QUALITY IMPROVEMENT FOR WELL CHILD CARE

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QUALITY IMPROVEMENT FOR WELL CHILD CARE

A

PROJECT

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By

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Abstract

The American Academy of Pediatrics (AAP) Bright Futures (BF) guidelines for well child care were designed to provide quality pediatric care. Adherence to AAP-BF guidelines improves: screenings, identification of developmental delay, immunization rates, and early identification of children with special healthcare needs. The current guideline set is comprehensive and includes thirty one well child exams, thirty three universal screening exams and one hundred seventeen selective screening exams. Many providers have difficulty meeting all guideline requirements and are at risk of committing Medicaid fraud if a well exam is coded and requirements are not met. The goal of this quality improvement project was to design open source and adaptable templates for each pediatric age group to improve provider adherence to the BF guidelines. A Plan-Do-Study-Act (PDSA) quality improvement model was used to implement the project. Templates were created for ages twelve months to eighteen years and disseminated to a pilot clinic in Anchorage, Alaska. The providers were given pre-implementation and post-implementation surveys to determine the efficacy and usefulness of the templates. Templates were determined to be useful and efficient means in providing Bright Futures focused well child care. The templates are in the process of being disseminated on a large scale to assist other providers in meeting BF guideline requirements.

Quality Improvement for Well Child Care

The purpose of this evidence-based change project was to improve quality of care and general practitioner adherence to American Academy of Pediatrics (AAP) Bright Futures (BF) guidelines for well child care. Adherence to AAP-BF guidelines improves: screenings, identification of developmental delay, immunization rates, and early identification of children with special healthcare needs (About Bright Futures, 2015). The AAP designed the BF guideline toolkit to accompany AAP-BF guidelines with the goal of assisting all providers to meet the AAP guidelines when caring for pediatric patients from infancy to 21 years of age (Appendix A). Three main barriers to the effective use of the BF toolkit include: cost, a plethora of information to organize and select for use, and inability to interface with an electronic health record (EHR) system. Therefore, this quality improvement project was designed to provide free, succinct, EHR-compatible templates based on the AAP-BF toolkit for any provider who needs assistance with determination of and adherence to age-based AAP-BF recommendations for all pediatric age groups.

Background

Clinical guidelines are developed and refined according to the best research available in an effort to improve healthcare. The birth of modern guidelines began with a 1992 Institute of Medicine (IOM) report that defined guidelines as "systematically developed statements to assist practitioner and patient decisions about appropriate healthcare for specific clinical circumstances" (Field & Lohr, 1990, p.8). Guidelines offer recommendations for diagnostic and/or screening tests, guide medical and surgical services, and provide other clinical practice recommendations for particular populations (Field & Lohr, 1990; Woolf, Grol, Hutchinson, Eccles, & Grimshaw, 1999; Woolf, Schunemann, Eccles, Grimshaw, & Shekelle, 2012).

Mastering guidelines for each pediatric age group is a difficult task for pediatric providers, but it can be even more daunting for general practitioners serving a much broader patient population.

Well child healthcare visits compromise 30% to 36% of total pediatric office visits (Norlin, Crawford, Bell, Sheng, & Stein, 2011). The AAP recommendations for well child care were first published in 1967 in *Standards of Child Health Care* and included 15 well child visits by three years of age followed by annual well child visits through age 18 years of age (Norlin, Crawford, Bell, Sheng, & Stein, 2011). Over the decades since publication of initial recommendations for well child care, the AAP has attempted to comply with the IOM's call for systematic, evidence-based guidelines. These guidelines for well child care have expanded to include ever increasing numbers of screening tests, immunizations, and a wide array of anticipatory guidance topics.

Comprehensive recommendations were first published in 1994 as *Bright Futures – Guidelines for Health Supervision of Infants, Children, and Adolescents* (About Bright Futures, 2015; Norlin, Crawford, Bell, Sheng, & Stein, 2011). Currently, BF is in its third edition, which was published in 2008. The AAP-BF guidelines suggest 11 well child care visits in the first three years of life followed by annual visits through 21 years of age. The current BF age-specific recommendations include 33 universal and 117 selective screening tests, parental-child observation, monitoring growth curves and developmental level, physical examinations, anticipatory guidance, and addressing parental concerns with open-ended questions (Norlin, Crawford, Bell, Sheng, & Stein, 2011). Numerous professional groups acknowledge the time constraints providers face with AAP-BF guidelines for well child care. In 2010, the AAP published a tool and resource kit to accompany and support providers in adherence to these guidelines.

The BF toolkit costs approximately $500 and was designed to enhance health supervision for pediatric patients. Within the toolkit, three groups of core tools were created for clinic use: BF previsit questionnaires, visit documentation forms, and educational handouts. Additional supplemental tools include: supplemental questionnaires, medical screening questionnaires and reference tables, and additional age appropriate tools. These tools are in portable document format (PDF) and are a useful starting point, but the AAP-BF acknowledges that many clinics may need to adapt the forms and tools for an existing EHR (BF Toolkit, 2010). According to the AAP information technology department, the PDF forms on the toolkit disc can be uploaded to an existing EHR and stored in a form bank (M. Ruthman, personal communication, May 20, 2015). However, the forms cannot easily be modified, copied and pasted into visit documentation, or linked to age group visits to prompt age recommended tasks. Furthermore the toolkit does not directly interface with EHR systems and the best way to incorporate the AAP-BF guidelines into a small clinic is to customize an existing EHR to prompt providers for the 33 universal and 117 selective screening tests, developmental monitoring, and necessary anticipatory guidance topics (M. Ruthman, personal communication, May 20, 2015).

Clinical Significance

The AAP-BF guidelines are evidence-based recommendations designed to give providers a compilation of current standards of care and materials for preventative health supervision and screening. As of 2012, Alaska Medicaid requires providers to adhere to AAP-BF recommendations for all age-based well child checks (Alaska Medical Assistance Newsletter, 2012). Therefore, if a provider codes a well child exam, AAP-BF recommendations must be met for reimbursement. Coding for a well child exam without meeting all AAP-BF recommendations constitutes Medicaid fraud.

Current Clinical Practice

According to Lehmann, O'Connor, Shorte, & Johnson (2015), the percentage of pediatric clinics using electronic health records (EHR) has increased from 58% in 2009 to 79% in 2012. However, it is estimated that only 14% of these pediatric clinics have a customized EHR designed to assist practitioners with adherence to AAP-BF age-based guidelines for well child exams. General practitioners and small practices are at a greater disadvantage of AAP-BF guideline adherence as the large majority of general practice EHRs and small practices are not customized to prompt recommended age-based interventions for well child exams. Studies show that development and publication of guidelines alone do not directly translate into improved care (Duncan et al., 2015). Although the toolkit is helpful, it has numerous forms to review and select for use. Despite the ability to store the forms within an existing EHR, they cannot easily be imported into visit documentation and do not interface with existing EHRs.

Research Question

Will the implementation of age appropriate well child exam templates utilizing the AAP BF guidelines and toolkit information improve provider understanding and adherence to the required elements of BF well child care in a pilot clinic in Anchorage, Alaska during a four week pilot program in March, 2016?

Literature Review

Initial literature review for this topic was performed April 10, 2015, in PubMed without any restrictions and using the three keywords: AAP, guideline, and adherence. The search revealed 83 articles, which focused on specific AAP guidelines such as anemia screening and developmental assessment. The search was then modified using the keyword 'Bright Futures' on

May 1, 2015, and revealed 69 articles. With the additional restriction of human subjects, the search revealed 59 articles, which were hand sorted for supportive evidence of this project.

The large majority of recent articles on AAP-BF guidelines were published in 2008 following the publication of the third edition of the *Guidelines for Health Supervision of infants, children, and adolescents*. However, the BF toolkit was pending publication at the time most articles were published on the subject. The BF guidelines and toolkit were designed to consolidate three large sets of guidelines into one comprehensive database for use in pediatric well child care and to emphasize three core ideas: prevention works, family matters, and health promotion requiring addressing more than just medical care (Hagan, 2008; Plafrey, 2008; Shaw, 2008).

Numerous articles briefly applauded the AAP's decision to publish a toolkit to assist practitioners with the comprehensive and exhaustive guidelines and recommendations (Hagan, 2008; Plafrey, 2008; Shaw, 2008). However, several articles specifically addressed the issues that could arise with the compatibility of the toolkit resources for existing EHR systems (Blaschke et al., 2008; Hagan, 2008). According to Lannon et al. (2008), incorporating the current BF guidelines into practice produces many barriers but having an EHR customized with recall and reminder systems is more efficacious than simply having a tool or template available. While customized EHR systems are ideal, many small practices and general practice clinics do not have the funding or time necessary to incorporate the AAP-BF guidelines into existing EHR systems (Duncan et al., 2015; Lannon et al., 2008; Norlin, Crawford, Bell, Sheng, & Stein, 2011).

Since the publication of the BF toolkit in 2010, there have been no published research studies that discuss or document the difficulties practitioners face when attempting to utilize the

BF toolkit to meet guideline recommendations. According to Duncan et al. (2015), practitioner translation of BF guidelines and the toolkit into usable documentation forms is critical. Practitioners continue to face difficulty meeting BF guideline recommendations and using the BF toolkit resources due to the quantity of guideline recommendations and BF toolkit documents available (Duncan et al., 2015).

Framework: Evidence Based Practice Model

This quality improvement project was executed using the Plan-Do-Study-Act (PDSA) cycle, which is a rapid cycle quality improvement model. The PDSA cycle was utilized to provide the framework for implementation of the BF guidelines and toolkit adaptation for Alaskan providers performing well child care. The goal of the PDSA cycle application was to determine if the BF guideline and toolkit template based adaptation would create improved AAP-BF guideline adherence for a small family practice clinic in Anchorage, Alaska.

The PDSA cycle is a process originally developed from industry in the 1920s by Walter Shewart and Edward Edming's identification and translation of iterative processes (Taylor et al., 2013). This cyclic learning approach is effective because the practical principles of the PDSA utilize a small scale and step-by-step approach to test quality improvement change (Taylor et al., 2013). The PDSA cycle allows rapid assessment of quality improvement change and facilitates adaptation of interventions to create effective problem-specific solutions. The method is widely used in healthcare as a quality improvement framework.

Cycle goals, identification of the problem, and proposed implementation are addressed within the *plan* phase. During the *do* phase, the change is tested and often includes staff education, plan execution, and problem documentation. During the *study* phase, the results of the change are examined for success and any needed changes are identified and analyzed.

Finally, the *act* phase identifies needed implementation adaptations and goal modification to direct a new cycle of the PDSA process.

Ethical Considerations and Institutional Review Board

This project was submitted on August 28, 2015, to the University of Alaska's Institutional Review Board (IRB) in accordance with University and Master of Nursing project requirements. The project was approved under exempt status on October 14, 2015, as there was no research pertaining to human subjects in this high quality improvement initiative.

Methods: Implementation Process and Procedures

During the *plan* step of the PDSA cycle, an AAP-BF guideline and toolkit adaptation timeline was created and a plan for carrying out the cycle was developed. One local clinic containing five family practice providers agreed to participate in the quality improvement project (Appendix B). Potential barriers and predictions were recorded and discussed with project stakeholders at the participating pilot clinic. Provider suggestions for project improvement and direction were considered and incorporated into the project. For example, requirements for the Alaska Head Start (AHS) program were included in the three and four year old well child templates and indoor tanning avoidance was included within anticipatory guidance sections for twelve years through eighteen years. The *plan* phase lasted four weeks and was complete November 11, 2015.

The next step was the *do* phase. Templates were created in Microsoft Word (MSW) and adapted from the AAP-BF well child guidelines and toolkit resources for ages twelve months through eighteen years. The goal of MSW use included the creation of templates that allowed for: importation into existing EHR systems, future adaptation as guidelines are updated, and to offer a simple format that may be downloaded from website sources. Creation of twenty age-

specific template drafts were developed over three weeks and were complete December 2, 2015. These drafts were submitted to the project committee chair on January 7, 2016, for review and editing prior to pilot clinic distribution. Edits were complete January 17, 2016.

A pre-implementation survey was distributed to the five providers at the pilot clinic on February 1, 2016, to evaluate understanding of current pediatric guidelines for well child care and the potential efficacy of the templates according to the AAP-BF guidelines and toolkit (Appendix C). Informed consent notification accompanied the surveys (Appendix E). An educational presentation via powerpoint presentation was disseminated to the providers on February 5, 2016. The educational presentation covered the following topics: pediatric well child guideline history, current pediatric well child guidelines, Alaska Medicaid requirements, template format, template use, EHR importation, and future template adaptation.

Practice Fusion is the pilot clinic's EHR platform. It is a free, cloud-based model that has customization options. This web based platform offers the capability to create custom templates, so each of the age-based templates was uploaded under one provider's account between February 8, 2016, and February 12, 2016. The templates were then shared with the remaining four providers on February 15, 2016. Providers were asked to use the templates for all well child exams, record benefits of the templates and suggestions for improvement. Three weeks of template use occurred from February 15, 2016, to March 7, 2016. Five pilot clinic providers were then given the post-implementation surveys on March 7, 2016, to determine template usefulness and to identify any needed improvements (Appendix D).

The pre and post-educational surveys were analyzed within the *study* phase of the PDSA cycle. Survey evaluation and comparison determined if the templates improved provider ability to address AAP-BF guideline requirements. Furthermore, provider recommended changes to the

templates were identified which were specific to the pilot clinic. Template changes were identified in the *act* phase of the PDSA cycle.

Implementation Barriers

Due to the quantity of information that needed to be adapted, the original date of project completion in December, 2015, was not met. Furthermore, the turnaround time from IRB submission to approval spanned seven weeks, which delayed project initiation. One major unanticipated project barrier was the time commitment necessary for uploading templates into the pilot clinic EHR system. The template upload was expected to require one to two days. Ultimately, for proper upload of each template, five days were needed.

Findings

Pre-Implementation Survey Results

The pre-implementation surveys and consent forms were distributed to the pilot clinic manager on February 1, 2016, via email. The clinic manager printed and delivered the surveys and consent forms to each of the five providers. Each provider retained a copy of the consent form and returned the completed survey to the clinic manager. The clinic manager stored the surveys in a confidential and sealed envelope, and hand delivered them to the project coordinator several days after completion. Table 1 provides a summary of the provider results from the pre-implementation survey.

Table 1

Pre-Implementation Survey Data

Question	Provider 1	Provider 2	Provider 3	Provider 4	Provider 5	Summary
Weekly pediatric patients?	1 to 5	1 to 5	1 to 5	6 to 10	1 to 5	80% 1 to 5 20% 6 to 10
Comfort with well child exams?	Very	Very	Very	Very	Moderately	80% Very 20% moderately
Tools used for exams?	BF	BF	BF	BF, CDC, USPTF	BF	100% BF 20% CDC 20% USPTF
Usefulness of tools?	Extremely	Minimally	Extremely	Extremely	Very	60% Extremely 20% Very 20% Minimally
Medicaid requirements?	Yes	Yes	Yes	Yes	Yes	100% Yes
Interest in templates?	Yes	Yes	Yes	Yes	Yes	100% Yes
Universal screenings?	22 to 30	11 to 15	21 to 25	Unsure	Unsure	0% correct 33 universal screenings
Selective screenings?	Unsure	26 to 50	100 to 125	Unsure	Unsure	20% correct 117 selective screenings
Barriers to care?	Time, parents	Time, parents	Time, seasonal volume	Time, parents, language	Time, language	100% time 60% parents 40% language 20% seasonal volume

The following subsections discuss provider responses to the survey and implications of the responses.

Question One: Approximately How Many Patients 21 Years and Under Do You See On a Weekly Basis For Well Child Exams? Four of five providers reported seeing one to five pediatric patients each week and one provider reported seeing six to ten pediatric patients each week for well child preventative services. One comment reported that in the month of February,

providers see fewer well child exams compared to other times of the year. As the survey was taken in February, this could have skewed the responses to reflect fewer reported well child exams than in comparison to high volume months. The months of August and September are known for high volume well child exams marking the beginning of the school year.

Question Two: How Comfortable Do You Feel Performing Well Child Exams? Four of five providers reported feeling very comfortable performing well child exams while one provider was moderately comfortable performing the exams. Two of the providers reported knowing BF guidelines well and comfort will all pediatric age groups. One provider was most comfortable with the adolescent population, but was not well versed in BF requirements. Another provider reported the greatest comfort with urgent care scenarios in the adult population and desired more information regarding BF well child exams.

Question Three: What Tool(s)/Protocols/Guidelines Do You Use Daily to Guide Well Child Exams? Three providers reported using BF guidelines as the sole tool used for well child exams. One provider reported using: BF, American College of Gynecology, United States Preventative Services Task Force, Center for Disease Control and Prevention, and Ages and Stages screening tool. Another provider reported using BF guidelines, Ages and Stages screening tool, the Modified Checklist for Autism in Toddlers screening tool, and the Patient Health Questionnaire 2 and 9. The pilot clinic maintains a copy of the BF toolkit. However, not one provider reported using the BF toolkit that was designed to assist providers in meeting all well child exam requirements. This supports the idea that the BF toolkit lacks effectiveness and is unable to interface with the EHR system, such as the one being used in this pilot clinic.

Question Four: How Useful Are the Tools/Protocols/Guidelines to Guide Your Well Child Exams? Three providers reported the tools listed as extremely helpful in guiding well

child exams. One provider reported the tools as very useful in guiding well child care, but stated there is room for improvement. Another provider thought the tools were minimally helpful to guide well child care, but did not provide comments to support that response.

Question Five: Are There Any Medicaid Requirements For Well Child Exams? All five providers were aware that the Medicaid requirements for well child exams were adopted from the Bright Futures Guidelines. The pilot clinic was utilizing several of the required and optional screening tools within BF guidelines.

Question Six: If You Had Free, Age-Based Templates That Prompted All Well Child Care Guideline Recommendations (That Could Be Copied and Pasted Into Your Exam Documentation) Would You Use Them? All five providers reported they would use free, age-based BF templates if they were available to them. This suggested that providers were open to using any tool that was simple, streamlined their well child exams, and helped them meet the numerous guideline requirements.

Question Seven: How Many <u>Universal</u> Pediatric Screening Tests Are Supported By the American Academy of Pediatrics Well Child Care Guidelines Through Age 21? Two providers were unsure of the number of universal screening tests. One provider reported eleven to fifteen, another chose 21-25, and the final provider selected 26-30. None of the providers were aware that the BF guidelines require thirty three universal pediatric screening tests.

Question Eight: How Many <u>Selective</u> Pediatric Screening Tests Are Supported By the American Academy of Pediatrics Well Child Care Guidelines Through Age 21? Three providers were unsure of the number of selective screening tests. One provider selected twenty six to fifty and the final provider selected one hundred to one hundred twenty five selective

screening tests. Only one provider was aware that the BF guideline requirements include one hundred seventeen selective screening tests.

Question Nine: What Are the Main Barriers You Face When Performing Well Child Care? All five providers reported time as a main barrier to performing well child exams. Three providers reported parents as another major barrier, but did not explain the meaning behind parents as a barrier. Other responses included: seasonal nature of well exams and clinic flow, language barriers, and in many cases lack of previous records to review. The BF templates would not ameliorate the provider concerns regarding parents, language barriers, or lack of previous records. However, the templates were designed to improve flow and maximize time while assisting providers to meet the numerous exam requirements.

Post-Implementation Survey Results

The post-implementation surveys and consent forms were distributed to the pilot clinic manager on March 7, 2016, via email. The clinic manager printed and delivered the surveys and consent forms to each of the five providers. Each provider retained a copy of the consent form and returned the completed survey to the clinic manager. The clinic manager stored the surveys in a confidential and sealed envelope, and hand delivered them to the project coordinator several days after completion. Table 2 provides a summary of the provider results for the post-implementation survey.

Table 2

Post-Implementation Survey Data

Question	Provider 1	Provider 2	Provider 3	Provider 4	Provider 5	Summary
Comfort with well exams using templates?	More comfortable	More comfortable	More comfortable	More comfortable	More comfortable	100% more comfortable
Prefer pediatric or well child exam?	Well child	Well child	Well child	Well child	No preference	80% well child 20% No preference
Percent of exams utilizing templates?	81-100%	81-100%	81-100%	81-100%	81-100%	81-100% template use for exams
Usefulness of templates?	Extremely	Extremely	Extremely	Extremely	Extremely	100% extremely useful
Template strengths?	See discussion	See discussion	See discussion	See discussion	See discussion	Free text questions
Revision points?	See discussion	See discussion	See discussion	See discussion	See discussion	Free text questions

The following subsections discuss provider responses to the survey and the implications of the responses.

Question One: How Comfortable Do You Feel Performing Well Child Care After Template Dissemination? All five providers reported they were more comfortable performing well child exams with use of the BF templates. Although four of five providers reported being very comfortable performing well child exams in the pre-implementation survey, the templates still streamlined care and assisted them in meeting guideline requirements and screenings in a concise and timely fashion.

Question Two: If You Had the Choice Between Performing a Well Adult Exam or a Well Child Exam, Which Would You Prefer? Two providers reported they would prefer well

child exams because the templates make the exam efficient and they are easily used. Two providers reported they would prefer well child exams because that is their preferred population. One provider reported no preference and an affinity for both populations. The responses suggested the templates helped at least two providers enjoy doing well child exams more due to increased efficiency of the process.

Question Three: Approximately What Percentage of Well Child Exams Are You Using the Templates? All five providers reported using the templates 81 to 100 percent of the time during well exams over the implementation period. This suggests there was little time needed to learn how to use the templates and the general consensus among providers was the templates improved their efficiency and accuracy with implementing the BF guideline requirements.

Question Four: How Useful Are the Templates to Guide Your Well Child Exams? One hundred percent of the providers reported the templates were extremely useful in guiding their well child exams. Provider comments included:

- The templates helped complete more screenings in a short period of time, the review of systems and assessment sections were complete and helpful.
- The dietary recommendations were a useful handout that could be easily utilized.
- The incorporation of standardized screenings made assessments concise and easy to follow.
- “I have ordered many more screening tests based on the age related criteria in the templates which made screening so much more comprehensive. I am actually surprised at the laboratory testing recommendations in many of the age related visits.”

Question Five: What Are the Strengths of the Templates? This open ended question elicited varying responses from the five providers. Responses were as follows:

- Provides excellent step off for engaging parent and child in healthy lifestyle choices.
- Templates compacted a lot of information into a small space. Helped prevent partial screening of patients.
- The numerous points of the screening - particularly the HEEADSSS, CRAFFT, and the specific reminders for all pediatric symptoms to look for in each age group. The diet recommendations. The inclusive assessment. The differences as applicable to each age group
- Very thoroughly done. Love the mental health questions.
- Comprehensive, well designed. Extremely valuable and time saving. Helps providers with consistency in documentation and comprehensive approach to the visit.

Question Six: How Can the Templates be Modified to Improve Usefulness? This open ended question elicited varying responses from the five providers. Responses were as follows:

- Templates could be more age selective.
- Templates could have scoring for various screening, automated questioning, briefer in wording in the plan section.
- Modify subjective section into a screening that patient/parent could fill out before each encounter.
- Could add Assessment of Adolescent Preventative Health Services for students to complete themselves.

- Little details specific to this practice such as removing certain screening tools and optional information that we aren't using in this practice. An in-person in-service would have been helpful. Other problems are that required screenings may not be covered by insurers other than Medicaid. Providers must be aware of this before ordering labs and increasing the out of pocket costs of patients if private insurers do not cover the recommendations in Bright Futures.

Discussion

The analysis of the pre-implementation surveys revealed that providers felt time was a significant barrier to providing thorough BF well child care. Although not asked in the post-implementation survey if the time barrier improved with template use, providers did report templates were very useful in guiding well child care and in addressing more screenings in a short period of time. Provider responses revealed that the templates prevented partial screenings and compacted the necessary well child exam components into a workable space that was easily adapted for use in the pilot clinic EHR. This suggests that the templates will be useful and easily adapted for other clinic EHR systems and for providers across the state of Alaska with little time and money investment.

Several providers reported that they would prefer to perform well child exams as the templates make the exams more efficient and the templates were easily used. This suggests the usefulness of the templates in streamlining well child exams. Although there were several suggestions for template improvement, provider responses were positive and the templates were believed to be a useful resource that will continue to be used in the pilot clinic once provider recommended modifications are addressed.

Provider Recommendations

Provider suggestions for improvement were geared specifically toward template use in the pilot clinic such as: creating pre-visit questionnaires to address some of the subjective assessment questions, creating automated questioning, addition of the Assessment of Adolescent Preventative Health Services for Students screening, and providing information regarding screenings and services that are covered by Medicaid. These modifications will be addressed in the pilot clinic EHR in April 2016 to improve pilot clinic flow and the ease of template use. The suggestions for modification prior to mass template distribution include: summarizing several areas of the assessment that are too verbose and providing clear description of scoring and use of screenings such as the HEEADSSS screening. General template modifications will be addressed in April 2016 prior to mass dissemination.

Dissemination

Initial dissemination occurred at the local clinic participating with the project. The templates were determined to effectively assist providers with AAP-BF guideline adherence, and are in the process of being disseminated on a larger scale. The project coordinator is currently working with the President of the Alaska Nurse Practitioner Association (ANPA), to upload the BF templates to the ANPA website. The templates will be available for general use and adaptation as ‘open use’. The free download of templates will be accessible to any provider looking to streamline well child exams and meet AAP-BF guideline requirements. President of the ANPA and other ANPA executive board members are reviewing copyright restrictions and ANPA website regulations to determine correct steps to take for template upload. Expected template availability of the BF templates through the ANPA website is July 2016.

The pilot clinic utilizes an EHR called Practice Fusion which is the largest US cloud based EHR with over 120,000 health care providers or provider groups utilizing the service. The pilot clinic plans to share the BF well child exam templates with the Practice Fusion community where virtually all of the 120,000 providers will have access. The number of downloads of the templates will be visible to the clinic provider sharing the templates to the community and will be reported back to this project director.

Additional dissemination plans include an article for Alaska Nursing Today (ANT). The editor of ANT editor has agreed to review and publish an article regarding the project with information regarding where to access the templates. Once a ANPA upload date is determined, the article will be written for submission in the next issue. In addition, a poster presentation will be created for the annual ANPA conference in 2016 to increase awareness of template availability.

Significance to Advanced Practice Nursing

This quality improvement project will benefit advanced practice registered nurses (APRNs) across the state of Alaska and will assist general practitioners with meeting BF guideline requirements for well child care. The templates will allow APRNs to streamline well child care with little time investment and without monetary expense. This will increase adherence to BF guidelines, improve well child care, and decrease the potential for Medicaid fraud within the state of Alaska. Template use will improve patient flow and address the time barrier that all providers face. The utility of the templates goes beyond APRNs and is applicable to all health care practitioners that provide well child services nationwide.

Summary and Conclusions

General practice providers and providers practicing within small clinics are at a disadvantage when striving to meet all AAP-BF guideline requirements for well child care. Although evidence suggests the most efficacious manner to address guideline adherence is a customized EHR system, this may not be feasible for many clinics and providers. The goal of this project was to compile the BF guidelines and supportive tools produced by the AAP and adapt them into free, easily accessible, simply formatted templates for each AAP recommended well child age group. The pilot clinic providers responses unanimously support the effectiveness and usefulness of the project templates to streamline well child care, improve AAP-BF guideline adherence, and minimize individual clinic costs. These templates will be disseminated to the general practice population by July 2016.

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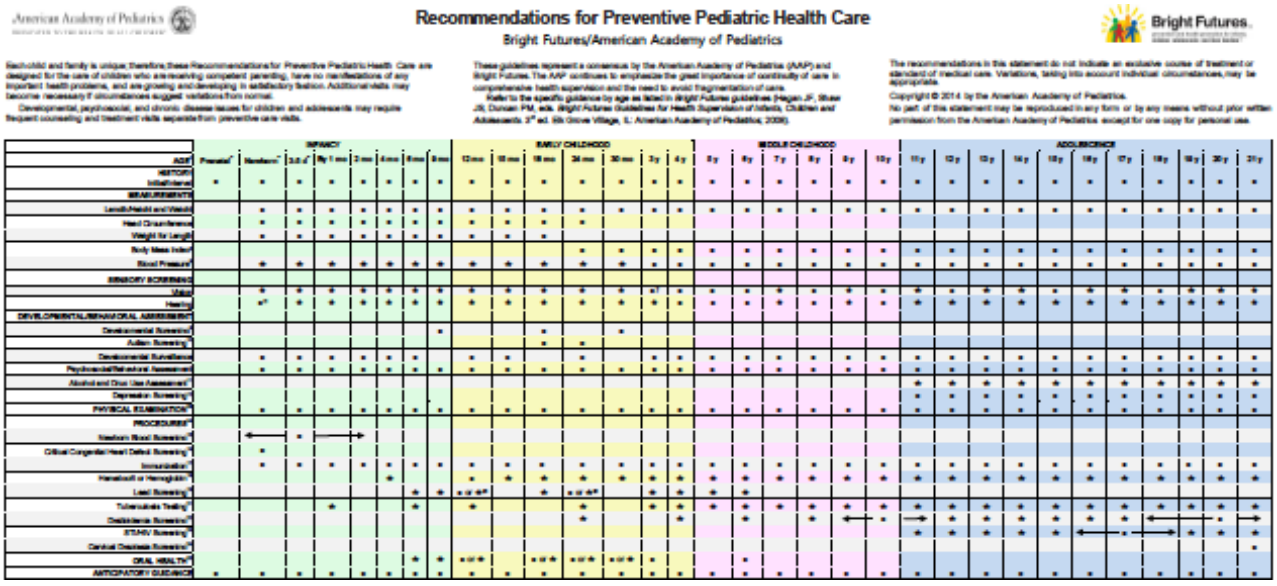
Appendix A: AAP Well Child Exam Schedule



American Academy of Pediatrics

Recommendations for Preventive Pediatric Health Care

Bright Futures/American Academy of Pediatrics

Bright Futures

Each child and family is unique; therefore, these Recommendations for Preventive Pediatric Health Care are designed for the care of children who are receiving competent parenting, have no manifestations of any important health problems, and are growing and developing in satisfactory fashion. Additional visits may become necessary if circumstances suggest variations from normal.

Developmental, psychosocial, and chronic disease issues for children and adolescents may require frequent counseling and treatment visits separate from preventive care visits.

These guidelines represent a consensus by the American Academy of Pediatrics (AAP) and Bright Futures. The AAP continues to emphasize the great importance of continuity of care in comprehensive health supervision and the need to avoid fragmentation of care.

Refer to the specific guidance by age as listed in Bright Futures guidelines (Hagan JF, Shaw JS, Duncan PM, eds. *Bright Futures: Guidelines for Health Supervision of Infants, Children and Adolescents*. 3rd ed. Elk Grove Village, IL: American Academy of Pediatrics; 2008).

The recommendations in this statement do not indicate an exclusive course of treatment or standard of medical care. Variations, taking into account individual circumstances, may be appropriate.

	INFANCY								EARLY CHILDHOOD							MIDDLE CHILDHOOD						ADOLESCENCE									
Age	Prenatal[1]	Newborn[2]	3-5 d	By 1 mo	2 mo	4 mo	6 mo	8 mo	12 mo	15 mo	18 mo	24 mo	30 mo	3 y	4 y	5 y	6 y	7 y	8 y	9 y	10 y	11 y	12 y	13 y	14 y	15 y	16 y	17 y	18 y	19 y	20 y	21 y
HISTORY	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Initial/Interval																															
MEASUREMENTS																															
Length/Height and Weight		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Head Circumference		•	•	•	•	•	•	•	•	•	•	•																			
Weight for Length		•	•	•	•	•	•	•	•	•	•																				
Body Mass Index[3]												•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Blood Pressure[4]		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
SENSORY SCREENING																															
Vision		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Hearing		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
DEVELOPMENTAL/BEHAVIORAL ASSESSMENT																															
Developmental Screening[5]								•				•		•																	
Autism Screening[6]												•	•																		
Developmental Surveillance		•	•	•	•	•	•		•	•		•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Psychosocial/Behavioral Assessment		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Alcohol and Drug Use Assessment[7]																						•	•	•	•	•	•	•	•	•	•
Depression Screening[8]																						•	•	•	•	•	•	•	•	•	•
PHYSICAL EXAMINATION		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
PROCEDURES[9]																															
Newborn Blood Screening[10]		←	•	→																											
Critical Congenital Heart Defect Screening[11]		•																													
Immunization[12]		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Hematocrit or Hemoglobin[13]						•			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Lead Screening[14]							•	•	• or •[15]		•	• or •[15]		•	•	•	•														
Tuberculosis Testing[16]				•			•		•			•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Dyslipidemia Screening[17]												•			•		•		•	←	•	→	•	•	•	•	•	•	←	•	→
STI/HIV Screening[18]																						•	•	•	•	•	←	•	→	•	•
Cervical Dysplasia Screening[19]																															•
ORAL HEALTH							•	•	• or •		• or •		• or •	•			•														
ANTICIPATORY GUIDANCE	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

Appendix B: Letter of Permission from Organization

June 21, 2015

University of Alaska Anchorage

To Whom It May Concern:

A pediatric Bright Futures Well Child intervention project has been brought to my attention by Jessica Davis, a student at University of Alaska Anchorage. I have reviewed the proposed Bright Futures program and agree this would be very helpful for our nurse practitioners, and our pediatric patients and families at Patients First Medical Clinic (PFMC). I agree to have the Bright Futures toolkit customized for implemented at PFMC. I have been informed that a proposal will be submitted for IRB review and acknowledge there is no human subjects involvement in this project.

Sincerely,

Bennett Jackson, ANP

Bennett Jackson, ANP
Owner
Patients First Medical Clinic, LLC.
6307 Debarr Road, Suite C
Anchorage, Alaska 99504

Bennett J Jackson ANP
Owner

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fax: 907-333-7719

Appendix C

Pre-Implementation Provider Questionnaire

1. Approximately how many patients 21 years and under do you see on a **weekly** basis for well child exams?

   Circle one: 0 1-5 6-10 11-15 more than 15

   *If other, please specify:*_____

2. How comfortable do you feel performing well child exams?

   Circle one: Extremely Very Moderately Minimally Uncomfortable

   Please explain selection:

3. What tool(s)/protocols/guidelines do you use daily to guide well child exams?

4. How useful are the tools/protocols/guidelines to guide your well child exams?

   Circle one: Extremely Very Moderately Minimally Not useful

   Please explain selection:

More questions on reverse ➔

Appendix C continued

5. Are there any Medicaid requirements for well child exams?

   Circle one: YES NO UNSURE

   Other (please explain):_____

6. If you had free, age-based templates that prompted all well child care guideline recommendations (that could be copied and pasted into your exam documentation) would you use them?

   Circle one: YES NO UNSURE

   Other (please explain):_____

7. How many **universal** pediatric screening tests are supported by the American Academy of Pediatrics well child care guidelines through age 21?

   Circle one: 11-15 16-20 21-25 26-30 31-35 UNSURE

8. How many **selective** pediatric screening tests are supported by the American Academy of Pediatrics well child care guidelines through age 21?

   Circle one: 1-25 26-50 51-75 75-100 100-125 UNSURE

9. What are the main barriers you face when performing well child care? Please explain in the space below.

This is the end of the survey. Thank you for your contributions to this quality improvement project

Appendix D

Post-Implementation Provider Questionnaire

1. How comfortable do you feel performing well child care after template dissemination?
   Circle one: More comfortable Same Less comfortable
   Please explain selection:

2. If you had the choice between performing a well adult exam or a well child exam, which would you prefer? Why?

3. Approximately what percentage of well child exams are you using the templates?
   Circle one: 0-20% 21-40% 41-60% 61-80% 81-100%

4. How useful are the templates to guide your well child exams?
   Circle one: Extremely Very Moderately Minimally Not useful
   Please explain:

More questions on reverse ➔

Appendix D continued

5. What are the strengths of the templates?

6. How can the templates be modified to improve usefulness?

This is the end of the survey. Thank you for your contributions to this quality improvement project

Appendix E

Consent Information

Researcher:

Jessica L. Davis, RN, BSN, CCRN, FNP-S
Master of Nursing Science student
(907) 440-8280

School of Nursing, University of Alaska Anchorage

Description:

You are being asked to respond to a survey regarding your experiences with pediatric well child care. By responding to survey answers, it will be assumed that you have given the researcher consent to use the data for this quality improvement project.

Voluntary Nature of Participation:

Your participation in this study is voluntary. You may stop at any time and you do not have to answer any questions you don't want to. Nothing will happen to you if you choose not to answer any questions or if you decide not to participate.

Confidentiality:

Your responses to the survey will be confidential and secured in a file cabinet in the researchers' office to which only the researcher has access to. The survey will not be attached your name, address, or any other identifiable information about you, to any of your responses, or to any reports or publications describing the results of the survey.

Potential Benefits and Risks:

Your participation in this survey will require a modest time commitment. If you decide to participate, your willingness to share your experiences and knowledge may provide valuable insights for improving a quality improvement tool to help medical practitioners meet all American Academy of Pediatrics-Bright futures guidelines for well child care. There are no foreseeable risks or benefits to you personally with respect to your personal or professional status from participation in this study.

Compensation:

There is no compensation for your participation.

Contact People

If you have any questions about this study, please contact Jessica Davis, project manager at (907) 440-8280. If you have any questions or concerns about your rights as a research participant, please contact Sharilyn Mumaw, Research Compliance Officer, at (907) 786-1099.

Signature

No signature is required. By completing the following survey, your consent to participate in this quality improvement project is implied.

This form is for you to keep and retain for your records

Appendix F

3211 Providence Drive
Anchorage, Alaska 99508-4614
T 907.786.1099, F 907.786.1791
www.uaa.alaska.edu/research/ric

DATE:	October 14, 2015
TO:	Jessica Davis
FROM:	University of Alaska Anchorage IRB
PROJECT TITLE:	[799522-2] Quality Improvement Project for General Practitioner Management of Well Child Care
SUBMISSION TYPE:	Amendment/Modification
ACTION:	DETERMINATION OF EXEMPT STATUS
DECISION DATE:	October 14, 2015
EXPIRATION DATE:	October 13, 2016

Your Institutional Review Board (IRB) proposal meets the U.S. Department of Health and Human Services requirements for the protection of human research subjects (45 CFR 46 as amended/revised) as being exempt from full Board review. In keeping with the usual policies and procedures of the IRB, your research project is approved with suggested revisions. Thank you for a copy of these revisions.

Therefore, you have permission to begin data collection for your study. This project approval is limited to the current information provided and the participants from the single clinic.

If this study goes beyond one year from the date of this submission, you will need to submit a Progress Report for approval to continue the research. Please submit a Final Report at the end of your project.

Please report promptly proposed changes in the research protocol for IRB review and approval.

On behalf of the Board, I wish to extend my best wishes for success in accomplishing the objectives of your study.

Sharilyn Mumaw, M.P.A.

Research Integrity & Compliance Officer