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Spring 4-14-2014

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### Citation: Pilot Scholars Version (Modified MLA Style)

Hamill, Betty J., "Implementation of Bright Futures Health Screening Tools At a School-Based Health Center" (2014). *Nursing Graduate Publications and Presentations*. 1.  
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Implementation of Bright Futures Health Screening Tools

At a School-Based Health Center

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Abstract

A practice improvement project was conducted to implement the use of Bright Futures health screening tools at a rural school-based health center. Some healthcare issues may be difficult for an adolescent to disclose or the adolescent may not understand that the concern should be addressed. A good screening tool should assist a nurse practitioner to help students to disclose difficult information and to provide preventative health care services. It was determined that the Bright Futures Adolescent Supplemental Questionnaires were an effective and efficient tool in increasing relevant knowledge for the pediatric nurse practitioner in this setting. Students were willing and able to complete the forms and take part in screening for potential health concerns. Use of these screening tools led to the discovery of risk factors and problems that might not otherwise have come to light.

Key words: Bright Futures, adolescents, screening tools, school-based health clinics

## Implementation of Bright Futures Health Screening Tools

### At a School-Based Health Center

An analysis of Healthy People 2010 initiatives concluded that goals for improving the quality of life and number of years of life for adolescents were not being met (Scudder, Papa, & Brey, 2007). Quality healthcare requires an approach that includes methods of measurement, guidelines, tools, materials, and strategies (Shaw, 2008). The Bright Futures Toolkit, which was released in 2008, offers these to practitioners. The American Academy of Nursing's Expert Panel on Adolescents and Young Adults and other nursing organizations recommended the use of the Bright Futures screening tools by healthcare providers to increase effectiveness in screening for disease prevention and counseling for health promotion (Porter et al., 1997). These tools have been in development since the early 1990's. The Oregon Health Authority recommends that all school-based health centers in Oregon use a screening tool for each student who seeks care at the center. The Bright Futures Adolescent Supplemental Questionnaires for Early Adolescents (11-14 Years), Middle Adolescents (15-17 Years), and Late Adolescents, (18-21 Years) (American Academy of Pediatrics, 2010a,b,c) were used in a practice improvement project to implement preventative health screening for all students age 11 through 21 who sought care at a school-based health clinic in a small rural town in Oregon.

School-based health centers are a national healthcare model set within or on the grounds of a public school with the mission of providing comprehensive physical, mental, and preventive health care to the children and adolescents in the school setting regardless of the student's ability to pay for services (Oregon Health Authority, 2011). Each center is staffed by a primary care provider, a mental health professional, and support staff.

The clinic used in this study was staffed and managed by a pediatric nurse practitioner (PNP) and a medical assistant (MA). The PNP wanted to know if the screening tool would be useful, effective, sensitive, and specific to her population of adolescents. The PNP was resistant to implementing a health screening tool due to concerns about the time needed to complete the form and review it. She also suspected that some students might be unwilling to participate. This project assessed the use of these screening tools to determine if it could be easily completed by the students, easily interpreted by the PNP, and could assist the PNP in problem identification and decision making to improve adolescent treatment at the clinic.

### **Background**

Bright Futures is a multi-year ongoing project to develop national health supervision guidelines for children and adolescents (Green & Kessel, 1993). The Bright Futures project was initiated in the early 1990s as part of the implementation of Title XXI of the Social Security Act in the form of the State Child Health Insurance Program (Mayer, 1997). The program was co-administered by the Medicaid Bureau of the Health Care Financing Administration now the Centers for Medicare & Medicaid Services) and the Health Resources and Services Administration. It was implemented by the National Center for Education in Maternal and Child Health which is part of the Georgetown University Public Policy Institute, and the Maternal and Child Health Bureau of the U.S Public Health Services.

The Bright Futures material is often criticized for not using evidenced-based medicine for its recommendations (McNamara, 2005). The Bright Future Guidelines were developed with the collaboration of over professionals on multidisciplinary panels and work groups of healthcare experts. The expert groups worked to prepare population-specific educational materials for implementation and training (Mayer, 1997). The guidelines and materials were subsequently

reviewed by over 1,000 professionals in health care and public health, educators, parents, and childcare advocates throughout the United States. They were also endorsed by over 25 professional organizations (Hagan, Shaw, & Duncan, 2008; Mayer, 1997). Considering the deficits in the preventative health care being delivered to children (Manjione-Smith et al., 2007) and the lack of available studies on which to develop evidence-based care, expert knowledge based on literature of available studies, education, and experience may be a good start to help practitioners plan for management for the care of children and adolescents.

The screening tools, Bright Futures Adolescent Supplemental Questionnaires for Early, Middle and Late Adolescent Visits, are part of a tool kit of forms with screening questions for risk assessments which were developed, making the guidelines easy to use in practice (Hagan et al., 2008; McNamara, 2005). The screening tools are meant to be flexible and to help practitioners to meet the evolving healthcare needs of this population. The goal for the tool is to provide assistance in improving the general health of the adolescent as well as a means for the adolescent to share difficult personal matters such as family violence, marital discord, alcoholism, or depression (Shaw, 2008). No evaluations of the screening tool were found in the literature since its release in 2008.

The screening tool covers different aspects of health including mental health care. The Bright Futures Adolescent Supplemental Questionnaire—Early Adolescent Visits has 58 questions, while the two screens for older students (15-17 and 18-21) have 35 and 44 questions, respectively. Tools that contain more than 20 items are considered to be difficult and impractical to use in primary care practices because of time limitations (Harris, 2012). The questionnaire was designed to be answered by the student before being interviewed by the healthcare provider.

A study done in Utah by direct observation of well-child visits found that pediatric clinicians began fewer visits with open-ended questions and addressed fewer health supervision and anticipatory guidance topics than contained in the Bright Futures recommendations (Norlin, Crawford, Bell, Sheng, & Stein, 2010). The study also found that following the recommendations was associated with shorter visits and a focus on patient/parent priorities while addressing the often neglected topics of obesity, sexuality, and risk-taking.

Screening policies and methods used for adolescents are often inadequate (Borrione et al., 2011). Professional guidelines recommend annual screening, brief intervention, and referral to treatment for all adolescents as part of their health maintenance. Surveys of physicians providing pediatric care report very low health screening rates using a validated developmentally appropriate adolescent screening tool for substance use (Harris et al., 2012).

Adolescents may not realize that they should seek the services of a healthcare provider if there is no obvious illness or injury because they do not understand or they underestimate their symptoms and risks (Borrione et al., 2011). It is important when screening adolescents to ask about their health issues and behavioral attitudes. Many of the health problems and attitudes adolescents develop can follow them into adulthood. Screening and counseling programs for adolescents can prevent many long-term morbidities and early mortality. Some adolescents may not want to be seen by their family physician. This may be due to the nature of their behaviors or specific health concern and unease regarding confidentiality. In this case, a student-based health center may be an alternative provider for health care. For some students, the provider at the health clinic may be the only healthcare provider available to them. This has been found to be true throughout the United States (Scudder et al., 2007). In the 2009-2010 school years, 64% of

all students in the state of Oregon reported that they were unlikely to receive care outside of an SBHC (Oregon Health Authority, 2011).

### **Method**

The participants in this practice improvement project were the PNP and the MA. Procedures were followed to safeguard their rights as the subjects, and each of them signed forms indicating informed consent.

Three meetings were held with the MA, the PNP, and the author to clarify the purpose, goals, method of implementation, data gathering, data analysis, and plan for dissemination. These were approved by the PNP. The process and detailed directions were given to the MA before implementation of the project. Documentation consisted of tracking the time needed to complete the screening tool and the degree of the student's completion of the tool.

The screening tool was used routinely with all students who were 11-21 years old and enrolled in the school district in which the health clinic operates. Each time a student presented to the clinic for any reason, the MA gave the screening tool to the student. An evaluation form was attached to the back of the screening tool. The MA made a notation of the time the screening tool was given to the students at the top of the evaluation form and instructed the students to sit at a table to complete the form. The students were told that the PNP would assist them with any questions they were unable to answer. The MA documented the time of completion of the screening tool on the evaluation form if the student completed the form prior to being called to the exam room. The PNP called the student into the exam room for the visit, noted the number of questions on the screening tool completed, made a notation of the time at the top of the evaluation form, and completed the screening tool during the course of the interview with the student. At the end of the visit, the PNP wrote the time at the top of the



evaluation form and provided an estimate of the time required to complete the screening tool.

The PNP then responded on the evaluation form to questions regarding the usefulness of the tool, impression of the student's understanding of the questions, relevance of the questions to the student, the amount of time invested in the use of the tool, and any comments. The evaluation sheet was then separated from the screening tool. The screening tool became a permanent part of the student's medical record. The evaluation sheet did not have any identifying information on it.

### **Analysis**

Descriptive statistics were done on parental presence, the number of questions completed, the age and the gender of the students, and the amount of time required to complete the screening tool. The PNP and MA were interviewed at the conclusion of the data collection process for the project. The interviews began with open-ended questions and became more focused, encouraging discussion about the use of the screening tool. The interviews were taped and transcribed verbatim, analyzed to identify recurring themes and discover patterns, and then summarized in order to explain the results in a meaningful way.

### **Results**

The Bright Futures screening tools were efficient and effective in collecting personal information in a short amount of time, uncovered information not otherwise provided during the visit, and were comprehensive, specific, and age-appropriate.

Eleven students (n= 1) ranging in age from 11 to 18 years participated in the study. Of the students, 55% were male and 45% were female; 82% had a parent present. The number of questions on the screening tool for early adolescents (ages 11-14) was 58. There were 49 and 50 questions respectively on the tests for middle adolescents (ages 15-17) and older adolescents (ages 18-21). The students were able to complete between 71% and 100% of the test within 6 to 20 minutes, with only four students requiring any additional time with the assistance of the PNP

to complete the form. It was difficult to determine the exact amount of time required for each tool to be completed in the waiting area since it varied with age of the student, if a parent was present to help, the length of the wait, the student's reading ability, and other distractions in the waiting area.

Four of the students provided information about a general preventative healthcare need or a possible risk factor that needed to be addressed. Six students provided information about a specific preventable healthcare need or risk factor that needed to be addressed, and one student's questionnaire alerted the PNP to an important preventable healthcare need or risk behavior that required immediate intervention.

Information gleaned from the face-to-face interviews with the PNP and MA indicated that the students completed the forms with minimal or no resistance and with very little difficulty. In fact, most of the students had little opposition to completing the forms and some expressed interest in screening for potential health concerns. Problems encountered in using the screening tools included the clinic forgetting to give the tool to the student and the fact several other surveys and questionnaires were competing for the student's time before the visit with the PNP. Further, the PNP did not give the tool to all the students coming to the clinic. She explained during the interview that she did not give the questionnaire to students new to the clinic, students who were in a hurry, or to a student who had other forms or questionnaires to complete. The PNP said she was "biased or selective in whom I would give it to."

### **Discussion**

The objective was to determine if the Bright Futures Adolescent Supplemental Questionnaire- for Adolescent Visits screening tools, were effective and efficient tools in increasing the relevant knowledge of the patient to the PNP. The time to complete the form gave

the PNP information about the use of the tool as a viable tool for practice. The data collected were used to indicate if the change in practice improved the quality of care for students as measured by covering issues that the PNP might not have covered in a visit that didn't include the screening tool. This could improve care for the students since the use of the tool should promote better preventative and age-appropriate care, aid in the identification of risk factors, and allow intervention for the child as needed.

The revelation by the PNP that she was selective in who was given the tool limits the interpretation of the data. The non-random selection of which students to ask to complete the questionnaire and participate in the implementation of the project served to skew the results about the time required to complete the form, compliance issues, and possibly knowledge gained and the usefulness of the tool.

Despite the limitation of preselection of the participants, the results gained by those students who participated suggest that the screening tool may be useful for increasing the PNP's relevant knowledge of the student and aid in providing preventative health care to the student. The time required for completing the form due to the number of questions asked and nature of the questions did not act as a significant barrier to the students who participated with little or no resistance.

The limitations of the study include the inconsistencies in how the Bright Future screening tools were administered. It is possible that students in a hurry or those who were agitated may not have provided information about preventative health care and risk factors. The PNP changed her attitude about the use of the Bright Futures screening tool over the course of the implementation project from negative and resistant to using the tool to a positive impression of the usefulness of the tool. This may have affected whom the tool was given to and the lack of

the use of the tool. The clinic was open limited hours during the course of the implementation project, and the PNP was frequently not working in the clinic, which also served to limit the number of student participants.

The Adolescent Supplemental Questionnaires have been developed over the course of many years with input from many experts, including those in clinical practice, and they have a generally favorable reputation. This practice improvement project focused on the usefulness of the tool in providing preventative care and alerting the healthcare provider to risk factors for students in a schoolbased healthcare clinic setting. The tools could be useful in other settings working with adolescents to improve the quality of their health care. Future projects should look more closely at how the tool is implemented and whether a more varied group of adolescents would do as well answering the screening questions.

This project demonstrated that the use of the Bright Future screening tools for adolescents may be useful, effective, and efficient for improving the practice of a nurse practitioner in a school-based health center. The use of the screening tools alerted the nurse practitioner to present and potential health problems that required monitoring or immediate action. These screening tools also opened areas of discussion between the nurse practitioner and the child and parent that might not have otherwise taken place. The PNP determined that the extra time required for completing and using the screening tools was worthwhile considering the value of the information collected. The project implementation did not provide an answer to how much time the use of the tool actually adds to a patient visit. This might be an issue in a busier and less flexible practice setting.

Parents were with most of the students and this may have impacted the completion of the forms and the answers. The Early Adolescent Questionnaire has 58 questions to complete in a

five to fifteen minute wait prior to the visit. This number of questions and the nature of the questions might be difficult for an adolescent to complete without the assistance of a parent. The two questionnaires for older students had fewer questions.

This practice improvement project implemented the use of the three specific Bright Futures screening tools for adolescents by a practitioner in a primary pediatric practice. Since the Bright Futures screening tools are now being recommended for use by school-based health clinics, it is important to know if these specific tools are valid and can provide the busy practitioner with an effective way to gather information. The use of these tools is feasible, effective, and efficient due to the demonstrated ease of use with a selected population.

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