Child Abuse and Neglect Risk Assessment: Quality Improvement in a Primary Care Setting

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Abstract

Objectives: Practicing Safety is an American Academy of Pediatrics toolkit to help practices address child abuse and neglect (CAN) risk by increasing screening and providing resources. The objectives in an urban practice serving low-income children were to 1) standardize CAN risk assessment and developmental screening, and 2) improve resource provision.

Methods: A quality improvement initiative to standardize CAN risk assessment, using materials adapted from Practicing Safety, was conducted through the use of SmartTools in an electronic health record. The Edinburgh Postnatal Depression Scale and Parents Evaluation of Developmental Status were used to assess maternal depression and child development, respectively. Charts were reviewed in waves —pre-, immediate post-, and early post-implementation (waves 1 to 3); monthly for 6 months (waves 4 to 9); and quarterly for 12 months (waves 10 to 13)—to assess screening and resource provision for 6 domains: infant crying, maternal depression, development, discipline, temper tantrums, and toilet training.

Results: A total of 581 charts were reviewed (92, 95, and 94 for waves 1 to 3, respectively; 30 each for waves 4 to 13). Screening for infant crying, maternal depression, development, and discipline rose from 0% pre-implementation to over 50% post-implementation. Screening for temper tantrums and toilet training rose from 6% to 72% and from 36% to 82%, respectively. For all measures, resource provision improved over time, and all improvements were maintained for 1.5 years post-implementation.

Conclusions: Incorporating an adapted version of Practicing Safety into an electronic health record is a practical and effective approach to improving CAN risk assessment and resource provision. This quality improvement initiative is an example of a practice-wide improvement that resulted in clinical practice change.

Keywords: child abuse and neglect; electronic health record; quality improvement

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What's New

This primary-care-based quality-improvement project standardized child abuse and neglect risk assessment in early childhood by using Practicing Safety and SmartTools in an electronic health record, resulting in improvement in screening and resource provision.

Background

In 2015, an estimated 683,000 children were victims of abuse and neglect in the United States, and more than one-quarter (27.7%) of those victims were under 3 years of age.[1] As many as 1585 US children die each year from abuse and neglect, with the majority (75%) of these deaths occurring in children less than 3 years old.[1] Over three-fourths (78%) of these fatalities involve the parent. Over half of US parents use physical punishment as a method of discipline.[2] The First Annual Report to Congress on High-Priority Evidence Gaps for Clinical Preventive Services in October 2011 noted "Interventions in Primary Care to Prevent Child Abuse and Neglect" as one of three priority, behavioral intervention topics deserving further research.[3]

Early childhood—characterized by rapid brain growth and development, parenting challenges, and safety concerns—is a critical period for families and children. During this time, it is recommended that pediatricians have 12 primary care visits with each child from ages 3 to 5 days to 3 years.[4] The frequency of these visits provides pediatricians with a special opportunity to promote health and to assess risk for mental and physical health problems. With support from the American Academy of Pediatrics (AAP), Bright Futures has published guidelines since 1994 on behalf of the Maternal and Child Health Bureau, Health Resources and Services Administration, and the Centers for Medicare and Medicaid Services.[5] In 2016, Bright Futures published an updated periodicity schedule calling for developmental screening using a

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standardized tool, such as the Ages and Stages Questionnaire, Third Edition (ASQ-3), or the Parents Evaluation of Developmental Screening (PEDS).[6–8]

Child abuse and neglect (CAN) prevention is an essential part of routine primary care. Pediatricians should understand risk factors for CAN and screen for potential "triggers," including infant crying, challenging behaviors and negativism associated with normal development, and toilet training and associated accidents.[9] Parental risk factors include young age, depression and/or other mental illness, substance abuse, lack of child development knowledge, poverty, unemployment, intimate partner violence, child abuse, and social isolation.[10] Practicing Safety (PS) is an AAP-sponsored toolkit, based on AAP and Bright Futures recommendations, that was developed to reduce the risk of CAN by enhancing screening and anticipatory guidance among children 0 to 3 years of age.[10]

This quality-improvement (QI) initiative was conducted at a busy, urban, academic-based, primary care practice serving low-income families. The aim of this initiative was to improve CAN risk assessment and resource provision through the use of standardized SmartTools in an electronic health record (EHR) based on local adaptions made to Practicing Safety (aPS). In this article, we describe the QI initiative and report on practice improvements for 1.5 years following the intervention.[11]

METHODS

CONTEXT

This QI initiative took place from May 2013 to September 2015 at Nemours DuPont Pediatrics, Philadelphia, a primary care practice based in the Center City district of Philadelphia which has an estimated 19,200 well-child care (WCC) visits annually. Approximately 60% of the patients access health care via Medicaid. This university-based practice is part of a network of clinical sites in Pennsylvania, New Jersey, Delaware, and Florida. Clinical care at the practice is delivered by 8 lead physicians, 6 additional physicians who supervise residents, 2 nurse practitioners, 38 continuity residents, and over 25 residents and 88 medical students rotating through the practice each year. Support staff includes 5 registered nurses, 6 medical assistants, 1 social worker, 6 patient services representatives, and 1 health information management coordinator.

The initial step of this QI project was for the QI physician (QIP) and QI advisor (QIA) to meet in order to discuss the QIA's past experience with Practicing Safety in pre-EHR, non-academic offices[12]; the organizational and cultural aspects of the office and staff; and the anticipated challenges to a practice-wide intervention impacting attending physicians, and rotating students and residents. In addition, the QIA conducted the following office assessments: a self-report structured practice environment checklist, a mapping tool, and one-on-one interviews with parents, staff, and physicians based on previously derived practice genograms.[13]

INTERVENTION

Practicing Safety consists of three bundles—infant, mother/parent, and toddler—subdivided into the following 5 domains: infant crying, maternal depression, discipline, temper tantrums, and toilet training (see the Appendix Table online). Two authors, D.J.A. and R.S.G. (also the QIA), were directly involved with the AAP in the original PS development and evaluation.

Adaptations to PS (aPS) were made for this initiative to update the language style and incorporate local resources after consulting with the practice's 8 lead physicians. As part of PS, the Edinburgh Postnatal Depression Scale (EPDS) was administered to mothers of children 3 to 10 weeks of age at WCC visits. We incorporated, as a sixth domain to enhance PS, a standardized developmental screening tool, Parents Evaluation of Developmental Status (PEDS), into routine WCC at 9, 18, and 24 months. To maximize efficiency and minimize expense, aPS replaced original PS resources (Appendix Table) with those available directly from KidsHealth.org, a nationally recognized, award-winning, Nemours-owned website, and KidsHealth.org resources modified for integration into the EHR through Epic Systems Corporation (Verona, Wis).

The adapted version of PS was incorporated into the EHR using SmartTools, tools that help to automate documentation and consist of SmartSets and SmartPhrases. SmartSets are templates used for documentation; for example, a clinician may use a SmartSet with embedded elements from aPS for a 6-month WCC visit. SmartPhrases (or "dot phrases") differ from SmartSets in that they are blocks of text that can be inserted into a progress note simply by typing a period followed by several letters; for example, ".crying" may pull in text about infant crying. For detailed text, see the Appendix Table (source files for the SmartSets and SmartPhrases used in this QI project are available upon request).

The timeline of this QI project summarizes major intervention activities during 3 phases: Planning, Action, and Maintenance (Table 1). In December 2013, aPS templates, via SmartSets, were added to the EHR WCC templates used for each of the recommended WCC visits for newborns through age 3. Use of these templates by physicians, though strongly encouraged, was not mandatory. Drop-down menus were implemented to add ease and speed to documentation, but there were no hard stops per se (see sample text in Fig. 1). Clinicians utilizing the recommended SmartSets had the flexibility to customize their progress notes by adding and deleting various elements of aPS.

STUDY OF THE INTERVENTION

Ongoing assessment of the initiative occurred through a multi-method process consisting of the following elements: one-on-one interviews between the QIA and office staff and parents; QIA practice observations; monthly QI

Table 1. Quality Improvement Project Timeline, May 2013–September 2015

Process	Phase I: Planning						Phase II:Action												Phase III:Maintenance										
	5 (May) 2013	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9 (Sept.) 2015
QI advisor assessment																													
QI team leaders meeting																													
Health IT meeting																													
QI team meeting																													
Staff meeting																													
PS adaptations																													
EPDS and PEDS test runs																													
aPS implementation																													
aPS revisions																													
PEDS workflow																													
PEDS dashboard and sharing																													
"Postpartum depression" and "parenting" resources update																													
aPS resources																													
Provider reminders																													
PSRs meeting																													
JeffNEMS meetings																													
Waiting room changes																													
New patient handouts																													
Child abuse training																													
New trainees oriented																													

QI indicates quality improvement; IT, information technology; PS, Practicing Safety; EPDS, Edinburgh Postnatal Depression Scale; PEDS, Parents Evaluation of Developmental Screening; aPS, adapted Practicing Safety; PSRs, patient service representatives; and JeffNEMS, Jefferson Nemours Education by Medical Students.

Shaded areas represent activities performed during specified timeframes.

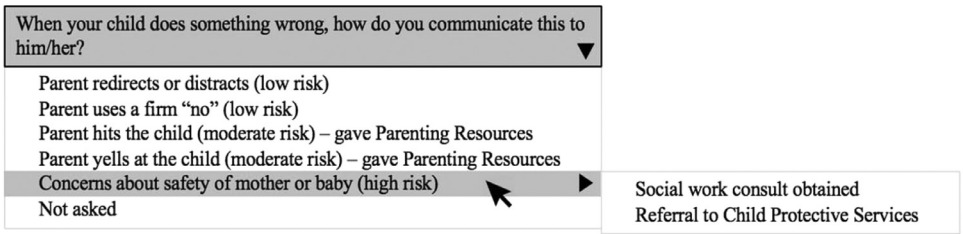


Figure 1. *Text incorporated into SmartTools to assess child discipline.*

team meetings; quarterly discussions specific to the QI initiative at staff meetings; and ongoing chart reviews by investigators E.K.C. and R.S.G. Based on these assessments, continual improvements were made using Plan-Do-Study-Act methods (Fig. 2).[14] The QI team consisted of the nurse manager, the social worker, a registered nurse, a medical assistant, a patient services representative, an administrative assistant, and the QI team chair and physician leader (E.K.C.). The success of the initiative relied heavily on the supportive environment of the practice members; support from the practice medical director, who was an established clinician in the practice for over 20 years; leadership from the QI initiative physician, who was an established and trusted clinician; and integration of aPS into the EHR. Given that clinicians use different means of documentation, the addition of aPS SmartPhrases later in February 2014 allowed clinicians to customize their own templates rather than relying only on the initial SmartSets described above. EPDS and PEDS, completed by the mother/parent, required development of a workflow that impacted front desk staff, medical assistants, and clinicians. A helpful approach to using these tools included test runs to streamline workflow prior to implementation. Figure 2 outlines the Plan-Do-Study-Act cycle for incorporating the EPDS into clinical care.

On a monthly basis, the QIP sent e-mail reminders to encourage individual providers to use the aPS SmartTools when an absence of screening or resource provision was noted on more than one occasion during the chart-review process. In-person quarterly reports given by the QIP at staff meetings showing trends, via run charts, helped the practice to understand progress and setbacks. Coincidental with the timing of this QI initiative, PEDS was integrated into other Nemours practices, and local health insurers began reimbursing practices for PEDS use. As a result, Nemours systemwide dashboards were available electronically to monitor use, billing, and reimbursement related to PEDS. Dashboards displayed trends in PEDS use by physician, practice, and month. When the practice began receiving reimbursement for completing the PEDS, this helped to show providers and staff that improving care quality can be beneficial to families and to practice finances. Although balancing measures were not formally done for this initiative, qualitative data did not suggest any negative impact of this intervention with respect to number of patients seen, patient wait times, or physician time spent documenting.

MEASURES

Outcome measures were assessed via chart review to determine documentation of aPS assessments, including EPDS and PEDS, and resource provision for all 6 aPS domains for a total of 11 outcomes (6 assessments and 5 resource provisions). Resource provision was measured by use of the materials listed in the Appendix Table. The New Patient Handouts, introduced toward the end of phase II and referenced in the Appendix Table and on the run charts, refer to copyrighted, age-specific Nemours Foundation/KidsHealth handouts that include drawings and guidelines based on Bright Futures.[5] These age-specific handouts, which include information on each of the 6 aPS domains, can be accessed only through the Nemours EHR under the Patient Instructions section (available upon request). As part of routine care, following each WCC visit, handouts via the After Visit Summary in the EHR are printed and given to all parents. Postpartum depression and parenting resources developed for this QI project were based on local resources provided by our social worker pre-intervention. They are available from the Children's Advocacy Project of Philadelphia (CAP4-Kids), a continually updated website.[15,16] Our QI team contacted each listed resource to ensure that the handouts provided up-to-date information to families.

The chart reviews were conducted by trained research assistants during pre-intervention (February 2013, wave 1); immediate post-intervention (January 2014, wave 2); and early post-intervention (February 2014, wave 3). For the remaining waves 4 to 13, the QIA and QIP conducted chart reviews monthly for the first 6 months and then quarterly for 4 months to assess performance for 1.5 years post-implementation. A data abstraction tool was developed and used for this initiative (available upon request). The data abstraction tool allowed for assessment of screening and resource provision related to the following 6 aPS domains at targeted WCC visits: 1) infant crying and 2) maternal depression (target, 1 and 2 months; range, 3−10 weeks); 3) developmental screening (target, 9, 18, and 24 months; range, 9−11 and 18−27 months); 4) discipline (target, 6 and 9 months; range, 6−8 and 9−11 months); and 5) temper tantrums and 6) toilet training (target, 18 and 24 months; range, 18−27 months). For waves 1 to 3, research assistants accessed patient schedules starting on a specified date and reviewed charts consecutively if

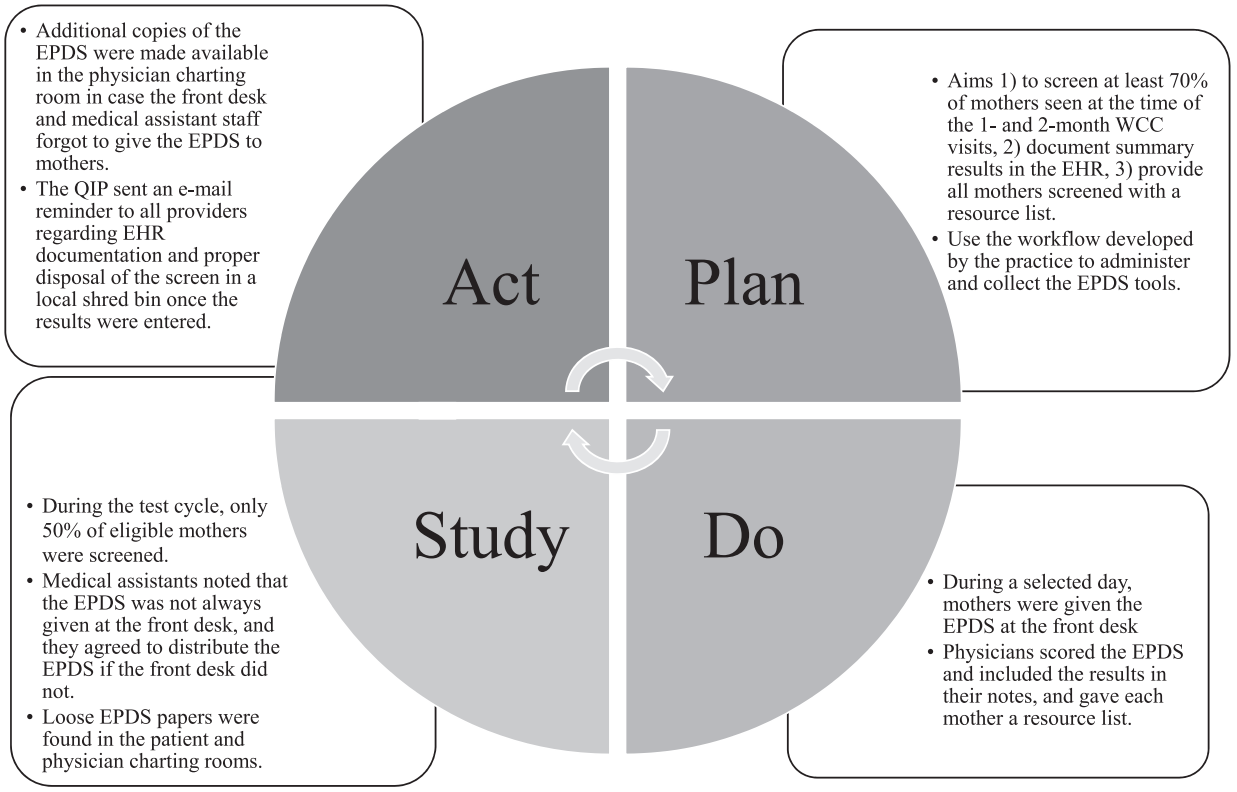


Figure 2. *Sample Plan-Do-Study-Act cycle for maternal depression screening.*

they fell into the target age ranges for the 6 aPS domains. Similarly, for each remaining wave, the QIA and QIP together reviewed consecutive charts, starting on the first day of each month and selecting 10 charts for each of 3 targeted WCC visit clusters: 1) 3 to 10 weeks to capture the 1- and 2-month WCC visits; 2) 6 to 8 months and 9 to 11 months for the 6-month and 9-month WCC visits; and 3) 9 to 11 months and 18 to 27 months for the 9-, 18-, and 24-month visits. For any given chart review cluster, no more than 2 charts from the same provider were allowed to be reviewed.

Analysis

Data were displayed via run charts for each of the 6 aPS outcomes showing the proportion of the abstracted charts that achieved the outcome in that measurement period. We plotted intervention activities, an overall median line, and a median line for Phase III (Maintenance) to visually inspect the run charts for runs and shifts relative to the median.[17] Figure 3 displays the run charts for selected assessments—developmental screening using PEDS and assessment of child discipline—to aid in visualization of the association between intervention activities and changes in outcomes (see the supplementary Appendix Figures online for all other domains except for toilet training). To complement the visual displays, we also statistically compared the pre- and post-intervention proportions of charts with the measured outcomes using a two-sample z-test for proportions.

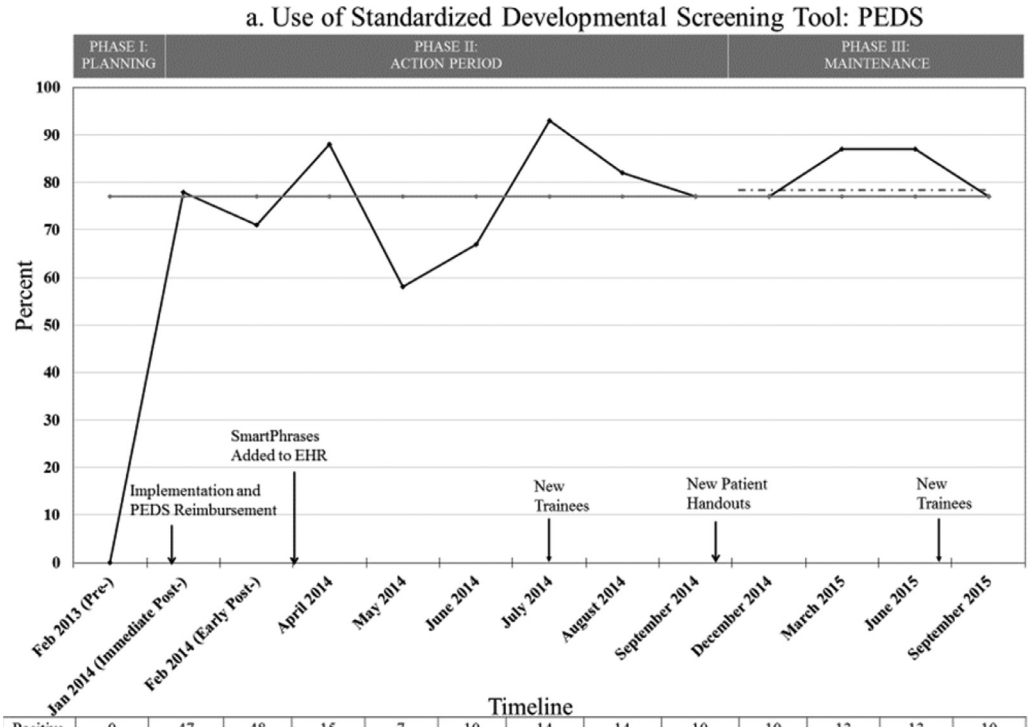
Ethical Considerations

The Institutional Review Board at Thomas Jefferson University formally reviewed and approved this study. Mothers with an affirmative response to the question related to suicidal ideation or a high score above 13 on the EPDS were referred to our social worker. If mothers had suicidal ideation at the time of the visit, they were escorted by our social worker to the emergency department, which is within walking distance from the office. As mandated by law, suspected CAN was reported to Child Protective Services.

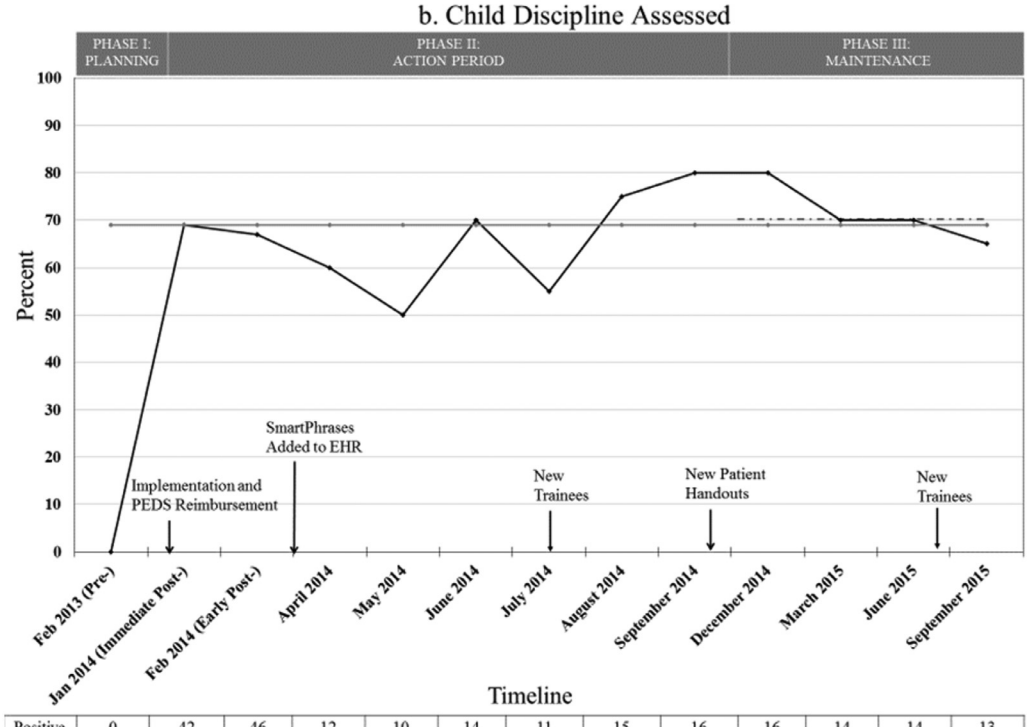
Results

Table 2 summarizes major QI outcomes, impacted personnel, and challenges. Table 2 also outlines the office workflow for having parents complete the EPDS and PEDS tools. The project's success relied on a commitment from the QI team leaders. Having an experienced lead physician and an outside PS expert as team leaders was key. The QIP was able to build on past relationships with physicians, office staff, and Nemours Health information technology experts. The QIA was able to build on past experience with PS and ensured that the integrity of PS was not compromised by the local adaptations made to PS. QI team leaders raised questions and issues with the QI team, which served as the steering committee for the project.

At the intervention onset, it was not apparent that there would be variation among physician approaches and shortcuts to EHR documentation. Flexibility and



Positive	0	47	48	15	7	10	14	14	10	10	13	13	10
Total	57	59	70	17	12	15	15	17	13	13	15	15	13



Positive	0	42	46	12	10	14	11	15	16	16	14	14	13
Total	57	60	70	20	20	20	22	20	20	20	20	20	20

Figure 3. *Adapted Practicing Safety, selected assessments. Run charts are shown for 2 adapted Practicing Safety outcomes over time. The top banner for each figure shows the 3 phases for this project: Phase I,* Planning*, which consisted of the 6 months preceding implementation; Phase II,* Action*, which started with implementation and ended after 6 months of monthly data review; and Phase III,* Maintenance*, which consisted of the subsequent 12 months. The grid beneath each figure shows the total numbers of charts screened. Above each total number is the number of charts for which assessments were completed. The solid horizontal line on each graph represents the overall median, and the interrupted horizontal line on the right-hand side represents the median for the Maintenance phase.*

Table 2. Overview of Major Processes, Impacted Personnel, and Challenges Related to the QI Initiative

Quality Improvement Outcome	Summary of Processes	Impacted Personnel	Challenges
A. Use of recommended assessment tools in the EHR	1) Making adaptations to PS 2) Development of SmartSets 3) Information technology support to incorporate SmartSets into WCC templates in the EHR 4) Development of SmartPhrases for clinicians not using the suggested templates 5) Sharing of SmartPhrases with all clinicians 6) E-mail communication between physician leader and other physicians and residents	• All physicians • Residents • Medical students	1) *The modified WCC templates were used inconsistently in the EHR*. This required reminders to use the templates with SmartSets or to use the SmartPhrases. 2) *Dissemination of information to rotating residents and students relied on supervising physicians.* This required reminders for supervising physicians to use the templates or SmartPhrases. In addition, an e-mail was sent to all new interns in July 2014.
B. Use of EPDS	1) Development of a workflow for the following: a. Having mothers complete the tool at the correct WCC visits b. Having physicians enter the summary results in the EHR c. Consulting with our social worker when mothers at high risk for depression were identified d. Discarding paper results after entry into the EHR 2) Use of color flags/dots in the EHR to remind staff to make sure that mothers received the EPDS. A nurse and physician volunteered to review and flag patient charts weekly.	• Patient service representatives • Registered nurses • Medical assistants • All physicians • Residents • Medical students	1) *Identifying who is responsible for administering the EPDS*—Through QI team and staff meetings, we agreed to shared responsibility for this task, and we discussed and revised the recommended workflow for administering the EPDS. 2) *Lack of consistent documentation of EPDS results into the EHR*—E-mail reminders were sent to physicians if trends were noted during chart reviews that suggested a lack of documentation. 3) *Leaving paper results of EPDS in patient and preceptor rooms*—For each incident, the physician leader reviewed the chart to see if results were documented. If so, paper results were shredded. If not, a personal e-mail message was sent to the resident and/or supervising physician, and the results were left in secure physician offices.
C. Use of PEDS	Same as for EPDS, except that abnormal screens (see B1c) were addressed by the physician without the need for a social worker	Same as for EPDS	Same as for EPDS
D. Use of available resources	1) Via e-mail and through staff meetings, guidelines and reminders were sent to clinicians regarding available resources and the new patient handouts, when they became available.	• All physicians • Residents • Medical students	1) *Distribution of After Visit Summaries was inconsistent.* As with the assessment tools, reminders were sent by e-mail and delivered verbally at staff meetings. 2) *Dissemination of information to rotating residents and students relied on supervising physicians*. When a systemwide change occurred with access to comprehensive new patient handouts, the process was standardized among all clinicians.

EHR indicates electronic health record; PS, Practicing Safety; WCC, well-child care; EPDS, Edinburgh Postnatal Depression Scale; QI, quality improvement; PEDS, Parents Evaluation of Developmental Screening.

creativity allowed us to adapt the intervention to meet the needs of the clinicians working at the practice. Using a "Smart" approach for changes embedded in the EHR allowed clinicians a choice. On the one hand, clinicians could work with preset templates using SmartSets; on the other hand, they could tailor their own notes by using SmartPhrases. Frequent and ongoing communication with staff and providers allowed the practice to improve the process over time. At quarterly staff meetings, the QIP showed progress over time for each of the measures and led a discussion that focused on suggestions for improvement; for example, the PEDS dashboard noted in Table 2 allowed the lead physician to share screening rates and related cost reimbursement with the entire office.

For each of waves 1 to 3, the total number of charts that were abstracted were 100; however, 8, 5, and 6 charts were dropped from waves 1 to 3, respectively, because the patients were 17 months old, and the 15-month (which lacked aPS modifications) rather than the 18-month WCC templates were used. This left 92 charts for wave 1, 95 for wave 2, and 94 for wave 3. For each of waves 4 to 13, the total number of charts was 30. As shown in Figure 3 and the Appendix Figures, screening assessments for each domain increased post-implementation, as did resource provision. Intervention activities that seemed to impact aPS implementation included the addition of new trainees in July 2014, which corresponded with the departure of graduating residents, and the availability of the New Patient Handouts in September 2014. Declines in assessments and resource provision were noted following the arrival of new trainees each July, whereas improvements in resource provision were noted after the addition of the aforementioned New Patient Handouts.

When compared to PS pre-implementation, screening assessments in each domain post-implementation were completed more than 50% of the time. Assessment of infant crying increased pre- to post-implementation from 0% to 83% ($P < .001$). Similarly, assessment of maternal depressive symptoms using EPDS increased from 0% to 54% ($P < .001$). Developmental assessment using a standardized tool, PEDS, increased pre- to post-intervention from 0% to 63% ($P < .001$). Prior to aPS implementation, child development had been assessed using non-standardized questions. Assessment of discipline, temper tantrums, and toilet training increased from 0% to 65%, 6% to 72%, and 36% to 82%, respectively, from pre- to post-intervention (each comparison, $P < .001$). Providers gave resources more often post- than pre-intervention for maternal depression (58% vs 0%; $P < .001$) and discipline (61% vs 0%; $P < .001$).

Improved assessment was maintained over time for all measures (Fig. 3 and Appendix Figures). Resource provision for infant crying, toilet training, and temper tantrums did not increase significantly until 4 to 6 months post-intervention. Toilet training had been part of the WCC templates prior to this QI initiative, and assessment and resource provision for this topic were high throughout the initiative (data not shown).

Unintended Consequences

There were several unintended consequences of this QI initiative that resulted in practice improvement. The QI team enjoyed meeting on a regular basis to improve aspects of the practice and decided to continue to meet even after the intervention was completed. In addition, the QI team made waiting room changes that involved installation of a patient handout rack, development of a Teen Zone with patient handouts targeted at youth, and installation of a patient information bulletin board. The development of the Jefferson Nemours Education by Medical Students team was the result of medical students helping the front desk staff with distribution of the EPDS and PEDS surveys (Table 1). The Jefferson Nemours Education by Medical Students team has evolved into a student group that continues to provide families in the practice with educational materials related to early childhood development and behavior and meets monthly with the physician leader of this initiative.

Discussion

This QI initiative successfully improved WCC visits by increasing CAN risk assessment and resource provision at a busy, urban practice serving low-income families. As shown with other practices using paper charts, PS (a modified version) can be adopted and incorporated successfully into daily practice using an EHR.[12] Although PS is a toolkit sponsored by the AAP, there are no studies to date to demonstrate its impact on CAN cases. Prior studies have demonstrated that EHR modifications are associated with short-term improvements in smoking cessation counseling and referrals, clinician adherence to national asthma guidelines, and preventive services from 0 to 14 months.[18-20] In this study, improvements in CAN risk assessment and resource provision were maintained 1.5 years following EHR modifications.

This project took place in Pennsylvania at a time when news coverage and legislative activity related to child abuse peaked following the 2012 child sexual abuse conviction of Pennsylvania State University assistant football coach Jerry Sandusky. In 2014, a package of child abuse laws was passed in Pennsylvania,[21] including mandated child abuse training for medical professionals under Act 31 (23 PA Cons Stat § 6383). As noted in Table 1, during phase III (Maintenance) an Act 31-approved child abuse training was conducted by the Pennsylvania Chapter of the AAP for the office staff through the Educating Practices/Physicians in their Communities program.[22] This training reinforced the importance of CAN risk assessment for the office staff impacted by this intervention.

This QI initiative allowed the practice to come together around a common purpose to improve care related to CAN risk assessment while adding maternal depression screening and a standardized child development assessment (ie, PEDS) to routine practice. By

discussing the initiative at QI team and staff meetings, office staff could share their experiences and perspectives. Strengths of this project include the participation of dedicated QI leaders consisting of a lead physician and an expert consultant; a QI team that met regularly; involvement of the entire office staff, including rotating medical students and residents; regular QI initiative updates at staff meetings; changes incorporated into the EHR; and use of state-of-the art resources available through KidsHealth.org and adapted for use within the Nemours EHR.

Despite the success of this QI initiative, there are a number of limitations. Physician documentation of assessments may under- or over-report actual assessment, which cannot be verified in the absence of direct observation or parental report. Similarly, although there was documentation of resource provision, it may be that parents were not aware that resources were provided, particularly if clinicians did not point out or discuss these resources. Also, run charts were based on small samples of charts that may not adequately represent overall clinical practice. This initiative was conducted at an urban, academic practice, and it may be necessary to make adaptations for implementation at other types of practices. Although improvements in CAN risk assessment and resource provision were made, we did not determine if this initiative had any impact on CAN incidents.

CONCLUSIONS

This QI initiative to improve CAN risk assessment and resource provision demonstrated improvements in clinician documentation and resulted in practice improvement. The SmartSets and SmartPhrases used for this initiative can easily be adapted to other practices using the EHR. In addition, free KidsHealth.org resources are available online. Lessons learned from this initiative may be applied to future health screenings and assessments, such as screening for social determinants of health.

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SUPPLEMENTARY DATA

Supplementary data related to this article can be found online at https://doi.org/10.1016/j.acap.2018.09.011.

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