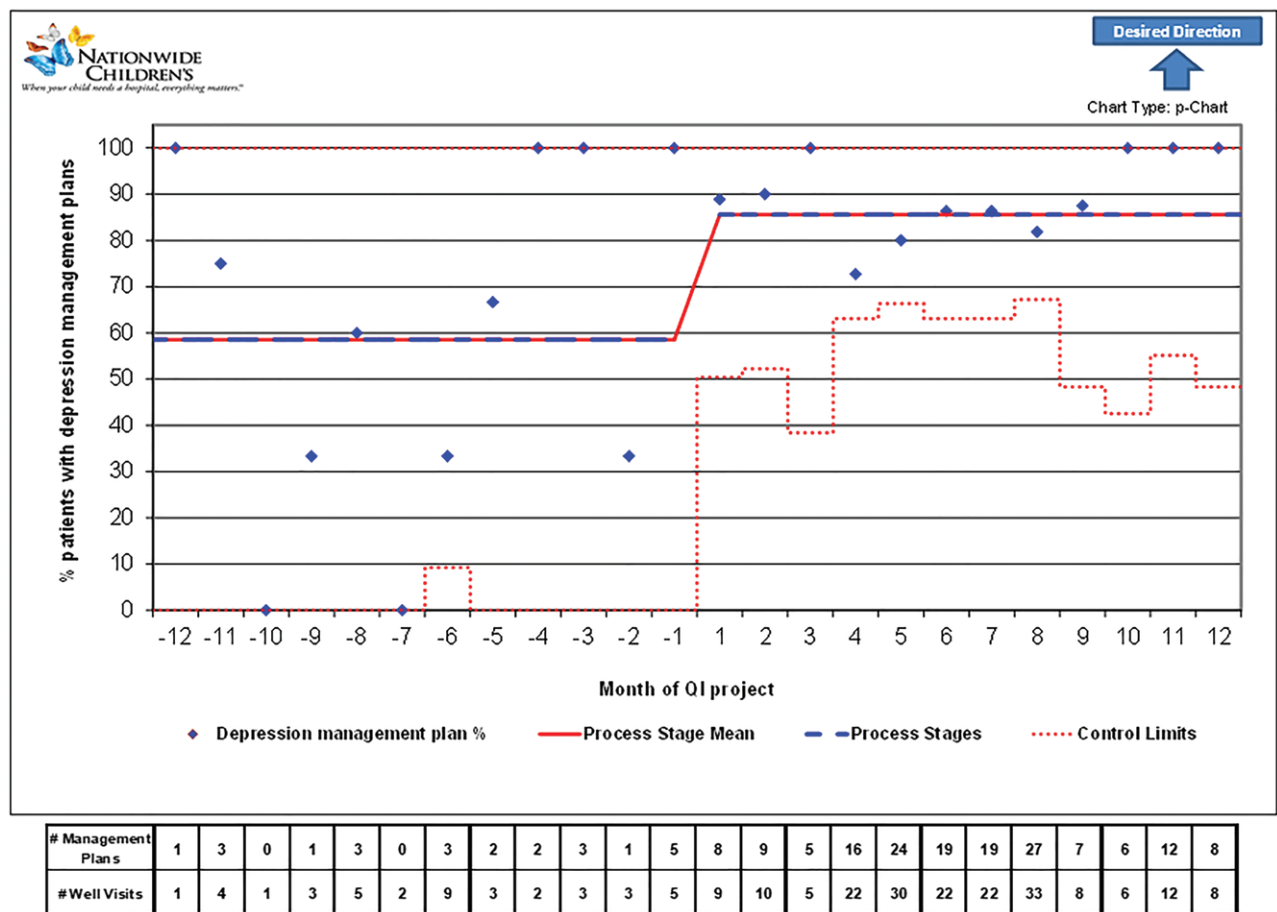


Fig. 2. Improvements in depression management bundle documentation in 4 participating practices.

leveraging a relationship that benefits the practice, their patients, and the ACO in their pursuit of quality metrics. These metrics may be financially incentivized.²⁶ The marked increase in screening is likely a function of the QI model that includes PDSA cycles described above to evaluate whether newly implemented changes lead to improvement and timely feedback on team performance. We also trained practices on the initial management of depression, and PF may have “freed up” time to allow practices to focus on clinical skills training. The availability of a content expert was important to provide didactics and for ongoing consultation to support primary care providers as they expanded their practice to include depression screening and initial management.

Given its small scope, this project contains several limitations. The results presented here represent only four practices using a PF model in a relatively small geographic area. As such, the results may not be generalizable to other areas or to practices that do not have access to PF, which requires additional resources. These practices likely represent early adopters and may have been more motivated to complete the project. To minimize the burden of participation, we did not collect data on practitioner confidence before and after the project, and practices did not track mental health referrals or completion of referrals.

A possible unintended consequence of the project is that the increased diagnosis of depression could overwhelm limited community mental health resources; this was also not measured. Face-to-face training conducted by the DBP specialist equates to time away from DBP practice, a specialty with limited numbers of practitioners and significant access issues.^{33,34} This project was conducted without the ability to provide integrated mental health care within the practice setting, which has been shown to improve access to treatment.³⁵ However, the project’s design to provide training in the initial management of depression may increase primary care capacity to treat more mild cases of depression, possibly improving access to specialty mental health providers for more severe cases.

Due to the study design, we were also not able to demonstrate that practice changes resulted in improved patient outcomes. As such, we cannot exclude the possibility that depression may have been identified but not adequately addressed. Last, we did not collect patient or practice feedback in a standardized fashion, although subjective comments from practitioners suggested that screening was feasible, while access to mental health specialists remained a concern. Future directions include plans to bring this model to scale through the use of teleconsultation connecting mental health specialists to pediatric primary care

providers and the integration of mental health specialists into primary care practices. The use of technology, such as electronic tablets for questionnaire completion and patient portals to provide educational resources, may provide additional benefits and efficiencies.

CONCLUDING SUMMARY

The results of this pilot project provide initial support for the feasibility of a supported QI program to improve identification and initial management of depression in rural pediatric practice care offices, where mental health resources may be limited. Further research on a larger scale is needed to determine if this approach can be successfully disseminated. Additional measures to assess the impact on patient outcomes should also be included.

DISCLOSURE

The authors have no financial interest to declare in relation to the content of this article.

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