

5-13-2013

Implementation of Mental Health Screening in an Adolescent Health Care Clinic

Lisa Colleen Isenberg

University of Missouri-St. Louis, louisenberg@gmail.com

Follow this and additional works at: <https://irl.umsl.edu/dissertation>



Part of the [Nursing Commons](#)

Recommended Citation

Isenberg, Lisa Colleen, "Implementation of Mental Health Screening in an Adolescent Health Care Clinic" (2013). *Dissertations*. 316.
<https://irl.umsl.edu/dissertation/316>

This Dissertation is brought to you for free and open access by the UMSL Graduate Works at IRL @ UMSL. It has been accepted for inclusion in Dissertations by an authorized administrator of IRL @ UMSL. For more information, please contact marvinh@umsl.edu.

Implementation of Mental Health Screening in an Adolescent Health Care Clinic

Lisa C. Isenberg MSN, RN, CPNP

MSN, University of Missouri- St. Louis, 2010

BSN, Jewish Hospital College of Nursing, 1997

A Clinical Scholarship submitted to The Graduate School at the University of Missouri-
St. Louis in partial fulfillment of the requirement for the degree
Doctor in Nursing Practice
May, 2013

Advisory Committee

Dawn Garzon, PhD, PNP-BC, CPNP-PC, PMHS, FAANP
Chairperson

Sue Farberman, DNP, MEd, CPNP-PC
Committee Member

Rick Yakimo, PhD, APMCNS-BC, N-NAP
Committee Member

Katie Plax M.D.
Committee Member

Acknowledgements

I would like to thank my very patient and supportive family who allowed me to continue my education beyond what I ever intended when I very first said to them, “I want to return to school”. There were never complaints about my many hours on the computer, staying up late typing, or my piles of articles and papers stacked up on the tables around the house. There were only offers of support, offers of coffee and snacks, and a lot of hugs and kisses. I want to personally say “thank you”.

I would like to thank my previous supervisor and mentor, Dr. Katie Plax and the staff at the SPOT for being so supportive of my educational pursuits and allowing me to conduct my project at the SPOT. Without your help, words of encouragement, and flexibility, I would not have been able to complete this project. I hope it will contribute to future knowledge and research for the SPOT. I learned so much from Dr. Plax, the staff, and the youth during my years at The SPOT that have forever changed who I am and how I practice adolescent medicine.

I would like to thank my very experienced and knowledgeable committee for taking the time and energy to help me through this process. I appreciate Dr. Rick Yakimo and Dr. Sue Farberman sharing their experience, wisdom, and knowledge with me for this project.

I owe a huge debt of gratitude to my chair, Dr. Dawn Garzon, who has been instrumental in my success with this project. Thank you for being patient, providing direction and guidance, and not deserting me when I decided to move my family to

Colorado during my last semester. Without your kindness, experience, knowledge, never ending patience, and friendship I would not have completed this project.

Acknowledgement of Washington University-The SPOT Employment

At the time of this project, the investigator and author of this material was a full time employee at Washington University, The SPOT adolescent walk-in health clinic. The author was an advanced practice nurse who collected some of these data as well as provided medical care to some of the consenting patients.

Abstract

Implementation of Mental Health Screening in an Adolescent Health Care Clinic

The purpose of this project was to increase the awareness of adolescent mental health issues and emphasize the importance of screening for depression and suicidal ideations, to provide clinicians mental health screening tools, and to determine the barriers and challenges involved in performing mental health screenings in practice. This project implemented mental health screenings in an adolescent, urban, walk in health clinic and evaluated the mental health screening and implementation process from the patient and the provider perspectives and determined the resources needed for follow up.

This practice evaluation project included a mental health screening on consenting 18-24 year olds, a patient survey regarding the screening process, and a provider survey regarding the evaluation and referral process. The patient survey results showed that over 95% of the youth were able to complete the screening in less than five minutes and felt comfortable completing the screening while waiting for medical services. The survey results showed the providers were able to score and address the screenings for 77 (94%) of the youth in less than five minutes. Of the 82 youth screened, 17 (21%) had a positive screening for depression. Almost half (47%) of the youth had never been screened for depression. While this project had a small population, this demonstrates that mental health screenings can be completed quickly by the patient and addressed by the provider for most patients in less than five minutes.

Table of Contents

Acknowledgements 2

Abstract 5

Table of contents 6

Project purpose 8

Introduction 9

Problem 9

Objectives 11

Comprehensive review of the literature 12

Depression and suicide guidelines 15

Screening and diagnosis 17

Barriers to guideline implementation 24

Project design 34

Approvals 39

Stake holders 39

Population 42

Data 42

Data analysis 43

Human subjects protection 43

Timeline 44

Budget 44

Supplies 44

Expected outcomes 44

<i>Results</i>	45
<i>Discussion of results</i>	Error! Bookmark not defined.
<i>Barriers and challenges</i>	53
<i>Implications for practice and future research</i>	53
<i>Limitations</i>	55
<i>DNP influence on APRN practice</i>	55
<i>References</i>	57
<i>Appendix A: the patient survey</i>	64
<i>Appendix B: the provider survey</i>	66
<i>Appendix C: the plain language description</i>	67
<i>Appendix D: the PHQ-9 mental health screening tool</i>	68

Project Purpose

Background

Half of all the lifetime cases of mental illness begin before the age of 14 years, making mental health disorders an important chronic disease in adolescence (Hagan, Shaw, & Duncan, 2008). While health care providers struggle to find the time to perform primary care and health promotion services, fitting in time for mental health screenings often goes by the wayside. According to Williams, O'Connor, Eder, & Whitlock (2009), mass screenings for mental health disorders could help identify patients in need of further consultation and care with a mental health practitioner. Unfortunately less than 35% of American children and youth with mental health care needs get appropriate treatment for the following reasons: primary care providers do not screen for and identify cases, there is a critical shortage of child psychiatrists and other pediatric mental health providers, and there is poor reimbursement for primary care mental health services (NAPNAP Position Statement, 2007).

Methods

This pilot project implemented routine mental health depression screenings on youth, ages 18-24 years old, in an adolescent walk in health care clinic, including screening, evaluation, discussions with the patients, and documentation of care and referral patterns for those patients requiring further mental health care. This study documents both provider and patient perspectives of implementing these screenings, helps determine how to best implement the recommended screening guidelines, and addresses barriers to program implementation and patient treatment. Due to the inability to obtain parental consent at this location, screenings were only completed on youth 18-

24 years. All youth ages 18-24 years old were screened unless they chose to opt out of the screening process.

Introduction

This Doctorate in Nursing Practice Clinical Scholarship Project focused on the implementation of a mental health depression screening tool in an urban, youth drop-in medical clinic. This involved the use of the Patient Health Questionnaire (PHQ-9), as recommended by the United States Preventative Task Force, to screen for those youth at risk for depression and suicide (USPSTF, 2009). This project aimed to increase the awareness of adolescent mental health issues and emphasize the importance of screening for depression and suicidal ideations, to provide clinicians mental health screening tools, and to determine the barriers and challenges involved in performing mental health screenings in practice. The project evaluated the screening and implementation process from the patient and the provider perspectives and determined the resources needed for follow up.

Problem

The Institute of Medicine (IOM), U.S. Preventive Services Task Force (USPSTF), the American Academy of Pediatrics (AAP) and the American Academy of Child and Adolescent Psychiatry (AACAP) support regular mental health checkups to detect and treat mental illness in the adolescent population; however, fewer than a third of primary care clinicians routinely screen their adolescent patients for mental illnesses (TeenScreen, 2009) The IOM “estimates the annual mental health service costs for young people with mental, emotional, and behavioral disorders to be \$45 billion each year and the overall costs across social systems and broad societal impacts to be \$247 billion (TeenScreen,

2009, p. 1). It is also estimated that the United States spends over \$33.5 billion per year on preventable adolescent mental health morbidities; this only includes direct medical costs such as hospital care, medical care, medication and equipment (TeenScreen, 2009). According to Parks et al. (2001) these co-morbidities include adolescent pregnancy, sexually-transmitted diseases, alcohol and other drugs problems, motor vehicle crashes, other unintentional injuries, and outpatient mental health visits. Included in this calculation are the long term health impacts on adults due to risk taking behaviors initiated during adolescence, the value of lost productivity time and lost workdays due to illness, premature death, legal costs, costs of treating pelvic inflammatory disease and infertility, and societal costs of adolescent pregnancy and childbirth.

Adolescent depression and suicide are two issues that parents, teachers, and health care providers often overlook (Horowitz, Ballard, & Pao, 2009). Unfortunately, both affect adolescents at higher rates than ever. While health care providers struggle to find the time to perform comprehensive physical assessments on their patients, fitting in time for mental health screenings often goes by the wayside. According to Williams et al., (2009), mass screenings for mental health disorders could help identify missed concerns. Unfortunately less than 35% of American children and youth with mental health issues receive appropriate treatment for several reasons including: primary care providers do not screen for and identify cases, there is a critical shortage of child psychiatrists and other pediatric mental health providers, and there is poor reimbursement for primary care mental health services (NAPNAP Position Statement, 2007). This leaves undiagnosed and untreated young people vulnerable to emotional, social, and academic problems (Friedman, 2006). These untreated mental health disorders lead to poor quality of life

and poor health outcomes. Pediatric poor health and disability are statistically significant risk factors for chronic illness and decreased work productivity in adulthood (Gross, 2011). Unmet social, emotional, mental health, and substance abuse needs during childhood and adolescence contribute to poor educational, social, and economic outcomes (NAPNAP Position Statement, 2007).

Objectives

Healthy People 2020 (U.S. Department of Health and Senior Services, 2012) has set objectives to improve the health of Americans and decrease medical costs overall. Several goals to improve health and decrease costs related to mental health are aimed at adolescents specifically. The Healthy People 2020 goals include improved screening for depression and decreasing suicide attempts and suicide rates. One goal is to increase the proportion of youth, ages 12-18 years of age who are screened for depression by primary care providers from the current base rate of 2.1% to 2.3% of youth screened, a 10% increase. Another goal is to reduce suicide attempts by 10% from the current 1.9 attempts per 100 in 2009 to 1.7 attempts per 100. A third goal is set to reduce the 2007 suicide rate by 10% from 11.3 suicides per 100,000 to 10.2 suicides per 100,000. This project aimed to increase the awareness of the need for screening for depression and suicidal ideations during adolescence, to improve clinician's awareness of the mental health screening tool, and to implement mental health screenings while minimizing barriers.

Review of Literature

Depression

The hallmark symptoms of depression are persistent sadness, irritability, or a loss of interest or pleasure in most activities (USPSTF, 2009). These symptoms may include social isolation, anger, sleep or appetite disturbances, significant weight loss or weight gain, insomnia or hypersomnia, loss of energy or fatigue, or non-specific pain (Tylee & Gandhi, 2005). Behavioral problems such as truancy, deterioration in school work and grades, defiance of authority, self-destructive behaviors, vandalism, sexually acting out, and running away from home may be manifestations of severe depression (Committee on Adolescence, 2000). Depressive symptoms may cluster together and must represent a change from baseline functioning and be persistent for two weeks or more in order to meet diagnostic criteria thresholds (USPSTF, 2009).

According to the USPSTF (2009), the estimated prevalence of major depressive disorder (MDD) is 6% among adolescents aged 13-18 years old. There is a higher prevalence among girls (5.9%) than boys (4.6%). The lifetime prevalence of MDD among adolescents may even be as high as 20% (Williams et al., 2009). Adolescents who are depressed have more psychiatric and medical hospitalizations than those without depression (Williams et al., 2009).

Suicide. The most extreme consequence of unrecognized mental illness is suicide. Each year, suicide claims the lives of tens of thousands of young people worldwide and over one million children and adolescents attempt suicide annually (Horowitz et al., 2009). Suicide is the third leading cause of death among adolescents 15 to 19 years of age and accounts for 12% of all deaths annually among 15-24 year olds (CDC, 2007).

For every 25 suicide attempts there is one successful suicide (Goldsmith, Pellmar, Kleinman & Bunney, 2002). “The overwhelming proportion of adolescents who commit suicide (more than 90%) suffered from an associated psychiatric disorder at the time of their death; more than half suffered from a psychiatric disorder for at least two years” (American Academy of Child and Adolescent Psychiatry, 2001, p. 24S).

According to the Centers for Disease Control (CDC) Youth Risk Behavior Surveillance (YRBS) for 2007, nationwide 14.5% of high school students considered attempting suicide during the previous 12 months and 6.9% of high school students attempted suicide one or more times during the previous 12 months. Females had a higher prevalence of having considered suicide (18.7%) and attempting suicide (9.3%) than males, 10.3% who and 4.6% respectively. Ninth grade students had higher rates of both considering suicide (14.8%) and attempting suicide (7.3%) than students in other grade levels. Hispanic females reported a higher rate of suicide attempts (14%) than their White, non-Hispanic (7.7%) or Black, non-Hispanic (9.9%) classmates. Males commit suicide nearly four times the rates of females and represent 79% of all of the U.S. suicides. Two percent of all students who attempted suicide made a suicide attempt that resulted in a poisoning, medication overdose, or injury that required medical attention. These rates do not vary substantially across cities and states.

Guidelines. The USPSTF is an independent panel of non-Federal, National, clinical experts supported by the Agency for Healthcare Research and Quality (AHRQ) that researches and reviews the prevention and evidence-based medicine literature. The USPSTF makes recommendations about preventive care for patients with targeted conditions that may or may not have recognizable symptoms. The panel consists of

experts in the field of primary care including pediatricians, family physicians, internists, obstetricians, gynecologists, nurses, and behavior health specialists. They conduct scientific reviews of a broad range of health care services such as preventive measures, screening tests, counseling, immunizations, and preventive medicine and then develop recommendations to clinicians and health care systems. These reviews are published in the form of recommendations and guidelines. The recommendations and guidelines are then published in a worldwide web based database of evidence-based clinical practice guidelines called the National Guidelines Clearinghouse.

Each year, the USPSTF makes evidence-based recommendations on clinical preventive services to empower individual citizens, health care staff and providers, and health care systems by making them more aware of the available evidence and recommendations. This allows everyone, including patients, to make informed decisions about their current and future health care (USPTF, 2011). The USPSTF makes these recommendations based on comprehensive, systematic reviews and careful assessment of the available evidence. Despite their best efforts, the USPSTF is not always able to provide recommendations on topics of critical importance due to a lack of available evidence.

The published guidelines are readily available on the web-based National Guidelines Clearinghouse website, and in a variety of other venues. Providers are able to subscribe, free of charge, to guidelines notifications and email updates. Newsletters and subscriptions from licensing boards also publish the guidelines. However, in order for a clinician to keep up with the journals relevant to practice, it has been estimated that it is necessary to review 19 articles a day, 365 days a year (Melnyk, 2008). Belamarich,

Gandica, Stein, & Racine (2006) found 162 different verbal health advice directives that pediatric primary care providers are recommended to counsel patients and parents about throughout childhood. This expectation is unrealistic. It is unlikely that providers have time during their day to maintain their practice, provide quality care, and stay current on the overwhelming amount of new literature and recommendations. The published guidelines are meant to aid providers in their care, not hinder them.

Depression & Suicide Guidelines

Practice guidelines for the diagnosis and treatment of depression were one of the first guidelines addressed by the Agency for Healthcare Research and Quality (AHRQ) (Cabana, Rushton, Rush, 2002). There are now published guidelines by the USPSTF, the AAP, the IOM, and the AACAP that call for all adolescents to be screened for depression and suicide using validated mental health screening tools (TeenScreen, 2009). They recommend an annual mental health screening for adolescents using an evidence-based screening questionnaire (TeenScreen, 2009).

Guideline Support

The USPSTF recommends screening adolescents (12-18 years of age) for major depressive disorder (MDD) when systems are in place to ensure patients receive an accurate diagnosis, therapy, and follow up (USPSTF, 2009, p. 1223). This recommendation is made based on the knowledge that MDD is a disabling condition that is associated with long term health morbidities and escalating health care costs. The USPSTF recommendation statement for suicide risk screening concluded that “the evidence is insufficient to recommend for or against routine screening by primary care clinicians” (USPSTF, 2004, p. 1). The Task Force did not find any studies that directly

addressed the harm in screening for suicide risks but could not determine the balance of benefit versus harm of screening.

The AAP developed two separate guidelines by using a combination of evidence-based and consensus-based methods (Zuckerbrot, Cheung, Jensen, Stein, & Laraque, 2007). These guidelines address MDD identification, assessment, initial management, treatment, and ongoing management. Zuckerbrot et al. (2007) recommends that all adolescents at risk for depression should be routinely evaluated for MDD symptom development. This systematic assessment should take place at least once a year using standardized written instruments or specific emotional symptoms checklists (Zuckerbrot et al., 2007). The AAP gives recommendations for clinicians to be aware of the risk factors for suicide, ask questions about depression and suicide, recognize the medical and psychiatric needs of the suicidal adolescents and work closely with families (Shain, 2007). According to Wintersteen (2010) the primary care home serves as a gateway for behavioral health and is the ideal location for early detection of depression and suicide risk factors.

The AACAP advocates for early identification and treatment of mental health issues with the aim of reducing family, social, and academic morbidities and to decrease suicide risk, substance abuse, and adult depression sequelae (Birmaher, Brent, & AACAP work group on quality issues, 2007). They recommend that clinicians screen all children and adolescents for depressive symptoms using checklists derived from sources such as clinician based instruments (Birmaher, Brent, & AACAP work group on quality issues, 2007).

The National Association of Pediatric Nurse Practitioners (NAPNAP) recognizes the importance of providing comprehensive mental health services, including mental health screenings, early intervention, and follow up for those adolescents in need. They call for pediatric nurses practitioners (PNP's) to integrate mental health prevention, screenings, and early identification into routine pediatric health care (NAPNAP Executive Board, 2007).

While these guidelines are only recommendations, they were written by experts after careful review of the evidence and literature to improve health outcomes. Through the use of these guidelines, more adolescents can be diagnosed and referred for treatment before long term consequences occur.

Screening/Diagnosis

During the ages of 12-18 years, it is recommended adolescents visit their primary care provider annually for physical exams, sports physicals, immunizations, preventive care including immunizations, and sick visits. Over 70% of adolescents visit a provider at least once per year (Horowitz et al., 2009). Just as they are screened for hearing and vision problems, obesity, and high blood pressure, they should be screened for depression and suicidality. Preventative health visits provide an opportunity to monitor and support psychological and emotional well-being and encourage healthy life style choices (Parks et al., 2001).

Primary care clinicians have an advantage in caring for adolescents in the primary care setting since a longitudinal, trusting, and therapeutic relationship has been established between the patient and the family. Because of these relationships, there is less stigma. Many adolescents prefer to see their primary care provider for mental health

issues thus resulting in greater than half of all adolescents with depression receiving care in primary care settings (Horowitz et al., 2009). Primary care clinicians have unique opportunities and a responsibility for preventing and addressing mental health problems as part of the medical home (Committee on Psychosocial Aspects of Child and Family Health and Task Force on Mental Health, 2009).

Mental health checkups should be incorporated into regular preventive healthcare visits for adolescent patients. Primary care practices are ideal for early detection (Wintersteen, 2010). The primary care focus should be on early identification of mental illness, on suicide prevention, and linking those with needs with available resources (Wintersteen, 2010). Developing a strategy to identify those who are at high risk is an essential method of ensuring appropriate attention to mental health care needs (Cappelli, et al., 1995). Providing a comfortable, confidential environment for adolescents and asking relevant questions can help identify at risk youth and those engaged in health compromising behaviors (Parks et al., 2001).

There is no specific diagnostic test that is capable of detecting and identifying a depressed or suicidal adolescent. There is no blood test, urine test, or radiologic study that warns a provider of depressive or suicidal thoughts. There are signs to look for and historical markers that are potential red flags. For example, adolescents who have a history of depression, have a current diagnosis of depression, a previous suicide attempt, a family history of psychiatric disorders, family disruption, gay or bisexual orientation and certain chronic physical disorders are at a higher risk for suicide (Shain, 2007).

There are also social and familial factors that need to be included in assessments of all adolescents including family disruptions, change of living environment

(homelessness, group home, or a corrections facility), poor academic performance, legal difficulties, social isolation, bullying, conflicts with parents, drug and alcohol abuse, weapons kept in the home, community violence and physical symptoms (Shain, 2007). Adolescents with co-existing physical complaints and disease processes, such as diabetes, appear to be at even greater risk for depression and are even more vulnerable to distress (Cappelli et al., 1995). Gay and bisexual adolescents have been reported to exhibit high rates of depression and have reported higher rates of suicidal ideation and attempts than other adolescents (Committee on Adolescents, 2000). These are symptoms and precipitating factors often cited by youth as reasons for attempting suicide.

Clinical symptoms of depression include persistent sadness, irritability, boredom, a loss of interest or pleasure in most activities, social isolation, decline in school work, anger, sleep and appetite disturbances, or non specific pain (Hagan et al., 2008). MDD may be diagnosed when these symptoms cluster together and are present for two weeks and represent a change from baseline functioning (USPSTF, 2009).

Often, patients suffering from depression do not seek help for the psychological symptoms, but may present with somatic symptoms. Somatic symptoms include headaches, fatigue, abdominal pain, weight gain or weight loss, poor concentration, inability sleep or sleeping too much, lack of energy, or general aches and pains (Tylee & Gandhi, 2005). While some of these symptoms may be present at the time of a preventive annual exam, some of these symptoms are not physically recognizable but may be detectable through the use of a confidential mental health screening tools. While one provider cannot ask about each of the above factors during a single visit, nor can one single visit involve screening for every physical and mental health ailment, there are

guidelines in place that recommend screening for depression and suicide. Providers are challenged to assess for depression and suicide risks while also completing a comprehensive physical maintenance and preventative exam.

According to Shain (2007), providers should specifically ask the youth about depressive symptoms or suicidal thoughts during routine history taking. It is important to ask open ended questions about thoughts of self-harm or thoughts of killing oneself. While these are uncomfortable questions, they are extremely important when a youth may be having these thoughts but not physically displaying distress. Youth should be asked about access to firearms or whether or not firearms are kept in the house; parents should be advised against keeping them in the house if applicable and asked to monitor suicidal thoughts and gestures (Hagan et al., 2008). The guideline created by the USPTF intends to make this process easier, but may be viewed by providers as an extra step that not all are willing to take in their daily routine for each patient.

Providers may use preventative screenings and screening tools, but only after a problem is noticed or brought to their attention. According to the Center for Mental Health Checkups at Columbia University (TeenScreen, 2009), the majority (90%) of adolescent suicide victims have a psychiatric disorder and over half of them exhibit symptoms that are identifiable by screening for at least a year before their death; this is an opportunity for intervention and prevention. Through implementation of the depression screening guidelines, those patients with depression and potential suicidality, who otherwise would have been missed, will have the chance to receive help by completing the screening. Parks et al. (2001) state that many studies suggest that the content of the preventative care visits rarely meets professional standards; fewer than 2% of visits in

1990 by adolescents included any screening regarding HIV transmission and two thirds of visits included no counseling services of any kind. Although it is important to increase compliance with all adolescent preventative health guidelines, this project focuses on improving detection of adolescent suicide and depression.

Screening for Adolescent Depression

Screening tools have been developed to aid providers in identifying youth who are suffering from depression and suicidality. While those youth who may not appear on the exterior to have symptoms, the screening tool may allow the youth to answer the questions confidentially and honestly and helps providers recognize possible mental health concerns (Hagan et al., 2008). While screening does not provide a diagnosis, it can indicate the severity of symptoms, assess the severity within a given time period, and open the door to a conversation about mental health issues (Hagan et al., 2008). Such tools have been made available to providers to provide a relatively quick assessment for depression and potential suicidality. Some of the mental health screening tools may be purchased; however, some are available at no cost.

Screening tools. Two screening tool instruments in particular have demonstrated good sensitivity and specificity for use in primary care settings for the adolescent population: the Patient Health Questionnaire (PHQ-A) and the Beck Depression Inventory (BDI). According to the USPSTF (2009) the PHQ-A has a sensitivity of 73% and a specificity of 94% for depression. The PHQ-A, otherwise known as the PHQ-9, is based on the DSM-IV criteria for depression and can be used for teen patients ages 12-18 years old. The tool is one page long, completed by the adolescent, and scored by the provider or nurse. It is a 13 item, self-completion screening questionnaire designed to

detect symptoms of depression and suicide risk in adolescents. There are 9 core items that ask about symptoms of depression, two items that inquire about the severity of symptoms, and two items that ask about suicide risk (www.teenscreen.org, 2011). It takes less than 5 minutes to complete and ideally should be done in a private area as part of the physical exam. Adolescents should be informed of their confidentiality rights prior to administering the questionnaire. It also comes in a Spanish edition. This screening tool may be obtained from the Teen Screen website and is free of charge.

The PHQ-9 includes items about symptoms experienced in the previous two weeks. The patient has the option of answering the questions with a 0=not at all, 1=several days, 2=more than half of the days, 3= nearly every day. The scores are calculated and have a range of 0 to 27. The PHQ-9 screening tool has an office coding algorithm associated to assess the sub-threshold categories of depression. Scores of 1-4 are diagnostic of minimal depression, 5-9 mild depression, 10-14 moderate depression (greater than or equal to 11 is a positive score), 15-19 moderately severe depression, and 20-27 severe depression. Regardless of the PHQ-9 total score, endorsement of serious suicidal ideation or past suicide attempt (questions 12 and 13) should be considered a positive screen (www.teenscreen.org, 2011).

Patients that score a positive on the questionnaire (greater than or equal to 11, or endorsement of question 12 or 13) should be evaluated by their primary care provider to determine if the symptoms they endorse are significant, causing impairment, and/or warrant further evaluation and referral to a mental health professional or a follow up appointment and treatment by their primary care provider. It is recommended that all suicidal thoughts and previous suicide attempts be addressed by the provider regardless

of how they answer the PHQ-9. The results of this screening are not diagnostic for depression or suicidality. They do not substitute for the clinician's assessment.

The Beck Depression Inventory (BDI) was introduced in 1961 and was revised in 1971. The clinical observations of patients were consolidated and systematically arranged into 21 symptoms and attitudes which could be rated from 0-3; 3 being the most intense. The BDI is a 21 question, multiple choice, self-administered questionnaire composed of items relating to symptoms of depression such as hopelessness and irritability, feelings of guilt and being punished, and physical symptoms such as fatigue, weight loss, and lack of interest in sex. The pre-set cut off scores range from <10 being none or minimal depression, 10-18: mild to moderate depression, 19-29: moderate depression, and 30-63: severe depression (Beck, Steers, & Garbin, 1988). There is an even more updated and revised edition of the BDI called the Becks Depression Inventory II (BDI-II) that can used in the older adult population as well because it does not have the somatic symptoms included that tend to be common in this age group (Segal, Coolidge, Cahill, & O'Riley, 2008). This screening takes less than 5 minutes as well and can be done the day of the visit. This tool is available free of charge.

Routine surveillance of adolescents, using standardized measurement tools as diagnostic aids and actively monitoring those patients exhibiting early symptoms of depression are important in primary care (Eapen & Crncec, 2012). While these written screening tools are quick and convenient to use, they are also daunting and impersonal. In addition to using the screening tools, in person interviews by the provider must take place to address the screening tool results. This allows for more detailed information to be obtained and clinical judgments to be made. The screening tool does not take the

place of the interview and it should always be completed privately so that the patient does not omit information due to feeling uncomfortable with their parent present (Hamrin & Magorno, 2010). Improved patient outcomes are correlated with early and assertive treatment (Eapen & Crncec, 2012). The screening tool and in person interview can be completed at one visit, however, there are barriers to implementing even this process.

Barriers to Guideline Implementation

While clinical practice guidelines and recommendations have been published, successful implementation of many guidelines is lagging. Although the guidelines are a recommendation, they are not enough to improve the delivery of clinical practice guidelines. Implementing and adhering to the guideline is the key issue (Ayres & Griffith, 2008). Guidelines are published with evidence showing their benefits and outcomes; however, adolescent patients will not receive the appropriate care and referrals if the mental health guidelines are never implemented into individual provider practices. Research shows that healthcare is often only moderately affected by publication of guidelines because of the gap between guideline recommendations and practice (Lugtenberg, Zegers-van Schaick, Westert & Burgers, 2009). Only about half of patients receive the recommended care given in evidence based guidelines (Lugtenberg, Burgers, Besters, Han & Westert, 2011).

There are many barriers to the implementation of the guidelines. These barriers are being researched currently in order to provide a solution to their lack of implementation and/or adherence (Sammer, Lykens, & Singh, 2008). Yarnall et al. (2003) noted that patients in a family practice waiting room have an average of 25 services due, including physical exams, screenings, and immunizations, at the time of the

visit. This number increases as the number of recommended preventative services increases, as new tests are developed, and as research shows the value of those tests and screenings. Staying current on the recommended screening guidelines, the timing of screenings, providing the actual screenings, assessing and discussing the screening and then providing the required care is all time consuming.

Flores, Lee, Bauchner & Kastner (2000) surveyed 1088 pediatricians from the United States who cited 35 reasons for their use of clinical practice guidelines and 36 reasons for the non-use of the guidelines. The pediatricians who used the guidelines, at least in part, cited their top reasons for use were: guidelines are for management of the most commonly seen conditions; they provide uniform management; they help ease the burden of patient management; they help provide quality assurance; they involve recommendations that are common sense practice, logical and are practical; and they serve as a reminder. For those pediatricians that did not use the guidelines, their cited reasons were: guidelines result in “cookbook medicine”, they do not allow for clinical judgment, can be followed too loosely and misinterpreted, and their practice was already the same as the recommendation.

There are many barriers influencing the implementation of guidelines such as resistance from the individual patient, the individual provider, the group of providers in a practice, the social and cultural context of the healthcare system, the organizational context, the need for further training and support, and a lack of reimbursement for services rendered (Lugtenberg et al., 2011). Following are several barriers cited in the literature:

Primary Care Provider Guideline Awareness

Cabana et al., (2002) site a survey of 519 members of the New York Academy of Family Physicians who measured awareness of the guidelines pertaining to mental health and depression in primary care. Only 34% of those surveyed were aware of the AHRQ guidelines, even though 91% treated patients with depression. While these data are almost ten years old, new information compounds daily. There are currently over 2400 guidelines in place related to healthcare (www.ahrq.gov, 2011). The expanding body of research and evidence makes it difficult for providers to stay current with every applicable guideline and then critically apply it into practice. Casual awareness does not make a provider familiar with a recommendation and can sometimes do more harm if the guideline is not applied correctly. A Dutch study by Lugtenberg et al., (2009) found that general practitioners were aware of parts of the guidelines but not the specifics. Ayres & Griffith (2008) found that clinicians who reported a greater familiarity with a guideline reported using them with a higher percentage of their patients.

Provider Issues

When a provider does not agree with a particular guideline it can be a barrier to adherence (Cabana et al., 2002). Over simplification of a problem can cause a provider to disagree with a guideline. Lugtenberg et al., (2009) found that in some cases there was a lack of evidence or quality of evidence to some guidelines which gave providers pause about using the guideline. They also cite the applicability of the guidelines to certain populations, such as those with co morbidities, as a reason for lack of agreement. This lack of agreement should be looked at with caution as some providers don't agree with a guideline as a whole and others may not agree with only one small part of a

specific guideline. Provider lack of agreement is less common when asked about guidelines in general (Cabana et al, 1999). Almost all providers surveyed agree to the statement that guidelines are useful sources of advice and believe they are based on sound and sufficient evidence (Lugtenberg et al., 2011).

Ayres & Griffith (2008) found that clinicians may be unsure of which preventative guidelines to use or implement due to contracting with many different health plans who mandate alternative screening guidelines. Medical specialty organizations, voluntary associations, scientific organizations, individual experts, and government health agencies also offer their recommendations for using clinical practice guidelines, thus causing confusion to not only the provider but the patients themselves (Ayres & Griffith (2008).

The conflicting recommendation schedules for preventative healthcare causes a lack of commitment to prioritize preventative services, a lack of systems to integrate the services, and inadequate reimbursement. Providers may be leery of screening if they are worried they will not be reimbursed or their patients will be charged for a service if they are not screening according to the individual organization or health plan schedule (Ayres & Griffith, 2008).

Self-Efficacy

Self-efficacy is the belief that one can actually succeed in performing a behavior. This influences whether a person will make a specific change and/or sustain a change. Providers cite a lack of skills, lack of training or expertise in a specific area, or having more confidence in another healthcare professional to carry out the care as reasons for lack of self-efficacy (Lugtenberg et al., 2009). If providers feel confident in their

knowledge of the guidelines' recommendations then they are more apt to implement and adhere to the guidelines. According to Cabana et al. (1999) low self efficacy, due to lack of confidence in ability or a lack of preparation, leads to poor adherence. For example, a provider who doesn't feel confident in his/her ability to counsel an adolescent on safer sex measures may elect not to address the safe sex issue during visits.

Outcome Expectancy

Another barrier to compliance with clinical guidelines is lack of outcome expectancy (Lugtenberg et al., 2009). If providers do not feel they are able to make a difference when speaking with their patients about a specific problem, then they are more likely to not address the problem at all. For example, when speaking with a youth about decreasing their use of marijuana, if a provider feels that the youth will not make a change after their conversation, the provider may not even address the topic at all. Although it may not make a difference for that one patient, it may make a difference in the practice as a whole. Providers may focus on the individual patient level and not on the population level as a whole. According to Lugtenberg et al., (2009), general practitioners agreed with the content of the guidelines but did not believe that applying the recommendations would result in any improved patient outcomes.

Prior Experience

Previous provider experience also plays a role in a motivation to change their practice. Behavior change is a continuum of steps that includes pre-contemplation, contemplation, and preparation, action, and maintenance (Cabana et al., 1999). Close to half of physicians surveyed by Cabana et al. (1999) suggest they are in a pre-contemplative stage and not ready to change their behavior (i.e. adopt new guidelines).

Lugtenberg et al. (2009) found general practitioners felt that it was hard to overcome habits and routines of previous practice. While this information is important, as new providers come up through the generations, this possibility of change would increase as the expectation of guideline adoption expectation increases.

Time

In our “fee for visit” practices, providers are reimbursed based on the number of patients seen in a day, not the quality of the visit provided. If a guideline’s recommendation takes a lot of time to implement with each patient, it decreases the number of patients a provider can see in a day. This results in a decrease in the practice income. Not having the time to provide the guideline recommendations has a snowball effect on guideline adherence as well. When a provider does not have the time with their patients to provide the guideline information, they then become less confident in their ability to provide the information and this may cause a the provider to ignore a recommendation (Cabana et al., 2002). When recommendations are followed and practitioners become very familiar with the guidelines, the time spent for a patient visit may actually be decreased, however; there is a perception that the recommendations add to the workload, thus increasing the length of patient visits (Lugtenberg et al., 2011)

Lack of Resources or Support

Incorporating evidence-based treatment into clinical practice requires acceptance of the change by both the clinician and the organization. A lack of resources and a lack of health care system or organizational support are barriers to the implementation and adherence. There are times when clinical practice guideline adherence requires changes that are not under the provider’s control or require an approval or change made on a

system level. Examples include lack of funds to provide a counselor, lack of funds to buy new equipment, lack of insurance reimbursement for the services provided and the increased costs to the practice. External barriers may be overcome by having adequate community resources, contracts, and referral privileges.

However, Lugtenberg et al., (2009) cite that logistical constraints placed on their practices by outside organizations, specialists, or after hour services made it difficult to always follow guideline recommendations. Also implicated are a lack of communication within the organization, lack of communication with outside resources, lack of support from outside organizations, and an unclear division of tasks related to the guideline as reasons for a lack of guideline adherence. Another factor is that many of the medications prescribed by providers are not on the free or reduced medication lists provided by pharmacies, therefore, limiting the provider to prescribe what will be affordable for the patient.

Training

Rhodes, Genders, Owen, O'Hanlon, & Brown (2010) found staff within practices may have limited knowledge or formal training related to guideline recommendations and thus not adhere to the guidelines. In their work, the majority of staff learned about guidelines from informal sources or team meetings so implementing certain aspects, using specific methods, or implementing educational sessions required more formal training before the staff felt that a recommendation could be followed (Rhodes et al., 2010). According to Lugtenberg et al., (2009) general practitioners who were generally aware of the guidelines were open to participating in focus group sessions on guideline education and implementation as a way to improve knowledge and adherence.

Patients as Barriers

A barrier that is not often thought of is the patient themselves. Cabana et al., (2002) cite patient-specific barriers causing provider non adherence to guidelines. Lugtenberg et al., (2009) found that in some cases patients were not able to perform a required action accurately or did not show up for follow up appointments, thus making the guidelines difficult to follow. Managing chronic conditions and relapsing conditions such as depression, requires a partnership between the provider and the patient. Patient barriers include lack of insurance coverage or lack of money for copayment, lack of transportation to and/or from the appointment, lack of compliance with medication, treatment, or maintaining appointments, concerns of confidentiality, and stigma of mental health disorders can all be barriers to the patient. Patients may perceive certain aspects of the guideline to be offensive or embarrassing. For example, asking about risks related to sexual activity, weight, bullying, or sadness can be interpreted by the patient as embarrassing, and/or stigmatizing. This may cause a level of discomfort for both the patient and the provider. However uncomfortable this may be, they are important questions to ask as part of a guideline recommendation when seeing an adolescent patient. Providers also feel that not all guidelines adequately incorporate patient preferences, abilities, and needs (Lugtenberg, et al., 2011). General practitioners find that the guidelines do not always focus on the “average patient’s” abilities, desires, and needs (Lugtenberg, et al., 2011). If patients don’t want to or can’t follow the guidelines, it leads to a decrease in practice compliance.

There are many sites that offer counseling for a diverse range of mental health problems; however, insurance companies traditionally reimburse mental healthcare at

lower rates than medical care visit. This results in the patient or parent having a large out of pocket expense and if unable to meet the expenses, they cannot adhere to the recommendations made by the provider.

Shortage of Mental Health Providers

Limited access to a quality psychiatrist, psychologist, or other mental health professional is a barrier to care for those needing mental health care. Patients often report it is difficult to find a psychologist and psychiatrist within their insurance plan and there are few providers who care for the uninsured. Primary care providers should be able to recognize the medical and psychiatric needs of youth and work closely with the families and other community health care providers to arrange for follow up despite their insurance carrier and insurance status. Care coordination between referring agencies is important so as not to lose youth to follow up (Henke et al., 2008). It is necessary for primary care providers to have relationships formed with community agencies, have access to consultation and collaboration with child and adolescent psychiatrists, and with other members of the mental health service system who are equipped to provide support to family members (AACAP, 2009). According to the AACAP (2009) there are about 7,000 child and adolescent psychiatrists practicing and there is a need for over 30,000. This is a huge discrepancy and one that will not soon be overcome. There are currently over 60,000 pediatricians practicing in the United States and over 150,000 nurse practitioners (HRSA, 2010) According to AACAP (2009), there are over 73,675,600 children and adolescents in the U.S. and approximately 20 percent have a mental disorder with at least a mild functional impairment. Primary care providers should be familiar with

local, state, and national resources that are available to patients and families concerned about depression and suicide.

Guideline Factors

Lugtenberg et al., (2009) found that in almost half of the general practitioners they surveyed, the guidelines themselves served as a barrier because they were unclear, too complex or confusing. In some cases, the providers felt the guidelines were incomplete and difficult to implement into general practice. These authors concluded that general practitioners prefer short guideline recommendations that are easy to understand; however, it is a challenge to create a clear, simple guideline that covers all the complexities of problems seen in practice.

External Factors & Reimbursement

Screening for mental health concerns can be time consuming for the provider and requires many resources. This ultimately costs the provider money in personnel and time. These costs are not reimbursed by insurance companies. Due to a shortage of mental health providers, primary care clinicians provide care for their patients until they obtain appointments and/or insurance approval for mental health care specialists. According to Parks et al. (2001) approximately, 14% of American adolescents ages 10-17 years old are not covered by any public or private health insurance program. The most recent 2011 U.S. Census Bureau statistics show that over seven million youth, ages 18 and under, are uninsured (U.S. Census Bureau, 2010). Many of the community mental health organizations are overwhelmed by the volume of patients with no coverage or minimal insurance coverage.

The AAP recognizes that this is a concern for providers and is addressing these concerns with insurance carriers (Foy, 2010). AAP recommends professional organizations work collaboratively with other stakeholders to “advocate for improved reimbursement, advocate for coverage and appropriate payment for developmental screenings as recommended in Bright Futures” (Foy, 2010, S71). Clinicians should advocate for benefit packages from health insurance companies that assure adolescents have access to preventive and therapeutic mental health care services that not only cover the diagnostics for the disorder but the treatment as well (Committee on Adolescence, 2000).

Project Design

This project implemented a mental health screening process, using the PHQ-9, for youth, ages 18 to 24 years old, visiting the SPOT Youth Center. A major focus of this project was the assessment of the feasibility of screening teens in a clinic setting. Several factors were assessed including how long it took for the youth to finish the screening tool, the ease of completing the tool, the time it took the provider to score the tool, and the time required to address a positive screening with a youth. Additionally, this project determined how many steps it takes to implement a depression screening tool in adolescent patients. The goal of this project was to make use of the recommended guidelines in a realistic, practical manner and to disseminate the findings to other local providers to assist them in implementing the screening and ultimately improve the mental health of adolescents in primary care.

Setting

The SPOT Youth Center is an urban youth center open to youth, ages 13-24 years, on a walk-in and same day/next day appointment basis. The SPOT provides free medical care, psychiatric care, counseling, and case management services through the use of donations, community partnerships and grant funds. The SPOT does not ask for or require parental consent for their services. Many of the youth seen at the SPOT have not seen a primary care doctor for a preventative health exam due to lack of family support, lack of insurance, lack of transportation, or other reasons.

Screening Method

The Patient Health Questionnaire-Adolescent, otherwise known as the PHQ-9, is based on the DSM-IV criteria for depression. The tool is one page long, completed by the adolescent, and scored by the provider or nurse. It is a 13 item, self-completion screening questionnaire designed to detect symptoms of depression and suicide risk in adolescents. There are 9 core items that ask about symptoms of depression, two items that inquire about the severity of symptoms, and two items that ask about suicide risk (www.teenscreen.org, 2011). It takes less than five minutes to complete and ideally should be done in a private area. It is recommended that parents are informed that the screening will be administered as part of the physical exam. Adolescents should be informed of their confidentiality rights prior to administering the questionnaire. It can be obtained from Teen Screen free of charge and mailed directly to the office. It is also available in Spanish.

The screening tool questions are based on symptoms experienced in the previous two weeks. The patient has the option of completing the screening questions by placing a

“check mark” next to their answer: 0=not at all, 1=several days, 2=more than half of the days, 3= nearly every day. The scores are calculated and have a range of 0 to 27. The PHQ screening tool has an office coding algorithm associated to assess the sub-threshold of depression. Scores of 1-4 are diagnostic of minimal depression, 5-9 mild depression, 10-14 moderate depression (greater than or equal to 11 is a positive score), 15-19 moderately severe depression, and 20-27 severe depression. Regardless of the PHQ-9 total score, endorsement of serious suicidal ideation or past suicide attempt (questions 12 and 13) should be considered a positive screen (www.teenscreen.org, 2011).

Patients that score a positive on the questionnaire (greater than or equal to 11, or endorsement of question 12 or 13) should be evaluated by their primary care provider to determine if the symptoms they endorse are significant, causing impairment, and/or warrant further evaluation and referral to a mental health specialist or a follow up appointment and treatment by their primary care provider. It is recommended that all suicidal thoughts and previous suicide attempts be addressed by the provider regardless of how they answers the PHQ-9. The results of this screening are not diagnostic for depression or suicidality but a screening. They do not substitute the clinician’s assessment.

Procedure

For the purpose of this capstone project, the PHQ-9 screening tool was only used for all adolescents ages 18- 24 years old requesting medical services during two afternoon clinics per week due to the lack of available parental consent at this location. When youth entered the SPOT they were asked to fill out a 4x6 index card by the peer educator at the front desk. This card asked their name, date of birth, zip code, and the

services they were requesting. If they requested medical services they were asked to provide further information including demographics, gender, race, sexual orientation, and emergency contact information. They were assigned a patient identification number called their “SPARK ID” using their first, middle, and last name initials (ABC), date of birth (01/01/2000), and the initial of their gender (*Male, Female, Transgender*). For example: LCI12151972F; Lisa Colleen Isenberg, date of birth 12/15/1972 and I am a female. After their information was entered into the database and they were given this SPARK ID, the database assigned them a unique 4 digit random number. This random 4 digit number is what was placed on their consent, screening tool, and surveys so there were no patient identifiers. The youth completed their patient intake forms, their HIPPA privacy form, and a general medical consent form while sitting in the waiting area. At this same time they were provided with a one page, simple language description of the study that they were asked to participate in as well as a consent form for the study. This allowed them time to review the study description and consent and consider whether they wanted to participate.

The patients, ages 18-24 years old, were asked to complete the PHQ-9 after being escorted to a patient exam room (see Appendix D) and while waiting for the provider. They could opt to not complete the PHQ-9 at that point. After completing the screening tool, the youth were seen by the provider who scored the PHQ-9 screening tool and discussed the results with the patient. The result of the PHQ-9, their PHQ-9 “score”, was documented in their medical record under the “Assessment and Plan”. Any positive screenings (greater than or equal to 11, or endorsement of question 12 or 13) were discussed between the patient and the provider at this time.

Referrals and introductions to other SPOT resources, if necessary, were provided to the patient at that time. Prior to leaving, the patient was asked to complete a short survey regarding the screening itself (see Appendix A). The patient's unique 4 digit random number was included on the PHQ-9 screening tool and survey. The screening tool was placed in a manila envelope labeled "PHQ-9s" inside a locked cabinet to be scanned into their patient chart along with their consent and HIPAA forms at a future date. The patient surveys were placed in a manila envelope labeled "Patient Survey's" in a locked, secure file cabinet.

After the visit with the patient, the provider completed the provider survey (see Appendix B). These provider surveys included information on how long it took to complete the actual screening, scoring, treatment and referral if needed. These data provided were used to measure actual and perceived time. Providers also made note of resources utilized during this visit and barriers to treatment or referral. The PHQ-9 score was also on the provider survey. After completion, the provider surveys were placed in a manila envelope labeled "Provider Surveys" in a locked, secure file cabinet.

Resources

While implementing this project, there were clinicians that needed to be involved and others who were available on site to assist, but that were not essential to this project. The team at the SPOT is comprised of many disciplines which allowed for on-site treatment for the majority of youth that scored a positive result on the screening tool. The following are resources that were utilized while this project was implemented at the SPOT.

SPOT approvals

This project needed several approvals. The medical director for the SPOT approved that this project was applicable to the services available at the SPOT and that there was time and space available at the SPOT for the project to be completed. The medical providers and nurse on Tuesday and Friday afternoons needed to approve that this project could be implemented on those days since the screening was an additional task and a change from their usual routine.

Institutional approvals

This project was approved by the Institutional Review Boards (IRB) at Washington University, University of Missouri- St. Louis Graduate School, and University of Missouri-St. Louis.

Stake Holders

Medical director. The medical director at The SPOT is the founder of the organization. She is very active in the medical care provided on a daily basis to the patients at the SPOT. Her approval and support was necessary in order to implement this project and guideline at The SPOT.

Medical providers. The medical providers who saw the patients during the afternoon clinics were aware the importance of screening adolescents for depression and suicide as well as the existence of a guideline. They needed to be not only familiar with the guideline, but knowledgeable about the specifics of the guideline. The providers at the SPOT were knowledgeable and proficient in the use of the PHQ-9 as they were using this tool at their other adolescent care site. Both the providers and the SPOT nurse needed to agree with this change of care on those specified afternoons, so that they could

incorporate the screening tool into their visits with the patients. Using a screening tool added time to each individual visit. The SPOT is a small physical space and they have a large request for services on a daily basis. The medical director for the SPOT believes in providing quality care and has the motto “this is not a sprint; we are in this for the marathon”. This attitude allowed staff to focus on providing the highest quality of care, including the screening, not the quantity of youth seen in an afternoon.

Nurse. The nurse at the SPOT is the one consistent person in the medical clinic on a daily basis. She needed to be aware of the screening to assist with the patient flow for the afternoon. She assisted as needed in scoring the screenings, making appropriate referrals and follow-up. She was educated about the PHQ-9 screening tool as she had not previously used the tool. She was educated on how to score the tool as well as when to make the provider aware of a positive screen. The nurse also was the one to receive any phone calls from patients after they left, had the release of information signed, and records transferred to other health professionals as needed.

Mental health specialist. Some of the patients that presented to the SPOT had private insurance which offered them mental health care coverage. For those youth with a positive screening who had health insurance, they were referred to outside mental health resources. For those youth with a positive screening result and no health insurance or no mental health coverage, the mental health specialist at the SPOT was made available on those afternoons to meet the clients who were in need of his/her services and were willing to speak with a counselor. When the mental health specialist was not available, the patient was given his/her business card and a follow up appointment/phone call was arranged.

Psychiatrist/mental health nurse practitioner. The SPOT psychiatrist and psychiatric nurse practitioner were aware of the screening so that he/she knew of the potential increase in his/her case load after the screenings. Patients who had a positive screening were referred to counseling initially, but the counselor might have referred to a higher level of care as necessary.

Case manager. The case manager made aware of the new screening as she may have been needed to help answer insurance questions, to assist with crisis management, or to offer temporary counseling.

Other SPOT resources. The SPOT also has social support groups called Girlz Taking Over (GTO) for girls ages 13-24 years, Tuesday Night Crew (TNC) for African American men who have sex with men (MSM), and other pre-planned evidence based educational sessions. After a medical visit, a patient may have been referred to one of the social support groups to provide them additional sources of support.

Community resources. A resource guide was made available for youth that had a positive screening and either had insurance or no insurance. This resource guide provided a list of counselors in the city and the surrounding areas to give the providers a place to refer their patients with positive screenings. For the youth that had insurance, they were referred outside of the SPOT so that the resources at the SPOT could be utilized by those patients who did not have insurance or were underinsured.

Youth. Youth come to the SPOT daily for medical needs but may not have been accustomed to having their mental health needs screened. The staff were prepared for questions about the screening, for some youth that did not feel comfortable answering the screening questionnaire, or for others that were upset or embarrassed to have these issues

addressed. This had not been a problem at the SPOT with other forms of screenings such as HIV risk assessments and substance abuse screenings (the CRAFFT tool) and this was unlikely to be a concern for this study. However, if someone felt uncomfortable and did not wish to fill out the screening tool, they were able to opt out and not participate at any point.

Population

The youth that seek services at the SPOT are between the ages of 13 and 24 years. The SPOT does not need parental consent to deliver their services. On average, a total of 15 to 20 youth seek medical services daily. This project screened only those patients ages 18 - 24 years, due to lack of available parental consent, requesting medical services on Tuesday and Friday afternoons during four consecutive weeks for a total 82 screenings. Youth who did not want to complete the screening opted-out of the screening process.

Data

All data was collected using the completed survey tools by both the providers and the patient. Their four digit random number was written on the screening tools by the provider, but not the individual name or other identifying information. No patient names were given or listed on any of the surveys. A patient survey was given to each patient after completing the screening tool inquiring about how long it took to complete the tool, how they felt completing this tool, if they sought care during that visit specifically for mental health concerns, and if a previous diagnosis of depression had been given (see Appendix A). The provider survey, placed on the back of the patient survey, was completed after the patient's PHQ-9 was scored, addressed with the patient, and the need

for further care and referrals if necessary were addressed (see Appendix B). The subject's age, race, gender, and sexual orientation were included on the provider survey. Further one on one discussion was done at the end of the patient visit for any further concerns or direction for the patient. The provider survey was essential for the provider to give feedback on the reality of using this tool in everyday practice.

Data Analysis

Descriptive statistics were used to describe the sample and to analyze patient and provider quantitative data.

Human Subjects

In order to protect human subjects, IRB approval was obtained from Washington University and University of Missouri- St. Louis prior to subject recruitment. Data were kept in a password protected database. No patient identifiers were collected. The patient information was protected from non-SPOT employees. All study instruments were locked in a SPOT file cabinet. The survey was approved by the SPOT medical director, medical provider, and mental health specialists prior to being used. Youth from the TNC and GTO social support groups were asked for their input into the language of the survey.

The IRB at Washington University requested a one page, simple language description of the purpose of the project be attached to the consent form. This was constructed and approved by the IRB prior to initiation of the project. See Appendix C.

There were no adverse human subjects outcomes during this project and no adverse events occurred as a result of the screening. There were no IRB protocol violations.

Timeline

The initial plan was to collect data on two afternoon clinic days per week for four weeks. For the sake of time, due to the primary investigator moving out of state, data were collected on three afternoon clinic days per week. It was anticipated that it would take four weeks to complete data collection and it did take four weeks to collect.

Budget

It was anticipated that this project would cost less than \$50 dollars to implement given the use of resources at the SPOT that were already funded, namely the SPOT multidisciplinary team. Actual costs included screening tool and survey copying costs. Neither providers nor participants were paid for project participation. The costs did not exceed the \$50 dollars allotted.

Supplies

The PHQ-9 screening tool was obtained from TeenScreen.org for use at The SPOT. This screening tool is an easy, tear off piece of paper, easy to store in a drawer, and takes minimal storage space. The information obtained was stored on a laptop that is owned by this student and has been password protected and encrypted to ensure confidentiality.

Outcomes

The main outcome of this project was the documentation of the implementation of routine mental health screenings on a population of at-risk adolescents. It was anticipated that the youth coming to the SPOT would find the screening tool quick and easy to complete while also feeling that they were provided the privacy needed to complete the tool. It was also expected that there would be a high prevalence of depression in the

population surveyed as they have many of the other behavioral risk factors stated in this paper.

The principal investigator expected that the more time consuming piece of implementing a mental health screening would be the time it took to address the screening tool with the patient and subsequent time for the referral and navigation process for those needing further on going mental health care. The SPOT offered on-site counseling which is very different from almost all other practices. However, this provided for further data on the importance of funding for community resources, collaboration with other organizations, and coverage of mental health services under health care plans.

Results

Population

Demographic information was self-declared by the 82 youth who consented to complete the mental health screening and the post survey (Tables 1-3). Over half (n=48, 59%) of the youth screened were female and the majority of those youth self-declared their race as black (n=63, 77%). Over half of the youth screened self-declared their sexual orientation as straight (n=53, 64%) and 29 (35%) of the youth screened self-declared as LGBTQ. These numbers and descriptions are consistent with the general population of youth that come to the SPOT for services.

Table 1: Demographics of youth completing PHQ-9

Gender	Number of Patients (n=82)	Percentage
Female	48	59%
Male	34	41%

Table 2: Demographics of female patients completing PHQ-9

Female	Number of Patients (n=48)	Percentage
Race-black	40	83.3%
Race-white	3	6.3%
Race-other	5	10.4%
Straight	41	85%
LGBTQ	7	15%

Table 3: Demographics of male patients completing the PHQ-9

Males	Number of Patients (n=34)	Percentage
Race-black	23	67%
Race-white	5	15%
Race-other	6	18%
Straight	12	35%
LGBTQ	22	65%

Time

Youth time. Youth survey results show that 81 (99%) of the youth were able to complete the screening tool in less than five minutes. For the 65 (79%) youth with a negative screening result (scores less than 11) 100% of them were able to complete the tool in less than five minutes. For the majority of the 17 (21%) youth with positive screening results (scores equal to or greater than 11) the tool took less than two minutes to complete (65%). Five youth took three to five minutes and one youth took greater than five minutes to complete the screening tool.

Provider time. The provider survey results showed that for 77 (94%) of patients screened, providers were able to address the screening in less than five minutes. For 59 (72%) youth, providers spent less than two minutes discussing the screening. For the 17 youth with positive scores, 13 (76%) of the screenings were able to be addressed with the youth in less than five minutes.

Screening Results

21% of the respondents (17 of 82) had screening scores of 11 or greater. Thus these individual's had screens suggestive of depression. Sixty-five (79%) youth had negative PHQ-9 screens.

Current Mental Health Care

Of the patients with a positive screen, 11 (65%) reported they were not currently seeing a mental health care professional. Only two (12%) reported current care by a mental health care professional, while 4 (23%) reported previous treated by a mental health care professional.

Previous Mental Health Care

Mental health screening.

Youth were asked about previous mental health screenings, previous diagnosis for depression, and previous psychiatric care. Tables 4- 6 display these results. Over half (55%) of the respondents denied completing a mental health screening prior to that visit. Of the 17 youth who had a positive PHQ-9 score (score of 11 or greater) 47% of those youth denied having a previous diagnosis of depression. Less than half (41%) of the youth with a positive screening have received psychiatric care.

Table 4: Youth who have previously completed a screening for depression

Screening	Number of youth (n=82)	Percentage
Previously screened	27	33%
Denies previous screening	46	55%
No response/no opinion	9	11%

Mental health diagnosis.

Table 5: Youth with a positive screening (score of 11 or greater)

Diagnosis	Number of youth (n=17)	Percentage
Previous diagnosis of depression	8	47%
Denied diagnosis of depression	8	47%
No response/no opinion	1	6%

Previous psychiatric care.

Table 6: Youth with positive screening (score of 11 or greater)

Mental health care	Number of youth (n=17)	Percentage
Previous mental health care	7	41%
Denied previous mental health care	7	41%
No response/no opinion	3	18%

Suicidal Thoughts/Attempts

The youth were asked about previous suicide attempts and any suicidal thoughts in the previous month. Table 7 contain data showing that of the 17 respondents with positive PHQ-9 scores, six (35%) admitted to a previous suicide attempt and five (29%) admitted to having suicidal thoughts in the previous month.

Table 7: Youth with positive screenings (scores of 11 or greater) with thoughts of ending their life or previous suicide attempts.

Suicidal thoughts/attempts	Number of youth (n=17)	Percentage
Previous suicide attempt	6	35%
Suicidal thoughts in the previous month	5	29%

Youth Privacy/Comfort

Youth were also asked about their privacy and comfort level in completing the PHQ-9 while waiting for their medical services. Tables 8 and 9 display data that shows overwhelmingly that the youth felt they had enough privacy while completing the screening and that they felt comfortable completing the screening while waiting for the medical provider.

Table 8: Youth response to privacy while completing the screening.

Answers	Number of Patients (n=82)	Percentage
Strongly Agree	62	76%
Agree	16	20%
No Opinion	3	3%
Disagree	1	1%
Strongly Disagree	0	0%

Table 9: Youth response to comfort while completing the screening.

Answers	Number of Patients (n=82)	Percentage
Strongly Agree	60	73%

Answers	Number of Patients (n=82)	Percentage
Agree	18	22%
No Opinion	4	5%
Disagree	0	0%
Strongly Disagree	0	0%

Referrals

For youth who had a positive screening a referral was made to one or more resources. Referral to on-site mental health therapy was made for 11 (65%) of the 17 youth, 4 (23%) youth were referred to community providers, and 3 (17%) were referred to more than one resource including on-site support groups and on-site mental health therapists.

Insurance

The SPOT does not take insurance, however, referrals were made to outside resources for some of the youth with a positive screening tool score. Of the 17 youth who received referrals, 12 (70%) were uninsured, 3 (18%) had Medicaid, and 2 (12%) had private insurance.

Discussion of the Results

Mental health care is a very large health concern for the adolescent population. This program of mental health screening was implemented very easily into a busy, urban, walk-in youth center with minimal complications. The results of the screenings showed that just over 20% of the youth who completed the mental health screenings had a positive score indicative of depression. This number was not a surprise as the youth

population at the SPOT have many of the risk factors for depression: homelessness, living in group homes, family disruption, conflict with parents, poor academic performance, drug/alcohol use (Shain, 2007).

Over half (59%) of the positive screenings occurred in female patients. This finding mirrors the USPSTF estimate that there is a higher prevalence of depression among females than males. Of the 17 youth that had positive screening results 11 (65%) self-declared as LGBTQ. According to Shain (2007) gay and bisexual youth have a higher rate of suicide and depression. Of the 17 youth that had a positive screening, five (29%) had serious thoughts of ending their life in the last month. Four of those five youth self-declared as LGBTQ.

Of the total number of youth completing the screening, 46 (56%) of them denied completing a depression screening prior to the day of their visit at the SPOT. A recommendation of screening for depression has been made for several years now by the USPSTF, the AAP, the IOM, and NAPNAP. The results showed that over half of the youth with positive screenings do not have current insurance. This lack of insurance may have contributed to the lack of a prior screening or lack of care through a mental health care professional. However, the youth screened for this project were 18 and older. Practice guidelines for the diagnosis and treatment of depression were one of the first guidelines to be addressed by the AHRQ (Cabana, Rushton, Rush, 2002) and since 2009 the published guidelines by the USPSTF, the AAP and the IOM called for all adolescents to be screened for depression and suicide. If guidelines were being followed since the 2009 recommendation it would seem that more of these youth would have been screened while visiting the doctor for their annual school physicals.

Of the 17 youth who had a positive screening for depression on the day of their visit, eight (47%) had been told they had depression previously. By completing this easy screening tool, nine youth were confronted by a medical provider about their positive screening tool and referred to a mental health resource. Over seven million youth do not have insurance. This lack of insurance is a barrier in itself to screening and treatment as they are not able to seek medical care. Without insurance a provider is very limited in whom they can refer the youth to for further mental health care management.

As the survey results showed, the youth felt that they had enough privacy and were comfortable completing the screening in the exam room while waiting for the provider. The youth completed the screening very quickly so this did not interfere with their medical exam. The providers quickly scored the tools and for the overwhelming majority (94%) they were able to address the screening with the youth, both positive and negative screens, in less than five minutes. This shows primary care providers that the screening can be done in a quick and efficient manner in the medical office setting without causing disruption or delay in care for patients. Only a quarter of the patients who had a positive screening needed 5-15 minutes to address screening results. While this 5-15 minutes may delay care in seeing another patient, there are other emergency procedures done in an office that delay care as well, such as a patient requiring a nebulizer treatment or stitches. This 5-15 minutes in a delay of care can help prevent the negative outcomes associated with those patients who have depression and are at risk for suicide. Over 30% of youth with positive screenings admitted to having serious thoughts of ending their lives in the previous month. Five patients admitted to having suicidal thoughts in the previous month. Four (24%) of the 17 females had previously attempted

suicide and 2 (18%) males had previously attempted suicide. It is hoped that by screening for and addressing depression in the primary care setting, this allows for referral to a mental health provider, thus potentially decreasing the suicidal attempts.

Barriers & Challenges

There were minor challenges at the beginning of the project implementation. The first challenge became evident when the screenings were only being done on two of the three open clinic days. The peer educator who greets patients varies from day to day. Some days the peer educator would forget to offer the project description and consent form to the patients. This was remedied by having the Health Educator at the SPOT hand out the description and consent form in the waiting room. The Health Educator was a consistent person on a day to day basis which decreased the confusion of which days the screening was being conducted.

The biggest challenge to project completion was lack of time to collect the screenings when the primary investigator took a position to move out of state. This project was estimated to be completed, analyzed, and defended by December of 2012. This deadline was pushed back due to the move.

Implications for Practice and Future Research

This project demonstrated that introducing a mental health screening into practice needs a lot of collaboration between staff at the practice site. However, once a procedural plan is in place the screening itself can be done in a timely and efficient manner without disruption to the flow of the medical office. If provider time is the barrier to screening then future research should look at how much time it takes to see a patient who completes a mental health screening versus a patient not completing a

screening. National organizations and offices call for medical providers to recognize the importance of providing the mental health screenings and early intervention into daily practice with adolescents (TeenScreen, 2009). The PHQ-9 is a simple, one page, brief screening tool that can easily be used to enhance and expand on the current medical care being provided while catching youth with depression that otherwise would slip through the cracks.

This project's results correlate with findings by other authors that females and those identifying as LGBTQ have a higher prevalence of depression than other populations (USPSTF, 2009 & Shain, 2007). This warrants further research into the reasons why those specific populations have higher rates. Could the reason for higher rates be because female youth seek medical attention more frequently than male youth thus they are more apt to exhibit symptoms or be screened? What about the stigma and oppression against youth who identify as LGBTQ and the effects it has on their mental health? Those oppressive events and actions need to be further investigated in and awareness of the long term mental health effects that they have on youth. The results indicate that further research on primary care mental health screening is needed. Providers need to have resources to refer patients to when further mental health care is warranted. Over 30% of the youth with positive screenings contemplated suicide in the previous month. Further research needs to examine if youth are screened on a regular basis by their primary care providers do the numbers of youth with suicidal thoughts decrease and could suicide rates decrease over time.

The results showed that a large number of youth endorsed symptoms and had a positive score but did not have a previous diagnosis of depression. Further work should

be done to explore the factors that influence the identification of depression in young adults and adolescents. Also, further work can be done to identify why these adolescents who have previously been seen by a mental health specialist are continuing to have symptoms without any treatment. This is especially concerning given the high amount of suicidality in this sample of symptomatic adolescents.

Limitations

Limitations to this study include the small sample size. This was a small sample due to the time limitation the investigator placed on the project but could easily be duplicated at the same site to obtain a larger sample. Another limitation was the lack of parental consent at this site. The results of this project may be different if parental consent was obtained and all adolescents coming to the SPOT were screened. It is unclear if these findings would be similar in other populations or with youth in the early to middle adolescent age group. The unique population of the SPOT is a limitation due to the higher proportion of LGBTQ youth who come for services. The SPOT is also an urban clinic serving mainly at-risk, largely minority, and uninsured youth. The results may not be generalizable for these reasons.

DNP Influence on APRN Practice

The topic for this project was identified through my interest in mental health and adolescents. At one of my clinic sites I screened adolescents using the PHQ-9 and had a surprisingly high number of youth with positive results. These youth did not appear on the outside to have depression nor did they come to the clinic seeking help for depression. I began looking more into what the recommendations and guidelines were for screening

youth for depression. I also asked myself why more providers were not screening youth and if they weren't, how easy would it be to implement the screening in their practice.

While working as an APRN I focused on the needs of my patients and how I could help them in their current and future health. However, working towards my DNP challenged me to look for changes that can be brought to my everyday practice not only at that individual patient level but at broader view. It pushed me to be current in my practice with new guidelines and treatments that can benefit my patients, the clinical site, and the overall health of the community. The DNP education taught me to look at everyone involved in the process of making a change. Implementing evidence-based guidelines into practice takes collaboration between many disciplines and the DNP education challenged me to look at all of the stakeholders involved and what they can bring to the change. The results of this project also provided me with further questions to challenge to researchers to look into further. This would promote a future collaborative project for a DNP and PhD prepared nurse.

This experience has changed the way I view medicine in general and the role of the APRN in practice. It makes me want to be an instrument of change for the medical community. With the new changes to America's health care, providers will need to be more holistic and comprehensive in the care of the patients. Through my DNP education I have learned to translate research that has been tirelessly conducted into everyday practice to improve the lives of the patients I care for.

References

- Agency for Healthcare Research & Quality (AHRQ). National Guideline Clearinghouse. Available from URL: www.guideline.gov
- American Academy of Child and Adolescent Psychiatry. Committee on Health Care Access and Economics: Task Force on Mental Health (2009). Improving mental health services in primary care: reducing administrative and financial barriers to access and collaboration. *Pediatrics*, 123(4), 1248- 1251.
- American Academy of Child and Adolescent Psychiatry (April 5, 2009). Shortage of child and adolescent psychiatrists reaches crisis point. *Medical News Today*. Retrieved from <http://www.medicalnewstoday.com/releases/144968.php>
- American Academy of Child and Adolescent Psychiatry (July 2001). Practice parameter for the assessment and treatment of children and adolescents with suicidal behavior. *American Academy of Child and Adolescent Psychiatry*, 40(7), 24S-51S.
- Ayres, C. & Griffith, H. (2008). Consensus guidelines: improving the delivery of clinical preventive services. *Health Care Management Review*, 33(4), 300-307.
- Beck, A., Steer, R., & Garbin, M. (1988). Psychometric properties of the beck depression inventory: twenty give years of evaluation. *Clinical Psychology Review*, 8, 77-100.
- Belamarich, P., Gandica, R., Stein, R., & Racine, A. (2006). Drowning in a sea of advice: pediatricians and american academy of pediatrics policy statements. *Pediatrics*, 118(4), e964-e978.
- Birmaher, B., Brent, D. & the AACAP Work Group on Quality Issues (2007). Practice parameter for the assessment and treatment of children and adolescents with

depressive disorders. *Journal of the American Academy of Child and Adolescent Psychiatry*, 46(11), 1503-1526.

Cabana, M., Rand, C., Powe, N., Wu, A., Wilson, M., Abboud, P., & Rubin, H. (1999). Why don't physicians follow clinical practice guidelines? A framework for improvement. *Journal of American Medical Association*, 282(15), 1458-1465.

Cabana, M., Rushton, J., & Rush, J. (2002). Implementing practice guidelines for depression: applying a new framework to an old problem. *General Hospital Psychiatry*, 24, 35-42.

Cappelli, M., Clulow, M., Goodman, J., Davidson, S., Feder, S., Baron, P., Manion, I.,...McGrath, P. (1995). Identifying depression and suicidal adolescents in a teen health clinic. *Journal of Adolescent Health*, 16, 64-70.

Centers for Disease Control and Prevention (CDC). Web-based Injury Statistics Query and Reporting System (WISQARS) [Online]. (2007). National Center for Injury Prevention and Control, CDC (producer). Available from URL: www.cdc.gov/injury/wisqars/index.html

Centers for Disease Control and Prevention. Youth Risk Behavior Surveillance- United States, 2007. Surveillance Summaries, June 6. MMWR 2008; 57(No. SS-4).

Committee on Adolescence (2000). Suicide and suicide attempts in adolescents. *Pediatrics*, 105(4), 871-874.

Committee on Psychosocial Aspects of Child and Family Health and Task Force on Mental Health (2009). The future of pediatrics: mental health competencies for pediatric primary care. *Pediatrics*, 124(1), 410-421.

Eapen, V. & Crncec, R. (2012). Strategies and challenges in the management of adolescent depression. *Current Opinion Psychiatry*, 25, 7-13.

Flores, G., Lee, M., Bauchner, H., & Kastner, B. (2000). Pediatricians' attitudes, beliefs, and practices regarding clinical practice guidelines: a national survey. *Pediatrics*, 105, 496-501.

Foy, J. (2010). Introduction. *Pediatrics*, 125(3), S69-74.

Friedman, R. (2006). Uncovering an epidemic-screening for mental illness in teens. *The New England Journal of Medicine*, 2717-2719.

Goldsmith, S., Pellmar, T., Kleinman, A., Bunney, W. (2002). Reducing suicide: a national imperative. Washington DC: National Academy Press; 2002.

Gross, D. (2011). Improving child and adolescent health care quality: report from the pediatric health and health care quality measures committee of the institute of medicine. *Journal of Pediatric Health Care*, 25(6), 405-408.

Hagan, J., Shaw, J. & Duncan, P. (Eds.). (2008). Bright Futures: guidelines for health supervision of infants, children, and adolescents. (3rd ed.). Elk Grove Village, IL: American Academy of Pediatrics.

Hamrin, V. & Magorno, M. (2010). Assessment of adolescent for depression in the pediatric primary care setting: screening for depression in adolescents. *Pediatric Nursing*, 36(2), 103-111.

Health Resource & Services Administration (HRSA). (2010). Initial findings from the 2008 national sample survey of registered nurses. Washington, DC: US Government Printing Office.

Henke, R., McGuire, T., Zaslavsky, A., Ford, D., Meredith, L., & Arbelaez, J. (2008). Clinician-and organization-level factors in the adoption of evidence-based care for depression in primary care. *Health Care Management Review*, 33(4), 289-299.

Horowitz, L., Ballard, E., & Pao, M. (2009). Suicide screening in schools, primary care and emergency departments. *Current Opinion Pediatrics* 21(5), 620-627.

Lugtenberg, M., Burgers, J., Besters, C., & Westert, G. (2009). Why don't physicians adhere to guidelines recommendations in practice? An analysis of barriers among dutch general practitioners. *Implementation Science*, 4(54), doi:10.1186/1748-5908-4-54

Lugtenberg, M., Burgers, J., Besters, Han, D., & Westert, G. (2011). Perceived barriers to guideline adherence: a survey among general practitioners. *BMC Family Practice*, 12(98), 1-9.

Melnik, B. (2008). Igniting evidence based practice into medicine. (Health Care Education Conference Keynote Address), Tempe Mission Palms, Tempe, AZ.

National Association of Pediatric Nurse practitioners' Executive Board (2007). NAPNAP position statement on integration of mental health care in pediatric primary care settings. *Journal of Pediatric Health Care*, 21, 29A-30A.

Park, M., Macdonald, T., Ozer, E., Burg, S., Millstein, S., Brindis, C., & Irwin, C. (2001). Investing in clinical preventive health services for adolescents. San Francisco, CA: University of California, San Francisco, Policy Information and Analysis Center for Middle Childhood and Adolescence, & National Adolescent Health Information Center.

Rhodes, L., Genders, R., Owen, R., O'Hanlon, K. & Brown, J. (2010). Investigating barriers to implementation of the NICE guidelines for depression: a staff survey with community mental health teams. *Journal of Psychiatric and Mental Health Nursing*, 17, 147-151.

Sammer, C., Lykens, K., & Singh, K. (2008). Physician characteristics and the reported effect of evidence-based practice guidelines. *Health Services Research, 43*(2), 569-581.

Segal, D., Coolidge, F., Cahill, B., O'Riley, A. (2008). Psychometric properties of the beck depression inventory-II (BDI-II) among community-dwelling older adults. *Behavior Modification, 32*(1), 3-20.

Shain, B. (2007). Suicide and suicide attempts in adolescents. *Pediatrics, 120*(3), 669-676.

Teen Screen. National Center for Mental Health Checkups at Columbia University. (2009). Adolescent mental health checkups and health care reform: policy recommendations for making mental health checkups a standard of care for adolescents. New York, NY: Author.

Tylee, A. & Gandhi, P. (2005). The importance of somatic symptoms in depression in primary care. *Primary Care Companion of The Journal of Clinical Psychiatry, 7*(4), 167-176.

U.S. Census Bureau. (2011). The 2012 Statistical Abstract [Data file]. Retrieved from <http://www.census.gov/compendia/statab/2012/tables/12s0156.pdf>

U.S. Department of Health and Human Services (January 4, 2012). Healthy People 2020; Mental health and mental disorders. MHMD-1, 2, 4.1, 11.2 Retrieved from <http://healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicId=28>

U.S. Preventive Services Task Force (2009). Screening and treatment for major depressive disorder in children and adolescents: US preventive services task force recommendation statement. *Pediatrics, 123*(4), 1223-1228.

U.S. Preventative Services Task Force. Screening for Suicide Risk. (May, 2004)

<http://www.uspreventiveservicestaskforce.org/uspstf/uspssuic.html>

Wintersteen, M. (2010). Standardized screening for suicidal adolescents in primary care. *Pediatrics*, 125(5), 938-944.

Williams, S., O'Connor, E., Eder, M., & Whitlock, E. (2009). Screening for child and adolescent depression in primary care settings: A systematic evidence review for the US Preventive Services Task Force. *Pediatrics*, 123(4), e716-735.

www.teenscreen.org (2011)

Yarnall, K., Pollak, K., Ostbye, T., Krause, K., & Michener, J. (2003). Primary care: is there enough time for prevention? *American Journal of Public Health*, 93(4), 635-641.

Zuckerbrot, R., Cheung, A., Jensen, P., Stein, R., Laraque, D. (2007). Guidelines for adolescent depression in primary care (GLAD-PC): I. identification, assessment, and initial management. *Pediatrics*, 120e, e1299-e1312.

Appendix A: the patient survey

Appendix B: the provider survey

Appendix C: the plain language description

Appendix D: the PHQ-9 Questionnaire

Attachment A: Patient Survey

Patient ID: _____

*Race: Black White Asian Hispanic More than 1 race

*Gender: Male Female Transgender

*Sexuality: Straight Lesbian Gay Bisexual Queer

*Insurance: Medicaid Private Insurance No insurance

Please **circle** the answer that best describes your answer to the statement:

1. About how many minutes did it take you to complete the PHQ-9 questionnaire?

1-2 Minutes 3-5 minutes more than 5 minutes

2. I had enough time to complete the PHQ-9 questionnaire.

Strongly Agree Agree No Opinion Disagree Strongly
Disagree

3. I had enough privacy when completing the PHQ-9 questionnaire.

Strongly Agree Agree No Opinion Disagree Strongly
Disagree

4. I felt comfortable completing the PHQ-9 while waiting for my services.

Strong Agree Agree No Opinion Disagree Strongly
Disagree

5. I came to the SPOT today for mental health services.

Strongly Agree Agree No Opinion Disagree Strongly
Disagree

6. Before today, a medical provider told me that I have depression.

Strongly Agree

Agree

No Opinion

Disagree

Strongly

Disagree

Attachment B: Provider Survey

For staff use only:

Patient ID #:

Reason for visit: _____

Previous history of mental health disorders: Yes No

If Yes, diagnosis: _____

Under the care of a Mental Health Provider? Yes No Previously

Currently taking medications for depression? Yes No

*Insurance: Private Medicaid Uninsured

*PHQ-9 Score: _____

Score > or = to 11: Y/N

Question 12: Y/N

Question 13: Y/N

*How many minutes did it take you to score screening tool?

<5 min 5-10 min 10-15 min >20 min

*How many minutes did it take you to address the screening?

<5 min 5-10 min 10-15 min >20 min

*Referral if applicable: In house Out of house Other: _____

*Recommended resources if applicable:

MH Spec Psychiatry Case Management Soc. Support (GTO/TNC) Other: _____

*Recommendations for follow up if any: _____

*If PHQ-9 less than 11, did you have other concerns that prompted further mental health discussion; if so,

what were they:

Attachment C: Plain Language Description

Mental Health Screening Study Explanation

Project Title: **Mental Health Screening**

Investigator(s): **Kathryn Plax, MD, Lisa Isenberg MSN, RN, CPNP**

We are doing a research study. A research study is a special way to find out about something. We are trying to find out **how to make screening for a mental health problem, such as depression, easier to do in a medical office.**

If you decide that you want to be in this study, this is what will happen. **You will be given a short screening form to complete and then be asked to complete a short survey about that screening form. During your visit with the medical provider they will discuss your screening results. This will only occur one time. You may be contacted for a follow up phone call depending on your screening results.**

We want to tell you about some things that might hurt or upset you if you are in this study. **The screening form asks you about your mood and this may or may not be upsetting to you.**

We don't know if being in this research study will help you. But we hope to learn something that will help other people some day.

If you choose not to participate in this study, you will still receive services today.

When we are done with the study, we will write a report about what we found out. We won't use your name in the report.

Attachment D: the PHQ-9

**A Survey From Your Healthcare Provider —
PHQ-9 Modified for Teens**

Name _____ Clinician _____
 Medical Record or ID Number _____ Date _____

**Instructions: How often have you been bothered by each of the following symptoms during the past two weeks?
 For each symptom put an "X" in the box beneath the answer that best describes how you have been feeling.**

	(0) Not At All	(1) Several Days	(2) More Than Half the Days	(3) Nearly Every Day
1. Feeling down, depressed, irritable, or hopeless?				
2. Little interest or pleasure in doing things?				
3. Trouble falling asleep, staying asleep, or sleeping too much?				
4. Poor appetite, weight loss, or overeating?				
5. Feeling tired, or having little energy?				
6. Feeling bad about yourself — or feeling that you are a failure, or that you have let yourself or your family down?				
7. Trouble concentrating on things like school work, reading, or watching TV?				
8. Moving or speaking so slowly that other people could have noticed? Or the opposite — being so fidgety or restless that you were moving around a lot more than usual?				
9. Thoughts that you would be better off dead, or of hurting yourself in some way?				

10. In the **past year** have you felt depressed or sad most days, even if you felt okay sometimes? Yes No

11. If you are experiencing any of the problems on this form, how **difficult** have these problems made it for you to do your work, take care of things at home or get along with other people?
 Not difficult at all Somewhat difficult Very difficult Extremely difficult

12. Has there been a time in the past month when you have had serious thoughts about ending your life? Yes No

13. Have you **ever**, in your **whole life**, tried to kill yourself or made a suicide attempt? Yes No

FOR OFFICE USE ONLY Score _____

Used with Permission of the GLAD-PC Steering Group: www.GLAD-PC.org
 Source: Patient Health Questionnaire Modified for Teens (PHQ-9) (Author: Drs. Robert L. Spitzer, Janet B.W. Williams, Kurt Kroenke, and colleagues)