

PUBLIC HEALTH NURSE INTERVENTION FOR DEPRESSION SCREENING DURING
SEXUALLY TRANSMITTED DISEASE RISK ASSESSMENTS

Jessica Grimes

A project submitted to the faculty at the University of North Carolina at Chapel Hill in partial fulfillment of the requirements for the degree of Doctor of Nursing Practice in the School of Nursing

Chapel Hill
2018

Approved by:

Jean Davison

Susan Little

Mary Lynn Piven

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ABSTRACT

Jessica Grimes: Public Health Nurse Intervention for Depression Screening During Sexually Transmitted Disease Risk Assessments
(Under the direction of Jean Davison)

The United States Preventive Services Task Force (2016) recommends screening adolescents and adults for depression. Depression screening is important during sexually transmitted disease (STD) risk assessments due to the association between depression and STD risk behavior. STD Enhanced Role Registered Nurses (ERRNs) are ideally positioned to incorporate depression screening into STD risk assessments.

Purposes:

1. Expand the STD ERRNs' education to include an understanding of the association of depression with STD risk factors, be able to identify those at high risk for depression, and give them an evidence-based tool to screen for depression, thus enhancing the STD ERRNs' comfort and self-efficacy to screen for depression to facilitate evidence-based practice change in the clinical setting
2. Provide the STD ERRNs with a temporary policy addendum and depression screening guidelines to support them as they perform depression screens in the STD clinic

Methods: A Needs Assessment Survey was given to STD ERRNs to determine knowledge and practice gaps. A pilot educational course was provided to one local health department (LHD). A temporary policy addendum was created and granted to eliminate the policy barrier. The course,

pretest, and posttest were sent to all remaining STD ERRNs. Two follow-up surveys were sent to determine depression screening goal attainment, barriers, and supportive factors.

Results: The Needs Assessment Survey found a low percentage of STD ERRNs screened for depression due to time and policy barriers. Pilot LHD feedback included changes to the screening tool and development of an implementation timeline. The course showed an improvement in comfort levels with administering depression screens and reported improved knowledge of depression and risk for STDs. The follow-up surveys showed that the majority of STD ERRNs were able to meet or exceed their depression screening goals, although some STD ERRNs experienced a time barrier related to the referral process.

Limitations: Limitations included the reliability/validity of the pretest and posttest test questions, self-report nature of the survey questions, and small sample size (Phase 1 n = 63; Phase 2 n = 35; Phase 3 1st follow-up n = 14, Phase 3 2nd follow-up n = 17).

ACKNOWLEDGEMENTS

I am grateful to have so many people to thank who contributed to my DNP project success. To my chair and committee members, I am inspired by all you have accomplished and am so grateful for the countless hours spent to make my project as successful as it became. Thank you, Drs. Jean Davison, Susan Little, and Mary Lynn Piven. Thank you to the North Carolina Division of Public Health Communicable Disease Branch, which eagerly supported me from the beginning and made this project possible. To my family, friends, and girlfriend, thank you for encouraging me through my challenging moments and celebrating with me during my successful moments. Finally, to my graduating class, I have learned so much from every one of you. My project would not have been possible without your support.

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LIST OF ABBREVIATIONS

AIDS	Acquired immunodeficiency syndrome
ANCC	American Nurses Credentialing Center
APA	American Psychiatric Association
CDC	Centers for Disease Control and Prevention
CES–D	Centers for Epidemiological Studies–Depression
CNE	Continuing Nurse Education
DON	Director of nursing
DNP	Doctor of Nursing Practice
DAST-10	Drug and Alcohol Severity Index
ERRN	Enhanced Role Registered Nurse
GAS	Goal Attainment Scale
HIV	Human immunodeficiency virus
IRB	Institutional Review Board
LGBTQ	Lesbian, gay, bisexual, transgender, queer and questioning
LHD	Local health department
MDD	Major depressive disorder
NC DPH	North Carolina Division of Public Health
PHQ-2	Patient Health Questionnaire–2
PHQ-9	Patient Health Questionnaire–9
STD	Sexually transmitted disease
SMART	Specific, Measureable, Attainable, Realistic, and Timely

TATP	Technical Assistance and Training Program
USPSTF	United States Preventive Services Task Force

CHAPTER ONE: INTRODUCTION

The increase in Sexually Transmitted Diseases (STDs) is a national epidemic. Jonathan Mermin, the director of the Centers for Disease Control and Prevention (CDC)'s National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, stated, "STDs are a persistent enemy, growing in number, and outpacing our ability to respond" (Centers for Disease Control and Prevention, 2017f). To reduce the risk of STDs, public health efforts typically focus on increased screening, early treatment, and reducing STD risk factors (such as intravenous drug use or unprotected sex). Depression is an additional risk factor that co-exists with other STD risks. Reducing the risk of STDs requires depression screening and treatment due to the close association between risk for STDs, risky behaviors, and depression (Jackson et al., 2015).

Depression and STDs are closely correlated. Young adults aged 18 to 25 are 60% more likely to suffer from depression than adults aged 50 and over (National Alliance on Mental Illness, 2017). Similarly, young adults are also at the greatest risk for STDs. Young adults ages 15 to 24 years old account for 25% of all sexually active individuals but make up 50% of the 20 million new STD cases that occur in the United States every year (Centers for Disease Control and Prevention, 2017). The close relationship between depression and STDs could be mediated by depression's effect on decision-making, leading to risky behaviors. Depressed people have difficulty making decisions, are less likely to use effective decision-making techniques, and have impaired intuition (National Alliance on Mental Illness, 2017; Leykin, Robers, and DeRubeis, 2011; Remmers, Topolinski, Dietrich, & Michalak, 2015). Impaired decision-making is a

particular problem for adolescents, as this is a developmental time period when they are developing advanced reasoning skills and beginning to think abstractly (Sanders, 2013).

The relationship between risky behaviors, depression, and the risk of contracting STDs can also be described through the Syndemic Framework. Parsons, Grov, and Golub (2012) state that a Syndemic Framework occurs when multiple risk factors compound in a synergistic fashion that increases the risk of developing a disease or increases the morbidity of a disease. Syndemic risk factors such as psychosocial health problems like depression or substance abuse compound the risk for developing STDs. Therefore, STDs disproportionately affect individuals who experience greater psychosocial issues and multiple risk factors together. To decrease the risk of STDs, public health efforts must target risky behaviors as well as depression due to their close correlation.

The Prevalence of STDs

Targeting STD risk factors (including depression) is important because of the continual increase in STDs. In 2016, over two million cases of chlamydia, gonorrhea, and syphilis were reported to the CDC, the largest number of STDs ever reported (Centers for Disease Control and Prevention, 2017f). From 2015 to 2016, chlamydia increased by 4%, gonorrhea by 18.5%, and primary and secondary syphilis by 17.6% (Centers for Disease Control and Prevention, 2017b). There are 20 million new STDs every year and half of these STD cases are aged 15 to 24. STDs cost the United States an estimated \$16 billion dollars annually (Centers for Disease Control and Prevention, 2017d).

North Carolina has the 6th highest rate of chlamydia, 5th highest rate of gonorrhea, and 8th highest rate of syphilis in the nation (Centers for Disease Control and Prevention, 2017e). From 2014 to 2016 the number of chlamydia, gonorrhea, and syphilis cases have increased every year.

Table 1 shows the increase in chlamydia, gonorrhea, and syphilis cases in North Carolina from 2014-2016 (North Carolina Department of Health and Human Services, 2016; North Carolina Department of Health and Human Services, 2017).

Table 1

Number of Chlamydia, Gonorrhea, and Syphilis Cases in North Carolina from 2014-2016

	2014	2015	2016
Chlamydia	49,956	54,384	58,078
Gonorrhea	14,970	17,049	19,724
Syphilis	1,137	1,886	1,894

Note. Information derived from the North Carolina Department of Health and Human Services, 2016; and the North Carolina Department of Health and Human Services, 2017.

The increasing rate of STDs increases the risk for contracting human immunodeficiency virus (HIV) because of similar risk factors and immunology; individuals infected with STDs are two to five times more likely to acquire HIV (Centers for Disease Control and Prevention, 2010). HIV affects 1.1 million people in the United States; out of these 1.1 million people, 1 out of 7 are unaware they are infected (Centers for Disease Control and Prevention, 2017a). The lifetime risk for acquiring HIV in the South is higher than any other region. In North Carolina, the lifetime risk for acquiring HIV is 1 out of 93. The CDC reports that this disparity could be due to the fact that the South is behind other regions in key HIV prevention and care indicators (Centers for Disease Control and Prevention, 2016b). As a result, people in the South are less likely to know they are infected with HIV, less likely to receive HIV care within three months of diagnosis, and more likely to die from acquired immune deficiency syndrome (AIDS). North Carolina did not meet the 2015 National HIV/AIDS Strategy goals to increase the knowledge of HIV status to

90% (North Carolina's rate was 87%) and reduce late-stage HIV diagnoses to 19.1% (North Carolina was at 24.6%) (Centers for Disease Control and Prevention, 2015).

STD Risk Factors

Factors that increase an individual's risk for contracting STDs include:

- Risky sexual practices such as unprotected sex, multiple sex partners, exchanging sex for drugs or money, sex with individuals who are STD-positive, or sex with partners who are unaware of their STD or HIV status;
- Drug use (particularly intravenous drug use and/or sharing needles); and
- Previous diagnosis of an STD.

Demographics that increase an individual's risk for contracting an STD:

- Low socioeconomic status such as poverty, low employment rates, low education levels, and/or homelessness;
- Minority race;
- Men who have sex with men;
- Sexually active persons aged 13 to 24 years old; and
- Incarceration.

(Office of Disease Prevention and Health Promotion, 2017; U.S. Department of Health and Human Services, 2017).

The Prevalence of Depression

Depression affects 7.6% of the United States population (Centers for Disease Control and Prevention, 2016c). The World Health Organization states that depression is the leading cause of disability in the world (World Health Organization, 2012). Even with the high prevalence of depression, many individuals with depression are not detected, preventing adequate mental

health treatment. Of those with severe depression, only 35% have had contact with a mental health professional in the past year (Centers for Disease Control and Prevention, 2014). The prevalence of depression creates a financial burden. In 2010, Greenberg, Fournier, Pike, & Kessler (2015) estimated that in the United States, depression accounts for an estimated \$210.5 billion each year in medical care costs due to suicide, loss of workplace productivity, and costs of comorbidities related to depression. To increase the recognition and early treatment of depression, the United States Preventive Services Task Force (USPSTF) recommends depression screening for all adolescents and adults (U.S. Preventive Services Task Force, 2016).

Depression Screening Recommendations

The USPSTF is an organization that reviews current evidence and makes recommendations to health care professionals. The USPSTF gives a Grade B recommendation to screen all adolescents and adults for depression, with additional screening for those at high risk for depression. A Grade B recommendation is a recommendation with “high certainty that the net benefit is moderate or there is moderate certainty that the net benefit is moderate to substantial” (U.S. Preventive Services Task Force, 2016). Screening should be conducted in settings with “adequate systems in place to ensure accurate diagnosis, effective treatment, and appropriate follow-up” (U.S. Preventive Services Task, 2016). Table 2 shows the USPSTF recommendations for adolescents and adults in further detail.

Table 2

USPSTF Depression Screening Recommendations

Age group	USPSTF depression screening recommendation	Grade	Date of recommendation
Adolescents	The USPSTF recommends screening for major depressive disorder (MDD) in adolescents aged 12 to 18 years. Screening should be implemented with adequate systems in place to ensure accurate diagnosis, effective treatment, and appropriate follow-up.	B	February 2016
Adults	The USPSTF recommends screening for depression in the general adult population, including pregnant and postpartum women. Screening should be implemented with adequate systems in place to ensure accurate diagnosis, effective treatment, and appropriate follow-up.	B	January 2016

Note. From the U.S. Preventative Services Task Force, 2016.

CHAPTER TWO: REVIEW OF LITERATURE

This literature review establishes the connection between depression and risky behaviors to illustrate the importance of depression screening for populations at risk for STDs. The literature review was conducted from January 2017 to May 2017 using the terms “risk* behavior*” AND “STDs/HIV” AND “depression” using the CINAHL and PubMed databases. Articles were included if they discussed the risk of HIV or STDs, risky behavior such as sexual risk behavior or drug use, were written in English, were focused on the United States or Canada, were conducted within the past five years, and had subjects 11 years or older. Articles were excluded if they were focused outside the United States or Canada, had pediatric subjects defined as ten years or younger, exclusively used HIV-positive people as subjects, or studied other psychiatric conditions besides depression. The CINAHL database produced 109 results and PubMed produced 333 articles, creating a total of 442 articles. PubMed does not include a geographical filter so this search limit could not be applied. Seventy-eight articles remained after the title screen. Thirty articles remained after the abstract screen. Two additional articles (Jackson, Seth, DiClemente, & Lin, 2015 and Mimiaga, 2015), found through the reference list of the other articles, were added to the literature review. In total, the literature review included 32 articles. Out of the 32 articles, 6 were selected for review in this paper: the six articles chosen had the highest quality of evidence and represented a variety of populations at risk for STDs and depression (Fendrich, Avci, Johnson, & Macksey-Amiti, 2012; Jackson, Seth, DiClemente, & Lin, 2015; Rogers, Lemstra, & Moraros, 2015; Storholm, Satre, Kapadia, Halkitis, 2016; Tross et al., 2015; Wilson, Stadler, Boone, Bolger, 2014).

Minority Stress Theory

As this literature review will show, minorities are disproportionately affected by STDs and depression. For example, African Americans make up 13% of the United States population but account for 45% of all new STD diagnoses (Centers for Disease Control and Prevention, 2016a). Similarly, the National Alliance on Mental Illness (2017) stated that African Americans were 20% more likely to suffer from serious mental health problems like suicide than the general population. Likewise, the lesbian gay bisexual transgender queer and questioning (LGBTQ) community is three times more likely to suffer from a mental illness than the general population. LGBTQ youth aged 10-24 are four times more likely to attempt suicide. The Minority Stress Theory is one way to elucidate the relationship between minorities, psychosocial health problems, and risky sexual behavior. The Minority Stress Theory states minorities are at an increased risk of psychosocial health problems, which affects risky sexual behavior. Minorities' increased risk is related to stigma, unequal treatment by health care professions, and discrimination they receive in the health care setting (Storholm, Satre, Kakpdai, & Halkitis, 2015). Therefore, it is important for all health care organizations, especially those that care for minorities, to include evidenced-based interventions that address the psychosocial needs of their most at-risk patients and be conscientious about any potential discrimination that could affect patient care.

Substance Abuse

Depression has long been associated with an increased risk of substance abuse disorders; when they occur together, they represent a dual diagnosis. Depression and substance abuse have a synergistic effect. A person with depression may seek out drugs or alcohol in efforts to relieve depression, or a person who drinks alcohol or uses other central nervous system depressants may

experience the sadness and hopelessness that leads to depression (DualDiagnosis.org, 2017). In the context of populations at risk for STDs, depression and substance abuse together increase risky behaviors and therefore increase the risk of contracting STDs. Jackson, Seth, DiClemente, and Lin (2015) performed a study among 701 African American female adolescents and found that depressive symptoms and substance abuse together significantly increased the likelihood of risky sexual behaviors over the course of two years. Adolescents who were depressed and used drugs were also more likely to acquire sexually transmitted diseases. Similar results are seen in the older-age population. Tross et al. (2015) studied drug use in 1,258 adult patients in outpatient substance abuse treatment programs using the Drug and Alcohol Severity Index (DAST-10). The purpose of the study was to compare DAST-10 scores with unprotected sex with primary and non-primary partners and unprotected sex when drunk or high. Results showed a statistically significant difference in unprotected sex with primary and non-primary partners when the DAST-10 score increased. With each standard deviation increase in DAST-10, unprotected sex while drunk or high increased by 23%. For injection drug users, unprotected sex while high increased by 78%.

Given that depression is strongly associated with substance abuse, mental health interventions for depression could decrease sexual risk behavior (Tross et al., 2015). Reducing the risk of STDs requires depression screening and treatment due to the association between substance abuse, depression, and the risk of STDs (Jackson et al., 2015).

Risky Sexual Behaviors

Risky sexual behaviors are also associated with depression. As part of the Chicago Male Drug Use and Health Survey, Fendrich, Avci, Johnson, & Macksey-Amiti (2012) used a sample cohort of 216 men who have sex with men and found that participants who had the highest level

of depression, as measured by the Centers for Epidemiological Studies–Depression (CES–D) screen, were 5.7 times more likely to engage in both receptive and insertive unprotected anal intercourse with a serodiscordant partner. At Columbia University, researchers Wilson, Stadler, Boone, and Bolger (2014) sampled STD-positive men weekly for six weeks to measure the number of unprotected anal intercourse episodes with a corresponding CES–D. This study found that the severity of depression correlated with the number of unprotected sexual encounters.

The relationship between depression and risky behaviors expands outside of the United States. In Canada, Rogers, Lemstra, and Moraros (2015) completed a study examining the behaviors of sex trade workers, men who have sex with sex trade workers, people living with STDs, populations at risk for contracting STDs, and men who have sex with men. Participants completed the CES–D depression screening tool and a risk behaviors assessment that included questions about drug use and trading sex for money. Results showed that injection drug use significantly increased the risk of depression. In addition, 84.6% of sex trade workers were identified as depressed based on the CES–D screening tool. Sex trade workers who were depressed were more likely to have a low self-efficacy for sexual health practices such as using a condom with clients or other partners. Furthermore, the severity of depression correlated with a greater probability of sexual risk episodes.

Risky sexual behaviors such as unprotected sex or sex for drugs or money are associated with depression. Due to this relationship, it is necessary to treat depression as a risk factor for contracting STDs and screen for it during STD risk assessments. Preventive health programs that aim to reduce the risk of STDs must conduct depression screenings and provide mental health treatment to reduce the risk of exacerbating risky sexual behavior (Fendrich et al., 2012).

People Living with HIV

Depression is a risk factor not only for populations at risk for STDs but also for people living with HIV. People living with HIV are more likely to be depressed. In the United States, 7.6% of adults suffer from depression compared to 20 to 30% of adults with HIV who suffer from depression (CDC, 2016; Bess et al., 2013). Despite this knowledge, people living with HIV are less likely to be screened for depression (Bess et al., 2013).

Depressed people with HIV are less likely to be adherent to antiretroviral medications, increasing the risk of HIV transmission (Bess et al., 2013; Sin & DiMatteo, 2014). The odds of a depressed person with HIV adhering to antiretroviral medications is 83% higher if he or she is treated for depression (Sin & DiMatteo, 2014). People with HIV and depression have a higher morbidity and mortality rate than people with HIV and no depression (Adams et al., 2012).

CHAPTER THREE: PROBLEM STATEMENT

Depression increases the risk of contracting STDs because depression is associated with risky behaviors such as drug use, sexual compulsivity, unprotected sex, sex with sex workers, and/or sex for drugs or money. People who suffer from depression are more likely to engage in these risky behaviors and are thus at a higher risk for contracting STDs than those without depression (Storholm, Satre, Kapadia, & Halkitis, 2014). This quality improvement project is consistent with the USPSTF guidelines and the evidence demonstrating the close relationship between depression and risky behaviors because it directs clinicians to screen all populations at risk for STDs for depression and to refer them to mental health services as appropriate to reduce their risk of contracting STDs.

Project Setting

This Doctor of Nursing Practice (DNP) project focuses on the STD Enhanced Role Registered Nurses (STD ERRNs) who work in STD clinics in local health departments (LHD) in North Carolina. LHDs are comprised of a variety of clinics, such as the maternal health clinic, family planning clinic, and STD clinic. STD clinics are an ideal setting for this project because they serve populations at risk for STDs and see a larger male population that is not as prevalent in the other clinics.

Every LHD STD clinic has different policies, procedures, and documentation systems that have changed over time. Prior to 2014, mental health questions were included in the STD assessment. In 2014, these mental health questions were removed citing this reason (taken from 2014 meeting minutes):

If the LHDs have a plan in place as to what they will do if the patient endorses [mental health] issues, i.e. who to refer to and if suicidal/homicidal how to assure the patient either goes to the ED or get police involved, then it is a good idea to assess for mental health issues. But without a firm plan in place, [mental health questions] could do more harm than good and it is definitely a liability issue if you ask a question that elicits a response that suggests the patient is a danger to themselves or others, but then you do nothing about it.

The variations amongst STD clinics to include the barrier described above pose depression screening challenges for the STD ERRNs. One of this project's purposes is to address this challenge and promote practice change.

Project Population

The STD ERRNs are registered nurses who have completed additional training to screen, assess, and treat certain STDs based on standing orders, program policies, and protocols to serve populations at risk for STDs and decrease communicable STD rates. Currently, the requirements to become a STD ERRN include the basic education and training necessary to recognize signs and symptoms of depression, interpret depression screenings, and/or refer to mental health services if needed.

Project Purpose

Even though the STD ERRN certification course provides the STD ERRNs with basic depression knowledge, they may not consistently conduct depression screens for two probable reasons. First, they may not have a comprehensive understanding of the association between depression and the risk for STDs and thus the value of depression screening in their STD clinic. Second, their LHD's procedures, policies, or time constraints do not allow for easy incorporation of depression screens into the STD visit. To mitigate these barriers and promote practice change the purpose of this DNP project was to:

1. Expand the STD ERRNs' education to include an understanding of the association of depression with STD risk factors, be able to identify those at high risk for depression, and give them an evidence-based tool to screen for depression, thus enhancing the STD ERRNs' comfort and self-efficacy to screen for depression to facilitate evidence-based practice change in the clinical setting
2. Provide the STD ERRNs with a temporary policy addendum and depression screening guidelines to support them as they perform depression screens in the STD clinic

CHAPTER FOUR: THEORETICAL FRAMEWORK

To fulfill the project purposes, the ERRNs were given new knowledge to include evidence-based guidelines and had to transition this knowledge into practice. According to David Kolb's theory of experiential learning, learning requires reflective practice (1984). In order for new knowledge to transition into practice, learners must take and reflect on the concrete experiences from their everyday practice and then form, conceptualize, and test a new abstract concept in a new situation (Kolb, 1984). STD ERRNs have concrete experience in completing STD risk assessments. An evidence-based educational intervention required the STD ERRNs to reflect on their current practice and attempt to integrate a new concept into what they already knew. After the education, the STD ERRNs had the opportunity to incorporate the evidence-based education into their professional practice.

In addition to conceptualizing and testing a new theory into practice, STD ERRNs had to believe and have confidence in their ability to change their practice. Albert Bandura's (1994) theory of self-efficacy states that a person's perceived self-efficacy contributes to his or her ability to change their performance. One way to increase self-efficacy is through social persuasion. Social persuasion occurs when people are encouraged to believe or are convinced that they have the capability to succeed. When an individual's social persuasion increases, the individual is more likely to generate the personal motivation and effort to sustain a lasting change. The evidence-based education on depression screening was designed to persuade the STD ERRNs that they would have the capabilities to screen patients for depression because they would have the evidence-based tool and the knowledge to do so. This confidence was meant to

enable them to sustain the changes they made to their practice and consistently perform depression screens (Bandura, 1994).

Once in practice, the STD ERRNs needed to utilize Orlando's nursing process discipline theory in patient interactions. This theory describes the type and quality of an interaction necessary for the STD ERRNs to recognize the need to screen for depression. According to this theory, there are three components to each interaction between a nurse and a patient: the behavior of the patient, the reaction of the nurse, and the resulting nursing action to benefit the patient. A patient may state a chief complaint but have other unmet needs/problems that were not stated but must be addressed as well. It is up to the nurse to interpret these unmet needs, validate the needs with the patient, and take action to address the concerns (Faust, 2002). In the context of this DNP project, populations at risk for STDs present to STD ERRNs to receive screening for STDs. During the screening, STD ERRNs may identify high-risk behaviors associated with STDs and depression. However, patients may not explicitly state they are depressed or know that their risk behaviors are exacerbated by untreated depression. STD ERRNs are pivotal in this interaction because they have an opportunity to communicate concerns about high-risk behaviors for STDs or STDs associated with depression to the patient. If the concerns for depression are validated by the patient through a screening tool, STD ERRNs can take immediate action to connect the patient with mental health resources.

CHAPTER FIVE: PROJECT PLAN

Project Description

The goal of this project was to provide evidenced-based education to STD ERRNs about the association of depression with risky behaviors, offer an evidence-based screening tool to prepare STD ERRNs to screen and refer clients if necessary, and provide a temporary policy addendum and depression screening guidelines. In practice, STD ERRNs use a state-mandated Sexually Transmitted Disease Patient Assessment Form 2808 (Appendix 1) to guide patient visits that includes a sexual risk assessment. This sexual risk assessment does not include any depression screen such as the Patient Health Questionnaire-2 or PHQ-2 (Appendix 2).

The sexual risk assessment section of the STD Form 2808 asks the patient her or his number of sexual partners in the past sixty days, date of their last sexual encounter, number of sexual encounters in the past 2 weeks, number of sexual encounters in the past two weeks without using a condom, sex with the same sex, sex with a bisexual male, sex for drugs or money, sex with an intravenous drug user, sex with an STD positive partner, use of shared needles, and use of alcohol or intravenous drugs. Despite the association of depression with these risky behaviors, the form does not include a depression screen (Appendix 1). The USPSTF recommends depression screening for all adolescents and adults, with adequate systems in place to ensure accurate diagnosis and appropriate follow-up (U.S. Preventive Services Task Force, 2016). Thus, STD ERRNs should screen all adolescents and adults for depression using an evidence-based tool such as the PHQ-2, because the STD clinic patient population is at risk for STDs and therefore is also at risk for or may have depression. STD clinics see males more

frequently than the clinics providing family planning or maternal health services that typically conduct depression screens. If STD ERRNs conduct depression screens in the STD clinic, they will have a greater opportunity to screen a sub-population that is not as prevalent in the other LHD clinics.

Screening Tool

The Patient Health Questionnaire-2 (PHQ-2) and Patient Health Questionnaire-9 (PHQ-9) are two validated depression screening tools that are designed to screen (not diagnose) patients for self-reported depression symptoms, have a high sensitivity and specificity, and contain the same depression symptomology criteria as the Diagnostic and Statistical Manual of Mental Disorders Fifth Edition (DSM-5) published by the American Psychiatric Association (APA) (Kroenke, Spitzer, & Williams, 2003; Kroenke Spitzer, & Williams, 2001; American Psychiatric Association, 2013). The APA is the largest psychiatric association in the world and internationally respected for its classification and diagnostic criteria for many psychiatric conditions (American Psychiatric Association, 2013).

Patient Health Questionnaire-2

A significant barrier to depression screening in the STD clinic is time. The Patient Health Questionnaire-2 is the best screening tool to use in the STD clinic because of its brevity and ease of use. The PHQ-2 provides an initial depression screen but does not establish a diagnosis. It consists of two questions that ask the patient to self-report the frequency of depressed mood and loss of interest (anhedonia) over the past two weeks (Appendix 2). Responses are categorized into “not at all” for 0 points, “several days” for 1 point, “more than half the days” for 2 points, and “nearly every day” for 3 points. As a result, scores can range from 0 to 6. The higher the score, the greater the likelihood the patient has a depressive disorder. If a patient scores 3 or

greater, the clinician should refer the patient to mental health resources or could also follow up with the PHQ-9, which serves as a more comprehensive screening tool (Kurt, Spitzer, & Williams, 2003). The PHQ-2 is a valid screening tool because of its high specificity and sensitivity. If a patient scores equal to or greater than 3, there is a sensitivity of 83% and specificity of 92% for Major Depressive Disorder. A high specificity in depression screens is very important, as false positives can create an additional burden on under-resourced mental health services (Kroenke, Spitzer, & Williams, 2003).

Patient Health Questionnaire-9

If a patient scores 3 or greater on the PHQ-2, the clinician should connect the patient with mental health resources and/or administer the PHQ-9 (Appendix 3). The PHQ-9 serves as a more detailed screening tool and has the ability to monitor depression severity and response to depression treatment. The form consists of nine questions asking the patient if he or she has experienced anhedonia, depressed mood, trouble sleeping, poor appetite, feelings of worthlessness, difficulty concentrating, moving slower than usual or feeling more restless than usual, and thoughts of self-harm or suicide over the past two weeks (Appendix 3). As mentioned previously, the first two symptoms, anhedonia and depressed mood, are the questions from the PHQ-2. The PHQ-9 adds an additional seven symptoms to its screening tool. Responses are scored based on the number of days a patient experiences the symptom, in the same manner as the PHQ-2 scores responses. In the PHQ-9, scores can range from 0 to 27. Scoring and instructions for use are detailed in Appendix 3. Scores less than or equal to 4 indicate minimal depression, scores from 5-9 indicate mild depression, 10-14 moderate depression, 15-19 moderately severe depression, and 20-27 severe depression (Kroenke, Spitzer, & Williams, 2011). In clinical studies, Kroenke, Spitzer, and Williams (2011) tested the PHQ-9 in the primary

care setting in conjunction with a mental health professional interview and concluded that scores greater than or equal to 10 have a sensitivity of 88% and specificity of 88%, with an internal reliability Cronbach's α score of 0.89.

DSM-5, the PHQ-2, and the PHQ-9

The DSM-5 lists nine symptoms that detail depression diagnostic criteria. These nine symptoms are the same symptoms addressed in the PHQ-9. To aid in the diagnosis of depression, a patient must have a mental health professional interview, have five of the nine symptoms for the same two-week period and one of the following two symptoms: depressed mood or anhedonia—the same symptoms as on the PHQ-2. Thus, if a patient screens positive on the PHQ-2, he or she has fulfilled one of the DSM-5's three main indicators of depression. Together, the PHQ-2 and PHQ-9 are widely accepted and utilized tools for the STD ERRNs to use because of their high specificity and sensitivity and congruence with DSM-5 guidelines (American Psychiatric Association, 2013).

Plan for Depression Screening in the STD Clinic

The LHD STD clinics are busy and may not have enough time to conduct an entire PHQ-9 screen. To remedy this time barrier, this project recommended STD ERRNs use the PHQ-2 only. If positive, the STD ERRN would ensure that the final PHQ-9 question, how often have you had "thoughts that you would be better off dead or of hurting yourself in some way" was asked (Kroenke et al., 2011). A positive screen on the PHQ-2, with or without suicidal ideation, warranted a mental health referral. If an individual endorsed suicidal ideation, the STD ERRN would refer the patient to emergency services.

Design Plan

This project was completed in three phases:

1. Phase One: The STD ERRNs completed a voluntary Needs Assessment Survey to determine the STD ERRN's baseline knowledge, depression screening practices, and depression screening barriers.
2. Phase Two: The author of this project designed and offered an evidence-based Continuing Nurse Education (CNE) course about depression screening to the STD ERRNs to address their knowledge gaps, skills gaps, and the screening barriers they had identified in the Needs Assessment Survey. STD ERRNs completed a pretest and posttest before and after the course. The educational course was first piloted to a small group of STD ERRNs at one LHD. This pilot course was formatted in the same way as the final course to evaluate the quality of the CNE course, pretest, and posttest questions. After the pilot was administered at one local health department, the course was offered across the state of NC to all STD ERRNs.
3. Phase Three: The STD ERRNs who volunteered to participate in Phase 3 received two surveys spaced three weeks apart to evaluate their Specific, Measurable, Achievable, Realistic, and Timely (SMART) goal progress.

Timeline

- The proposal defense was completed on April 3, 2017.
- The proposal was submitted to IRB and the UNC graduate school after committee approval. This project received exemption notification from IRB approval on May 30, 2017 (Appendix 4).

- The Phase One memo to the LHD directors of nursing (DONs) and nurse supervisors was sent on June 11, 2017 (Appendix 5). Feedback was received by email immediately following (Appendix 6).
- The Needs Assessment Survey was sent on June 19, 2017 (Appendix 7).
- Two weeks following the dissemination of the Needs Assessment Survey, on July 3, 2017, the results were analyzed and adjustments were made to the CNE course, as applicable (Appendix 8).
- A temporary policy addendum was sent to two NC DPH branch heads for approval on August 29, 2017 (Appendix 9).
- The pilot of Phase Two occurred on September 19, 2017 at one local health department in central North Carolina.
- On September 25, 2017, an email was sent to all local health department DONs and nurse supervisors requesting support for the STD ERRNs to perform depression screening in the STD clinic (Appendix 10).
- The online course was disseminated to the STD ERRNs on October 1, 2017 (Appendix 11). Initially, they were given from October 1, 2017 to October 16, 2017 to take the course. This end date was later extended to October 30, 2017 to increase participation.
- The STD ERRNs were allotted two weeks from October 16, 2017, to October 30, 2017 to communicate with their DONs and nurse supervisors to determine the best way to proceed with implementing depression screens in their LHD.
- The STD ERRNs began screening on October 30, 2017.

- The first follow-up for all LHDs, other than the pilot LHD, was on November 20, 2017 (Appendix 12).
- The final follow-up for all LHDs, other than the pilot LHD, was on December 11, 2017 (Appendix 12).
- The follow-up was extended for the pilot group, as they needed additional time; the first follow-up for the pilot LHD was on December 18, 2017 (Appendix 12).
- The final follow-up for the pilot LHD was on January 8, 2017 (Appendix 12).

Ethical Considerations and Confidentiality

The author of this project completed the online training entitled Protecting Human Research Participants developed by the National Institutes of Health to ensure appropriate understanding and protection of the rights of human subjects. On May 30, 2017, this DNP project was reviewed by the University of North Carolina Office of Human Research Ethics, which determined that “this submission does not constitute human subjects as defined under federal regulations [45 CFR 46.102 (d or f) and 21 CFR 56.102(c)(e)(1)] and does not require Institutional Review Board (IRB) approval” (Appendix 4).

The following paragraphs detail the protections taken to ensure the ethical conduct and confidentiality of all participants prior to implementation.

The STD ERRN participants were contacted during the Phase One Needs Assessment Survey, the Phase Two CNE pretest and posttest, and the Phase Three follow-up surveys. The ethical considerations for Phase One were separate from the considerations for Phases Two and Three. Phases Two and Phase Three were combined because the participants who agreed to take the course were the same participants who completed the follow-up surveys.

During the Phase One Needs Assessment Survey, STD ERRNs were sent an email link to take a voluntary, anonymous survey. The email addresses were obtained from the North Carolina Division of Public Health (NC DPH) Public Health Nursing and Professional Development Unit and the Needs Assessment Survey was sent through the Public Health Nursing and Professional Development Unit on behalf of the DNP candidate. The first question stated “Thank you for voluntarily taking this survey. This is a Doctor of Nursing Practice project with the University of North Carolina at Chapel Hill School of Nursing. Your responses will be anonymous and data will be compiled so that your comments and responses will not be associated with your email or personal identifying information”; participants were then asked to enter their email addresses and the county they worked in. Results of the survey were analyzed without associating personal identifying information.

During Phase Two, the pretest and posttest results were secured separately from personal identifying information; STD ERRNs were not required to use this course as CNE but if they chose to do so, they followed the NC DPH Public Health Nursing and Professional Development Unit policy to receive the credit and obtained their CNE certificate through a link at the end of the posttest. If Phase Two participants wanted to be part of the follow-up survey, they volunteered their email for follow-up in the 2 surveys. The follow-up survey results were secured separately from personal identifying information.

CHAPTER SIX: PHASE ONE- NEEDS ASSESSMENT SURVEY

Methods

Memo to the Directors of Nursing and Nurse Supervisors

A memo was sent to the NC LHD directors of nursing (DONs) and the nurse supervisors. The LHD DONs and nurse supervisors oversee all STD ERRNs. The memo gave these administrators insight into the DNP project and offered them an opportunity to ask questions and give or receive feedback. The memo detailing the project's objectives and methodology was sent on June 11, 2017. A copy of the email and attached memo can be found in Appendix 5.

One nurse supervisor and five DONs responded to the email. The nurse supervisor stated there were no STD ERRNs practicing in her STD clinic. One DON stated she was in support of the project but unfortunately was resigning from her current position and therefore would not be able to participate. The second DON stated she would forward the email and memo to her clinical nurse managers to assess the availability of the STD ERRNs to participate in this project. The third DON had questions about the project procedures, which were directed to and answered by Dr. Susan Little, committee member and Director of Continuing Nurse Education for the NC Division of Public Health. The questions concerned support from other leadership within the STD clinics, the depression screening recommendations and screening tools, and where the education would take place. Two DONs responded with support for the project, citing their experiences with clients presenting to the STD clinics who would have benefited from mental health resources. See the emails with the project questions and project support from the DONs in Appendix 6. The DONs' names are removed from Appendix 6 for confidentiality.

Because the DONs and nurse supervisors were stakeholders and could provide needed support for successful implementation, their email responses were important to this project as they described both barriers and facilitators that could impact project implementation. The collective response from the LHD DONs showed that this is a needed behavioral health intervention that could improve the health of the STD clinic patients, but that there are policy barriers in regard to the current education and job requirements for the STD ERRNs. It was important to address these barriers in the CNE content to maximize the STD ERRNs' likelihood of changing their practice.

Needs Assessment Survey

Following the preparation memo sent to the DONs and nurse supervisors, the STD ERRNs were sent an email through the Public Health Nursing and Professional Development Unit on behalf of the DNP candidate on 6/19/2017 offering a survey in anticipation of the CNE course through the Qualtrics Survey Software. The survey accepted responses for two weeks, closing 7/3/17. Participants were incentivized by an offer to enter a drawing to win a \$50 retail gift card. This survey served as a needs assessment and obtained:

- Basic demographics of the participating STD ERRNs;
- LHD clinics' depression screening practices;
- The STD ERRNs' professional depression screening practices;
- The STD ERRNs' baseline knowledge of the association of risky behaviors with depression;
- The STD ERRNs' baseline self-efficacy and comfort level with administering depression screens;

- Barriers to screening for depression in the STD clinic. The Needs Assessment Survey is found in Appendix 7.

Results

The results of the Needs Assessment Survey were analyzed using descriptive statistics based on the participants' responses. Sixty three of 176 STD ERRNs from 45 health departments responded. The map below shows the four health department regions and corresponding counties. The county names printed in red represent where the survey participants worked as STD ERRNs.

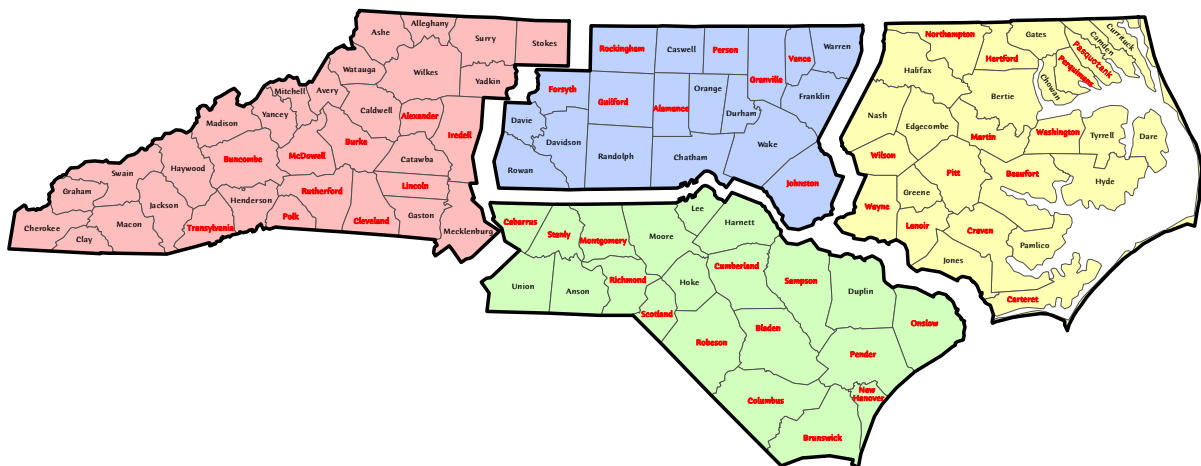


Figure 1. NC Communicable Disease Branch Health Department Regions. The county names printed in red represent the locations of the survey participants (NC Communicable Disease Branch, 2017).

The Needs Assessment survey population identified multiple barriers to screening for depression in the STD Clinic. Question 7 in Appendix 7 asked the STD ERRNs what barriers existed using a “select all that apply” format. Figure 2 shows the results (n = 59).

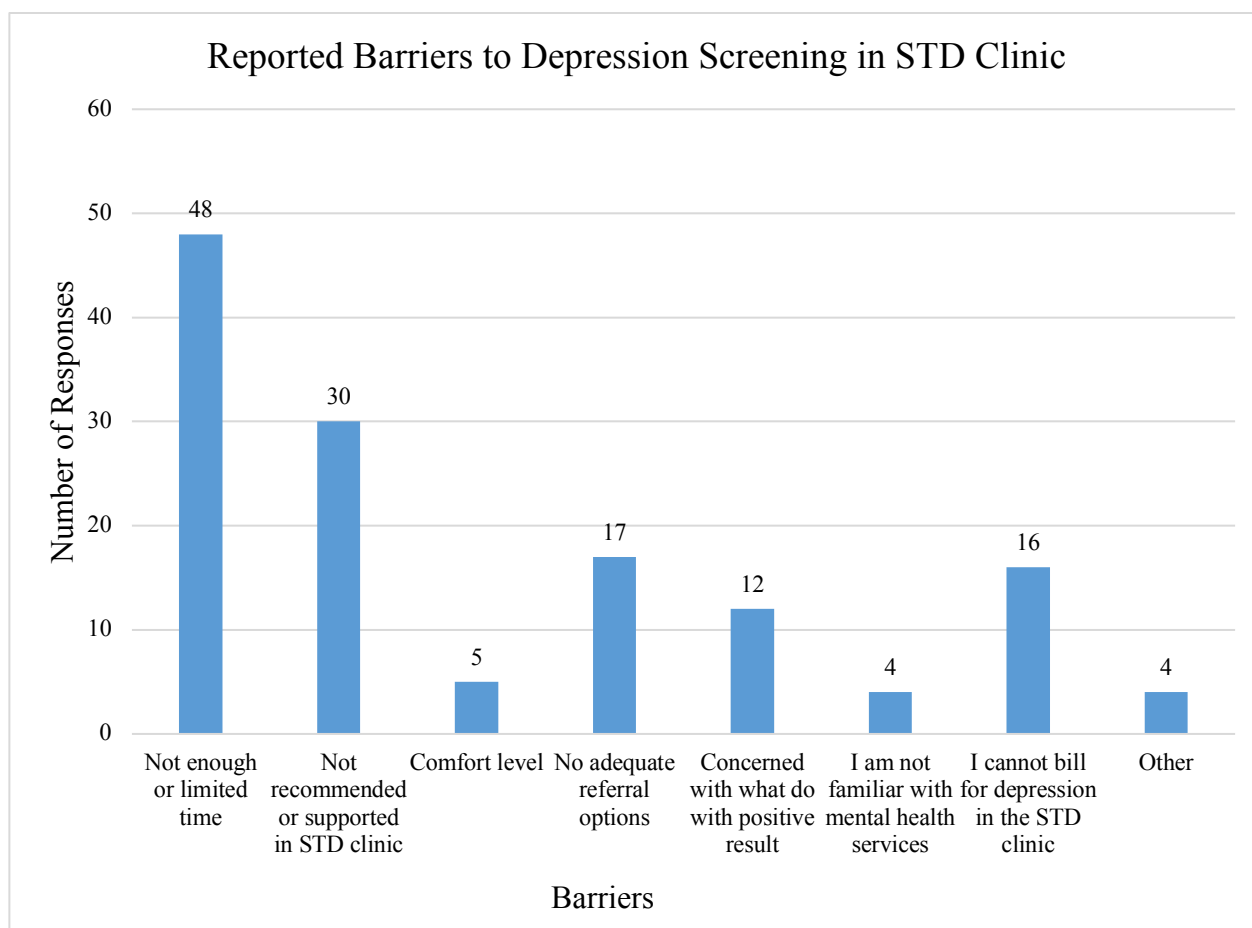


Figure 2. Question 7, barriers to screening for depression in the STD clinic as reported by the Needs Assessment Survey participants. The two most popular responses were lack of time and lack of support in the STD clinic.

The remaining survey responses were analyzed using cross tabulation. Groups of questions were set up to understand the correlation between different variables and to show how correlations changed from one variable grouping to another. For this survey, cross tabs compared the STD ERRN’s years of experience, how often the STD ERRN screened for depression, the average number of patients the STD clinics saw weekly, the STD ERRN’s comfort level with administering depression screens, and the STD ERRN’s understanding of the association between the risk of STDs and depression. The cross-tabulation tables are detailed in Appendix 8.

Sixty-one survey participants responded to question 6 in Appendix 7 as follows: 11%, or 7 out of 61, responded that they did not screen for depression at all, 38% (23/61) screened for depression in the women's health and prenatal clinics but not the STD clinic, 41% (25/61) screened for depression if the patient presented with signs and symptoms of depression, and 10% (6/61) responded they screened all patients for depression. If STD ERRNs indicated that they "screened for depression if a patient presented with signs or symptoms of depression", the signs and symptoms described in the question were as follows: apathy in regard to treatment of STDs, lack of social support, depressed mood, expressing feelings of hopelessness, self-care deficit, or changes in behavior, mood, or affect if they saw this patient on multiple occasions.

Table 3 shows the relationship between how often the STD ERRN screens for depression and the STD ERRN's years of experience.

Table 3

ERRN Years of Experience with Depression Screening Practices

	ERRN years of experience				Total
	0-1 years	1-2 years	3-4 years	5 years or more	
I personally do not screen for depression.	1 (11%)	2 (20%)	1 (8%)	3 (10%)	7 (11%)
I personally do not screen for depression in the STD clinic, but screen in women's health and/or prenatal clinics.	3 (33%)	2 (20%)	9 (75%)	9 (30%)	23 (38%)
I personally screen for depression if a patient presents with signs of depression.	2 (22%)	5 (50%)	2 (17%)	16 (53%)	25 (41%)
I personally screen all patients for depression regardless of subjective or objective signs of depression.	3 (33%)	1 (10%)	0 (0%)	2 (7%)	6 (10%)
Total number (n)	9	10	12	30	61

Thirty-three percent of STD ERRNs with 0-1 years of experience (n = 9) screened for depression in other clinics but not in the STD clinic or screened all patients for depression, 22% (2/9) screened if a patient had signs of depression, and 11% (1/9) did not screen for depression. For STD ERRNs with 5 years of experience or more (n = 30), the majority screened if the patient presented with signs and symptoms of depression (53% or 16/30), 30% (9/30) screened outside the STD clinics, 10% (3/30) did not screen, and 6% (2/30) screened all patients.

If a participant answered choice a or b to question 6 in Appendix 7 ("I personally screen for depression if a patient presents with signs of depression" and "I personally screen all patients for depression regardless of subjective or objective signs of depression"), they were asked how they screened for depression. Out of the STD ERRNs who screened all patients for depression

regardless of subjective or objective signs of depression ($n = 6$), 83% (5/6) used a validated screening tool and 17% (1/6) used their own questions– whatever questions they felt were most appropriate for the patient or situation. Out of the 25 STD ERRNs who screened if the patient presented with signs or symptoms of depression, 40% (10/25) used a validated screening tool and 60% (15/25) used their own questions. In total ($n = 31$), 48% (15/31) used a validated screening tool and 52% (16/31) used their own questions.

Question 8 in Appendix 7 asked the STD ERRNs how strongly they agreed to the following statement: “I am comfortable and confident in my ability to screen for depression and refer to mental health services if needed.” Fifty-nine responded to this question; 8% stated they strongly agreed, 56% agreed, 24% neither agreed nor disagreed, 10% disagreed, and 2% strongly disagreed. Table 4 shows the reported comfort level in conjunction with the STD ERRNs’ years of experience. Those with 5 years of experience or more were the most likely to agree with the statement that they were comfortable and confident in their ability to screen for depression and refer to mental health services if needed (66% or 19/29).

Table 4

ERRN Years of Experience with Comfort Level with Administering Depression Screens and Referring to Mental Health

“I am comfortable and confident in my ability to screen for depression and refer to mental health services if needed.”	ERRN years of experience				Total
	0-1 years	1-2 years	3-4 years	5 years or more	
Strongly disagree	0 (0%)	0 (0%)	1 (9%)	0 (0%)	1 (2%)
Disagree	1 (11%)	1 (10%)	1 (9%)	3 (10%)	6 (10%)
Neither agree nor disagree	2 (22%)	4 (40%)	4 (36%)	4 (14%)	14 (24%)
Agree	5 (56%)	5 (50%)	4 (36%)	19 (66%)	33 (56%)
Strongly agree	1 (11%)	0 (0%)	1 (9%)	3 (10%)	5 (8%)
Total number (n)	9	10	11	29	59

Table 5 compares comfort levels with depression screening practices.

Table 5

ERRN's Comfort Level with Administering Depression Screens and Referring to Mental Health with Depression Screening Practices

	"I am comfortable and confident in my ability to screen for depression and refer to mental health services if needed."					Total
	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	
I personally do not screen for depression.	0 (0%)	3 (50%)	3 (21%)	1 (3%)	0 (0%)	7 (12%)
I personally do not screen for depression in the STD clinic, but screen in women's health and/or prenatal clinics.	1 (100%)	1 (17%)	4 (29%)	12 (36%)	3 (60%)	21 (36%)
I personally screen for depression if a patient presents with signs of depression.	0 (0%)	2 (33%)	6 (43%)	15 (45%)	2 (40%)	25 (42%)
I personally screen all patients for depression regardless of subjective or objective signs of depression.	0 (0%)	0 (0%)	1 (7%)	5 (15%)	0 (0%)	6 (10%)
Total number (n)	1	6	14	33	5	59

STD ERRNs had differing screening practices based on their comfort level and confidence with screening for depression and referring to mental health when indicated. Of the STD ERRNs who stated they strongly agreed with the statement "I am comfortable and confident in my ability to screen for depression and refer to mental health services if needed" (n = 6), 3/5 (60%) did not screen for depression in the STD clinic and 2/5 (40%) screened if a patient presented with signs and symptoms of depression. None in the "strongly agree" (0% or 0/6) group did not screen or always screened for depression. Of the six STD ERRNs who

disagreed, 50% (3/6) did not screen for depression, 17% (1/6) did not screen in the STD clinic, 33% (2/6) screened if a patient presented with signs and symptoms of depression, and no STD ERRNs (0/6) screened all patients.

STD ERRN's screening practices also varied with their knowledge about the risk for STDs and depression, shown in Table 6. Question 12 in Appendix 7 asked the STD ERRNs their agreement with the following statement: "I understand the association between populations at risk for STDs/HIV and depression and can apply this concept into my role as an Enhanced Role RN". Fifty-eight participants responded. The majority of the participants (57% or 33/58) agreed with this statement. Of the STD ERRNs who strongly agreed with this statement (n = 7), none (0/7) replied they did not screen, 43% (3/7) screened outside the STD clinic, 43% (3/7) screened if the patient appeared to be depressed, and 14% (1/7) screened all patients. Of the 2 participants who disagreed with this statement one (50%) screened outside of the STD clinic and one (50%) screened if the patient presented with signs and symptoms of depression.

Table 6

ERRN's Understanding of the Association between STDs/HIV and Depression with Depression Screening Practices

	I understand the association between populations at risk for STDs/HIV and depression and can apply this concept into my role as an Enhanced Role RN.				
	Disagree	Neither agree nor disagree	Agree	Strongly agree	Total
I personally do not screen for depression.	0 (0%)	3 (19%)	4 (12%)	0 (0%)	7 (12%)
I personally do not screen for depression in the STD clinic, but screen in women's health and/or prenatal clinics.	1 (50%)	5 (31%)	12 (36%)	3 (43%)	21 (36%)
I personally screen for depression if a patient presents with signs of depression.	1 (50%)	5 (31%)	15 (45%)	3 (43%)	24 (42%)
I personally screen all patients for depression regardless of subjective or objective signs of depression.	0 (0%)	3 (19%)	2 (6%)	1 (14%)	6 (10%)
Total number (n)	2	16	33	7	58

Table 7 exhibits the relationship between the average numbers of patients seen per week in the STD clinic and the STD ERRN's depression screening practices.

Table 7

Average Number of Patients Seen per Week with Depression Screening Practices

	Average number of patients seen in STD clinic per week					
	1-5 patients	6-10 patients	11-15 patients	16-20 patients	21 patients or more	Total
I personally do not screen for depression.	0 (0%)	1 (8%)	0 (0%)	1 (14%)	5 (33%)	7 (11%)
I personally do not screen for depression in the STD clinic, but screen in women's health and/or prenatal clinics.	9 (47%)	5 (42%)	3 (38%)	2 (29%)	4 (27%)	23 (38%)
I personally screen for depression if a patient presents with signs of depression.	8 (42%)	(50%)	(38%)	(57%)	(27%)	5 (41%)
I personally screen all patients for depression regardless of subjective or objective signs of depression.	2 (11%)	0 (0%)	2 (25%)	0 (0%)	2 (13%)	6 (10%)
Total number	19 (31%)	12 (20%)	8 (13%)	7 (11%)	15 (25%)	61

Thirty-one percent (19/61) of respondents assess an average of 1-5 STD patients per week, 20% (12/61) see 6-10 patients per week, 13% (8/61) see 11-15 patients per week, 11% (7/61) see 16-20 patients per week, and 25% (15/61) see 21 patients or more per week. Of the nineteen STD ERRNs who see the smallest number of patients (1 to 5 per week), 47% (9/19) do

not screen in the STD clinic, 42% (8/19) screen if a patient presents with signs of depression, and 11% (2/19) screen all patients. In the busiest clinics, with 21 patients or more per week, 33% (5/15) responded that they do not screen for depression, 27% (4/15) do not screen in the STD clinic, 27% (4/15) screen if a patient presents with signs of depression, and 13% (2/15) screen all patients.

Of the 6 out of 61, or 10%, of participants that reported screening all patients for depression regardless of the subjective or objective signs of depression, 83% (5/6) agreed with the statement that they were comfortable with screening for depression and 17% (1/6) stated they neither agreed nor disagreed. 50% (3/6) stated they agreed with the statement that they understand the association of risk for STDs/HIV with depression and can apply it to practice, 33% (2/6) neither agreed nor disagreed, and 17% (1/6) stated they strongly agreed.

In comparison, 7 out of 61 or 11% of the participants did not screen for depression. In this group, 57% (4/7) neither agreed nor disagreed, 29% (2/7) disagreed, and only 14% (1/7) agreed with the statement that they were comfortable with screening for depression. Fifty-seven percent (4/7) agreed and 43% (3/7) neither agreed nor disagreed with the statement that they understood the association of risk for STDs/HIV and depression.

Analysis and Discussion of Needs Assessment Survey

The results of the Needs Assessment Survey highlighted the STD ERRN's practice and knowledge gaps, which were addressed in the development of the Phase Two CNE course. Three out of nine (33%) of the STD ERRNs with less than one year of experience screened all patients for depression and were the most likely group to screen all patients for depression compared to 2 out of 30 (6%) STD ERRNs with five or more years of experience. This may be interpreted to indicate that depression screening practices decrease as the STD ERRN gains more experience.

This could be due to a few reasons. Experienced STD ERRNs are further away from their training, which includes some information on depression so they may not be as comfortable screening for depression as new STD ERRNs. They also could have a deeper understanding of barriers or have had bad experiences with screening for depression and referring to mental health resources, which could have decreased the experienced STD ERRNs' likelihood that they would screen for depression.

Only 10%, or 6 out of 61, survey respondents reported screening all patients for depression as part of their everyday practice. Of those who screened all patients for depression, 50% (3/6) of STD ERRNs had 0-1 years of experience, 17% (1/6) had 1-2 years of experience, 0% (0/6) had 3-4 years, and only 33% (2/6) had 5 years or more. Despite this, 76% (22/29) of STD ERRNs with 5 or more years of experience reported that they agreed or strongly agreed with the statement that they are comfortable and confident in their ability to screen for depression. This shows that despite the comfort level the experienced STD ERRNs report, there may be different barriers, depending on the LHD, that inhibit depression screening, such as policy or time limitations. The participants identified time as the top barrier and "depression screening is not recommended or supported in the STD clinic" as the second most common barrier. The NC DPH does not currently have a policy dictating how the STD ERRN should screen for depression. A lack of policy to support depression screening in the STD clinic could make the STD ERRN unsure of how to proceed in screening, documentation, and referral of patients who are depressed. If the STD ERRN chooses to go outside of the job duties and responsibilities dictated by policy, they could be liable for the consequences of their decision. An STD ERRN with more years of experience could be more familiar with the organizational structure and policy of their LHD, which may make them less likely to step outside of these

boundaries. STD ERRNs may also not have enough time to complete a depression screen. Even though the screen itself does not take a lot of time to administer and interpret, a positive screen would lengthen the appointment time because the STD ERRN would then need to make time to refer the patient to mental health resources.

There was a positive correlation with comfort level and STD ERRNs who always screened for depression. Seven percent (1/14) of STD ERRNs who neither agreed nor disagreed about their comfort level always screened for depression, in comparison to 15% (5/33) of STD ERRNs who agreed that they were comfortable screening for depression.

There was not a strong correlation between STD ERRNs who stated they “[understood] the association between populations at risk for STDs/HIV and depression and [could] apply this concept into [their] role as an Enhanced Role RN” and STD ERRNs that screened all patients for depression. Of the 7 STD ERRNs who strongly agreed with this statement, only 1 out of 7, or 14%, screened all patients for depression, and only 2 out of 33, or 6%, of STD ERRNs who agreed, screened all patients. Four out of thirty-three, or 12%, of STD ERRNs agreed but did not screen for depression. These data show that despite STD ERRNs strongly agreeing or agreeing with the statement that depression is associated with the risk for STDs/HIV, they were not using this knowledge in practice by screening all patients who presented to the STD clinic, demonstrating either a lack in complete understanding or difficulty applying this concept in practice. Also, STD ERRNs who did not have any opinion on the association of depression with STDs/HIV were the most likely not to screen, demonstrating that a lack of understanding can contribute to poor practice as well.

The average number of STD patients seen per week also had an effect on depression screening practices. The respondents who worked in the busier clinics were less likely to screen

for depression. Zero out of the 19 STD ERRNs that saw an average of 1-5 clients per week did not screen for depression, 1/12, or 8%, of STD ERRNs who worked in clinics with 6-10 clients did not screen, 0/8, or 0%, of STD ERRNs in clinics with 11-15 did not screen, 1/7, or 14%, of STD ERRNs who worked in clinics with 16-20 clients did not screen, and 5/15, or 33%, of STD ERRNs who worked in clinics with 21 patients or more did not screen for depression. The increasing likelihood that an STD patient would not be screened in busier clinics indicated that time was one barrier to conducting depression screens. Table 7 shows that time was not the only barrier. Only 2/19, or 11%, of STD ERRNs who worked in the least-busy clinic, seeing 1-5 clients per week, reported they screened all patients for depression.

Respondents who screened all patients were more likely to use a validated tool than respondents who screened based upon the presence of signs and symptoms of depression. Out of the STD ERRNs who screened all patients for depression regardless of subjective or objective signs of depression ($n = 6$), 83% (5/6) used a validated screening tool. Out of the 25 STD ERRNs who screened if the patient presented with signs or symptoms of depression, 40% (10/25) used a validated screening tool and 60% (15/25) used their own questions. It can be interpreted that an STD ERRN may be more likely to screen for depression by using a validated screening tool because the tool makes it easier to measure depression objectively or because the STD ERRN has a deeper understanding of depression, including the importance of screening with a validated tool. The respondents who screened if the patient presented with signs and symptoms but without a validated screening tool risked missing patients suffering from depression because their exam was highly subjective.

Limitations

Limitations of the Needs Assessment Survey include self-report and a small sample size. The survey questions required the STD ERRNs to subjectively report their depression screening practices and estimate the average number of patients the STD ERRN saw in the STD clinic per week. This information could be incorrect and, if so, would decrease the validity of the survey results. In addition, while 63 out of 176 STD ERRNs is a positive response rate when looking at the survey results as a whole, the cross tabs break this sample into much smaller groups for each question which makes generalizations about different groups of STD ERRNs difficult.

Conclusions

The Needs Assessment Survey was important to the success of this project because it helped to determine the learning needs that were incorporated into the course to optimize the likelihood that the learning and practice outcomes would be met. The course needed to address comfort level with depression screening and referring to mental health, the understanding of the association between STDs and depression, the need for an evidence-based screening tool, and how to address barriers such as time. Using cross tab analysis, trends showed, first, that the STD ERRNs who were more comfortable screening for depression and referring to mental health resources were more likely to screen for depression, but less than 50% used an evidence-based tool. In the course, STD ERRNs were provided with a thorough review of depression and evidence-based screening tool. Second, the reduced translation of knowledge between the risk for STDs and depression to depression screening practices showed that STD ERRNs would benefit from a review of the close relationship and impact that depression screens can have on reducing the risk of STDs. Third, a lack of recommendation or support was the second most common barrier. A temporary policy addendum was granted and provided to the STD ERRNs to

support them in implementing depression screens. Finally, since time was identified as a barrier to screening, particularly in the busier STD clinics, the course recommended using the PHQ-2 as an initial depression screen, with one follow-up question should the patient screen positive (“Are you having thoughts you would be better off dead or of hurting yourself?”). Teaching the use and importance of the PHQ-2 was needed, as more than half of STD ERRNs that did screen were not using a validated screening tool, which could potentially make screening longer and is subject to bias.

CHAPTER SEVEN: PHASE TWO – PILOT AND FULL IMPLEMENTATION OF A CONTINUING EDUCATION COURSE

In Phase Two the author of this project designed an evidence-based Continuing Nurse Education (CNE) course on depression screening, drafted a temporary policy addendum, piloted the course with STD ERRNs at one LHD in central NC, and disseminated the course to all North Carolina (NC DPH) STD ERRNs.

Continuing Nurse Education Content Planning

Course planning took place before the pilot. The course content was derived from the knowledge and skills gaps identified in the review of literature and the results of the Phase One Needs Assessment Survey (Appendix 13). The content was delivered using an online asynchronized training model in order to reach the target population, who work across the state. The knowledge and skills gaps were the foundation for the learning outcomes listed in the following section.

For the course to be approved for Continuing Nurse Education (CNE) contact hours, the course needed to be in compliance with the American Nurses Credentialing Center (ANCC) Commission on Accreditation criteria. The ANCC requires that the nurse planner document the learning gap, supporting evidence to validate the learning gap, educational needs, target audience, learning outcomes, description of the education provided, learner engagement strategies, criteria for successful completion, evaluation method, and the method by which the learners will demonstrate successful CNE completion and evaluation on the Activity Planning Table form (Appendix 14). The NC DPH required a Conflict of Interest Form (Appendix 14) to

ensure that the individual administering or planning the CNE does not have a commercial or financial interest in the content or planning of the course.

Learning Outcomes

There were three learning outcomes planned for this DNP project. After completing the CNE training and follow up, the learners were to have increased:

1. Their knowledge of the relationship between depression and the risk of STDs, as measured by a statistically significant increase in correct answers from the pretest at the beginning of the CNE to the posttest at the end of the CNE.
2. Their comfort level with administering depression screens and referring to mental health resources as appropriate, as measured by a statistically significant increase in comfort levels from the CNE pretest to the CNE posttest using a 5-point Likert scale.
3. Their progress on their individual SMART goal to increase depression screenings and refer to mental health services as needed, as measured by an improvement on the Goal Attainment Scale.

Temporary Policy Addendum

The NC DPH's policies support the STD ERRNs' roles and responsibilities. On the Needs Assessment Survey, the STD ERRNs identified a lack of recommendation or support for depression screening as the second most common barrier. Without a policy, there is no standardized or consistent request to screen for depression. In order for this project and the STD ERRNs to be successful, the STD ERRNs needed a temporary policy addendum to screen for depression in the STD clinics. The temporary policy addendum created was designed to be adopted or adapted by each LHD to optimize individualization and success. The author of this

project, committee member Dr. Little, and the STD nurse consultant for the southern region drafted the temporary policy addendum and sent it to the Technical Assistance and Training branch head and the Communicable Disease branch head for approval (Appendix 9). The Technical Assistance and Training branch head approved the policy without further questions. The Communicable Disease branch head approved the policy with three remarks. She asked what data would be collected, stated she was pleased the project was voluntary, and asked to see the mental health resources handout. The author of this project responded with a summary of the Phase Two methods and the mental health resources handout in Appendix 15. The temporary policy addendum was designed to be reviewed by the STD ERRNs and the STD ERRNs' leadership at their LHDs and later adopted or adapted as the LHDs saw fit.

Pilot

Methods

The purpose of the pilot was to evaluate the efficacy, quality, validity, and reliability of the course and pre/posttest prior to sending the final course and pre/posttest to all STD ERRNs. The pilot also provided an opportunity to receive feedback on the course and depression screening implementation plan.

The pilot took place on September 19, 2017, at one LHD in central NC. In attendance were the five STD ERRNs from the LHD, the clinic nurse manager, the Technical Assistance and Training Program (TATP) STD nurse consultant representing the southern region's health departments, committee member Dr. Little, and committee chair Dr. Davison. The TATP STD nurse consultants for the northern and eastern regions joined via conference call.

This LHD was selected for the pilot because they were willing to participate and had the highest number of STD ERRNs out of all LHDs. Four out of five, or 80%, of the STD ERRNs at

this LHD had 5 years or more experience, and one out of five, or 20%, had 1-2 years of experience. STD services at this LHD were available five days a week or more. Patients were screened for depression in the Family Planning, Maternity, Refugee, Child Health and Teen clinics but not the STD clinic.

On September 14, 2017, the five STD ERRNs were sent an email (Appendix 16) containing the link to the course, pretest (Appendix 17), posttest (Appendix 18), printout of the PHQ-2 (Appendix 19), list of mental health resources by county (Appendix 15), and a copy of the course slides (Appendix 13). The STD ERRNs were allotted time during their work day on September 15, 2017, to complete the course.

The course disseminated to the pilot group was in the same format as the final course. The course content is in Appendix 13. The course was developed using PowerPoint software accompanied by audio and video recording. STD ERRNs were given access to the course by following an online link that led them to the recording. The pretest and posttest were offered through the Qualtrics Survey Software.

The pretest consisted of 17 questions (Appendix 17). Questions 1-11 and questions 16-17 derived from the Needs Assessment Survey, asked for demographic data (questions 1-6), depression screening practices (questions 7 and 8), barriers to screening for depression (question 9), familiarity with mental health resources (question 10), shared risk factors between STDs/HIV (question 11), how well the STD ERRN understood the association between risk for STDs and depression (question 16), and the STD ERRN's comfort level with depression screening (question 17). The additional questions (12-15) were derived from the course content.

The pilot posttest (Appendix 18) included the same questions as the pretest, except for questions 5-9. Pretest questions 5-9 were not repeated in the posttest because these questions

asked for demographic and depression screening information that was obtained in the pretest. The posttest added questions 13-18. Question 13 asked the STD ERRNs to create a SMART goal, questions 14-16 asked questions required for all NC DPH CNE, question 17 asked the STD ERRNs for course feedback, and question 18 asked the STD ERRNs to enter their email addresses if they wanted to be a part of the voluntary follow-up surveys.

Pretest and Posttest Results

On pretest question 8, all five STD ERRNs stated they screened for depression if a patient presented with signs and symptoms of depression. Pretest question 9 asked the STD ERRNs what depression screening barriers existed in the STD clinic. One hundred percent of STD ERRNs stated time was a barrier, 2/5, or 40%, stated there were no adequate referrals to mental health services, and 2/5, or 40%, indicated they could not bill for depression screens in the STD clinic. Although 2/5, or 40%, stated that a lack of mental health resources was a barrier to depression screening in the STD clinic, only 2/5, or 40%, were familiar with the mental health resources available to their patients.

For the course-based knowledge questions (pretest questions 11-15 and posttest questions 6-10), all STD ERRNs got all questions on the pretest and posttest correct except for question 15 (posttest 10), “The PHQ-2 asks the following two questions.” Two out of five, or 40%, of STD ERRNs answered this question correctly on the pretest and 100% answered correctly on the posttest.

The STD ERRNs reported a greater understanding of the association between STDs and depression and a greater comfort level with depression screening from the pretest to the posttest. Pretest question 16 and posttest question 11 asked the STD ERRNs’ agreement with the following statement: “I understand the association between populations at risk for STDs/HIV and

can apply this concept in my role as an Enhanced Role RN.” The figure below shows the increase in STD ERRNs’ agreement from pretest to posttest (n = 5).

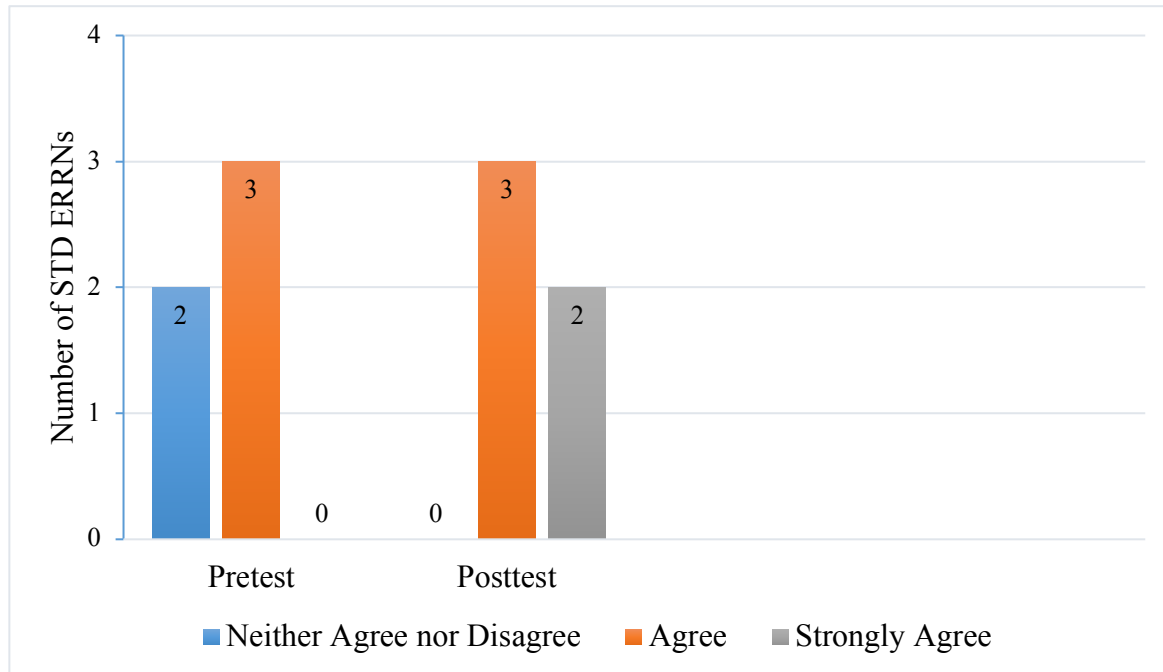


Figure 3. Comparison between STD ERRN’s agreement from pretest question 16 to posttest question 11. On the pretest, 2/5 (40%) neither agreed nor disagreed, 3/5 (60%) agreed, and nobody strongly agreed. On the posttest, nobody neither agreed nor disagreed, 3/5 (60%) agreed, and 2/5 (40%) strongly agreed.

Pretest question 17 and posttest question 12 asked the STD ERRNs their agreement with the following statement: “I am comfortable and confident in my ability to screen for depression and refer to mental health resources as necessary.” Figure 4 shows the increase in STD ERRNs who agreed and strongly agreed with this statement from pretest to posttest (n = 5).

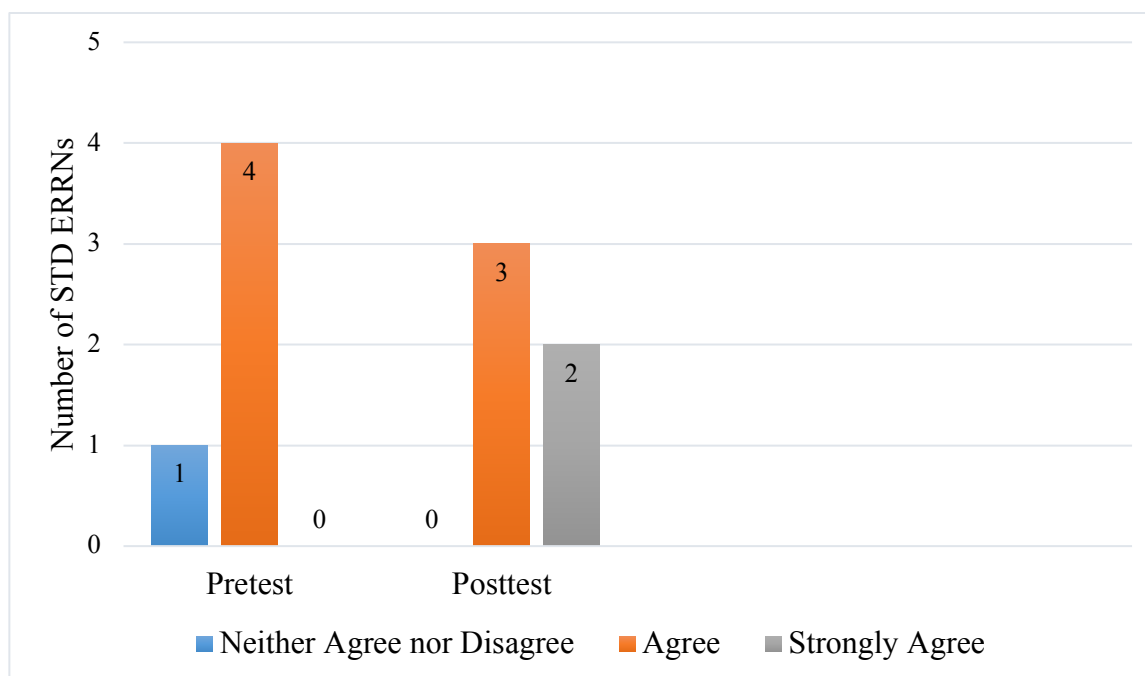


Figure 4. Comparison between STD ERRN’s agreement from pretest question 17 and posttest question 12. On the pretest, 1/5 (20%) neither agreed nor disagreed, 4/5 (80%) agreed, and nobody strongly agreed. On the posttest, nobody neither agreed nor disagreed, 3/5 (60%) agreed, and 2/5 (40%) strongly agreed.

Pilot Feedback

The STD nurse consultants and pilot STD ERRNs provided feedback and questions about the target learner population, the efficacy of the course and pretest/posttest, PHQ-2 handout, SMART goal follow-up, and the implementation process the LHDs should take to begin depression screening.

One pilot STD ERRN asked if other providers can take the course and participate in the follow-up because STD ERRNs are not the only providers who assess patients presenting to the STD clinic. It was explained that the target learner population for this DNP project were the STD ERRNs. The course can be viewed by any provider the LHD sees fit, however, the STD ERRNs are the only ones who can take the pretest, posttest, and two follow up surveys.

All STD ERRNs stated they felt the course was valuable, relevant, and pertinent to their

job roles. One STD ERRN pointed out she specifically appreciated the Needs Assessment Survey statistics that were placed in the course because it helped to highlight the gaps between knowledge and practice. The STD ERRNs were in agreement that the pretest and posttest questions were derived from the course, appropriate in difficulty, and able to gauge mastery of the course content.

The PHQ-2 handout for the pilot (Appendix 19) included the two questions from the PHQ-2. STD ERRNs were originally requested to ask the patient the final PHQ-9 question (“Have you had any thoughts that you would be better off dead or of hurting yourself in some way?”) if the patient got a score of three or above on the PHQ-2. After communicating with the pilot STD ERRNs, the PHQ-9 question was placed on the handout along with the PHQ-2 (Appendix 20). It was discussed that having this question next to the PHQ-2 questions would keep all of the screening questions and results in one place and ensure that this important PHQ-9 question was asked. For the PHQ-9 question, we decided to use a yes/no response rather than a score based on the number of days because we wanted to get mental health referrals for any patient experiencing suicidal thoughts. A yes/no response also increased simplicity, which would be ideal for a busy STD clinic.

Some of the STD ERRNs reported confusion on how to evaluate their SMART goal or thought they had to evaluate their goal using client data. In response, questions 13 and 18 of the pilot posttest were modified. Question 13 of the pilot posttest read:

Create a SMART goal to help you implement depression screens in the STD clinic. For example: “I will use the PHQ-2 to screen 60% of patients in the STD Clinic by one month.” To make sure your goal is a SMART goal, please write in how your goal is specific, measurable, attainable, relevant, and timely.

This question was rewritten as:

Create a SMART goal to help you implement depression screens in the STD clinic. For example: “I will use the PHQ-2 to screen 60% of patients in the STD Clinic by one month.” To make sure your goal is a SMART goal, please write in how your goal is specific, measurable, attainable, relevant, and timely. This goal does not have to be evaluated using actual client data. You can evaluate your goal based on your personal self-report or how well you think you are meeting your goal.

Question 18 of the pilot posttest read:

Please provide your email address if you are willing to be contacted via email twice over the next 4-8 weeks to follow up on your SMART goal progress and to answer any questions you may have or provide support. All participants will be entered to win a gift card.

Question 18 was rewritten as:

Please provide your email address if you are willing to be contacted via email twice over the next 4-8 weeks to follow up on your SMART goal progress and to answer any questions you may have or provide support. All participants will be entered to win a \$50 gift card. In the follow-up, you will be self-evaluating your progress on your goal and do not have to obtain real client data about how many patients you screen for depression. Your goal will be measured based on your subjective report of how many patients you believe you screened for depression.

The revised and final posttest disseminated to all STD ERRNs is in Appendix 21.

The final pilot feedback addressed the method by which LHDs should implement depression screening. Prior to the pilot, the plan was to ask the STD ERRNs to begin screening immediately after course completion. It was discussed that every LHD should be given an additional two weeks after course completion to develop an implementation process for their STD ERRNs to screen for depression. This process was important because every LHD has different capabilities, documentation systems, leadership, and policies that affect how their STD ERRNs would be able to screen. During the additional two weeks, the LHDs were asked to adopt or adapt the temporary policy addendum and determine the best way to document depression screens to meet the capabilities of their LHD. For example, the pilot LHD was able to add the depression screen with the STD assessment questions into their electronic documentation system

with relative ease. Other LHDs may have had documentation systems wherein adding a depression screen would be a tedious process; these LHDs may have had to document using the paper PHQ-2 provided (Appendix 20). A timeline was developed to allow the STD ERRNs time to take the course, assess how depression screens would best be implemented in their LHDs, develop a plan with their LHD leadership, and begin screening. This timeline was added into the PowerPoint presentation (slide 51) and recorded for the final course. The timeline discussed was as follows:

1. October 2 to October 16: Course open
2. October 16 to October 30: The STD ERRNs were asked to communicate with their DON and nurse supervisors to decide the best way to implement depression screens in their clinics (either through adopting or adapting the temporary policy addendum).
3. October 30: The STD ERRNs began depression screening.
4. November 20: The STD ERRNs were sent their first follow-up to measure their SMART goal progress.
5. December 11: The STD ERRNs were sent the final follow-up to measure their SMART goal progress.

The DONs and nurse supervisors were sent an email on September 25, 2017, with a course reminder and the new implementation timeline. This email was sent to facilitate conversations between leadership and STD ERRNs and to ensure leadership had adequate time to prepare for potential policy or process modifications (Appendix 10). Five DONs and 2 nurse supervisors responded to the email. Two DONs stated their LHDs were already performing depression screens in the STD clinics. One DON asked whether providers other than the STD ERRNs were expected or allowed to take the course; this question was answered as stated

previously. Another DON stated their sole STD ERRN could not participate due to other obligations. The final DON stated they had no STD ERRNs. The first nurse supervisor said she had an ERRN in the prenatal clinic and was informed this project targeted STD ERRNs. The last nurse supervisor asked how long the training would take and how many CNE hours the course provided.

Analysis and Discussion of Pilot

Other than posttest question 13 and 18, the rest of the pretest and posttest questions remained unchanged. The only addition to the course was the timeline that allowed for additional planning to foster successful implementation. As verbalized by the pilot STD ERRNs, the course was effective at meeting the learning objectives as evidenced by an increase in reported comfort level with screening for depression and reported knowledge of the association between STDs and depression.

The DONs' and nurse supervisors' feedback demonstrated the LHDs' variability in depression screening practices and staffing capabilities. This DNP project is important because it provides resources, support, and education to LHDs who are not routinely screening for depression. The feedback also confirms that time is a barrier, as indicated by the DON who stated their only STD ERRN had too many responsibilities and that time could not be allotted to take this course.

Limitations

This pilot was limited in its retrospective nature; STD ERRNs took the course four days prior to the day of the pilot, which could have caused the STD ERRNs to forget some of their feedback. The pilot could also have been expanded to include more than one LHD so as to incorporate more feedback of greater variety into the final course. Different LHDs have STD

ERRNs of varying demographics and years of experiences. At this pilot LHD, 80% of the STD ERRNs had five years or more of experience and therefore the feedback could have been in favor of an experienced STD ERN.

Finally, none of the course-based knowledge questions (pretest questions 11-15 and posttest questions 6-10) were modified for the final course, even though all pilot STD ERRNs answered pretest questions 11-14 and posttest questions 6-10 correctly. In retrospect, these questions should have been modified so that the course could exhibit a greater impact on any improved knowledge. If this course were to be used again in the future, the instructor should modify pretest questions 11-14/posttest questions 6-9 to see if the results would better demonstrate a change in knowledge as a result of the course. The pilot STD ERRNs could have all answered pretest 11-14 correctly because this group of STD ERRNs screened more often and reported greater comfort with screening than the Needs Assessment Survey participants. In the pilot group, 100% screened if a patient presented with signs or symptoms of depression; in the Needs Assessment Survey group, 41% screened with presenting symptoms and 10% screened all patients. The pilot STD ERRNs also reported greater comfort with depression screening than the Needs Assessment Survey participants. In the pilot group, 80% agreed with the statement that they were comfortable with screening; in the Needs Assessment Survey group, 56% agreed and 8% strongly agreed. Both of these statistics show that the pilot STD ERRNs were at a higher baseline comfort and skill level than the Needs Assessment Survey participants. While these factors could have played a role in the high number of correct answers, the questions still should have been modified.

Conclusions

The pilot was critical to the success of the course because the feedback was used to modify the course, posttest questions 13 & 18, PHQ-2 handout, and create an implementation timeline that optimized the project's opportunity for sustainability and success. In retrospect, knowledge pretest questions 11-14 should have been changed to make them more difficult to answer so as to test knowledge gain from taking the course.

Final Course Methods

Content

After incorporating feedback from the pilot, the final course content included:

- Results of the Needs Assessment Survey, to demonstrate the practice gap and need for this project education and practice change
- Statistics indicating the high prevalence of STDs with an emphasis on STD disparities
- The correlation between STDs and depression
- Statistics indicating the high prevalence of depression
- Depression: etiology, signs, symptoms, and management
- Mental health terminology
- Suicide risk factors and protective factors
- Management of psychiatric emergencies
- Mental health resources by county
- USPSTF depression screening guidelines
- How to perform depression screens using the PHQ-2 and PHQ-9
- Guidelines for performing depression screens in the STD clinic
- SMART goals

- Implementation timeline

The PowerPoint course slides can be found in Appendix 13.

SMART Goals

One of the outcomes of this DNP project was to increase the ERRN's self-efficacy and comfort when using depression screenings. To accomplish this outcome, the ERRNs who took the course were asked in posttest question 13 to set one individual SMART goal to improve the percentage of patients they screened for depression. A SMART goal is a goal that is Specific, Measurable, Attainable, Relevant, and Timely. The SMART goal is unique because the goal setter must think about a realistic goal that can be accomplished amongst preexisting barriers. The goal must be specific to the aim in mind, measurable, achievable given the setting, pertinent to the goal setter's job, and contain a specific end or reevaluation point. The SMART goal is unique for the STD ERRNs because it allows them to acknowledge screening barriers while setting an achievable goal to increase depression screening. This goal was a subjective self-report. The STD ERRNs were not asked to look in the patients' medical records to see if the patients they assessed were screened.

In the follow-up surveys (Phase 3), the participants were asked to evaluate their SMART goal progress using the Goal Attainment Scale (GAS). The GAS is a way to evaluate an individual's progress toward a goal. After the individual has set a goal, the individual will rate his or her progress using the GAS scores that range from -2 to +2. A score of zero indicates the person's set goal was met. A score of +1 means the goal was minimally exceeded, and +2 means the goal was moderately exceeded. In the same way, a score of -1 means the goal was minimally not met, and a score of -2 means the goal was moderately not met. The GAS scores enabled objective analysis of the SMART goals through a standardized approach (Pharmaceutical

Physician, 2014).

Dissemination

The online course was disseminated to the STD ERRNs on October 1, 2017 via email (Appendix 11). The email addresses were obtained from the NC DPH Public Health Nursing and Professional Development Unit, and the course email was sent through the Public Health Nursing and Professional Development Unit on behalf of the DNP candidate. The email to the course contained links to the pretest, posttest, and course as well as a handout of the PHQ-2, mental health resources, and PowerPoint slides. The course, pretest, posttest, and handouts were created as described in the pilot feedback and pilot discussion section. The course used PowerPoint slides with a video and audio voiceover. The pretest and posttest were delivered through the Qualtrics survey software. Initially, the STD ERRNs were given from October 1, 2017, to October 16, 2017, to take the course. This end date was later extended to October 30, 2017 to increase participation. Participants who took the pretest, course, and posttest were awarded 2 CNE contact hours eligible toward the annual ERRN CNE requirement.

Sample Population

Forty-three participants took the pretest. Four pretest participants did not complete the entire pretest and one participant took the pretest twice; these responses were discarded, leaving 38 pretest participants for analysis. Forty participants took the posttest. Three posttest participants took the survey twice and two did not complete; these responses were discarded, leaving 35 posttest participants for analysis.

Figure 5 shows the years of experience the STD ERRN participants reported on pretest question 3.

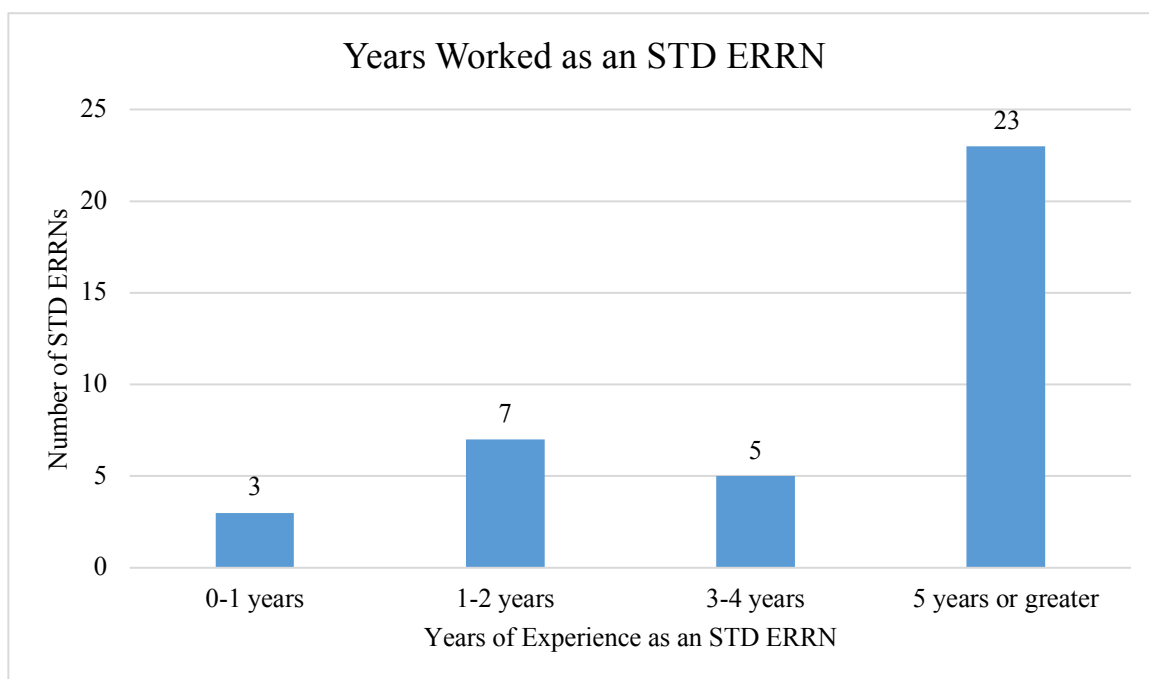


Figure 5. Pretest Question 3, the participants’ years of experience as an STD ERRN. Most participants had 5 years of experience or greater (23/38 or 61%). Eighteen percent (7/38) had 1-2 years; 13% (5/38) had 3-4 years; 8% (3/38) had 0-1 years of experience.

The LHDs varied in the number of days STD services were available and the average number of patients an STD ERRN assessed per week. Thirty-six out of thirty-eight, or 95%, worked at an agency with STD services available 5 days or more per week. Only 2/38, or 5%, of STD ERRNs worked at an agency with STD services available 1-2 days per week. The average number of patients an STD ERRN saw in the STD clinic per week was more varied. Figure 6 shows the results from pretest question 5, “What is the average number of patients/clients you assess as a STD ERRN in the STD clinic per week?”.

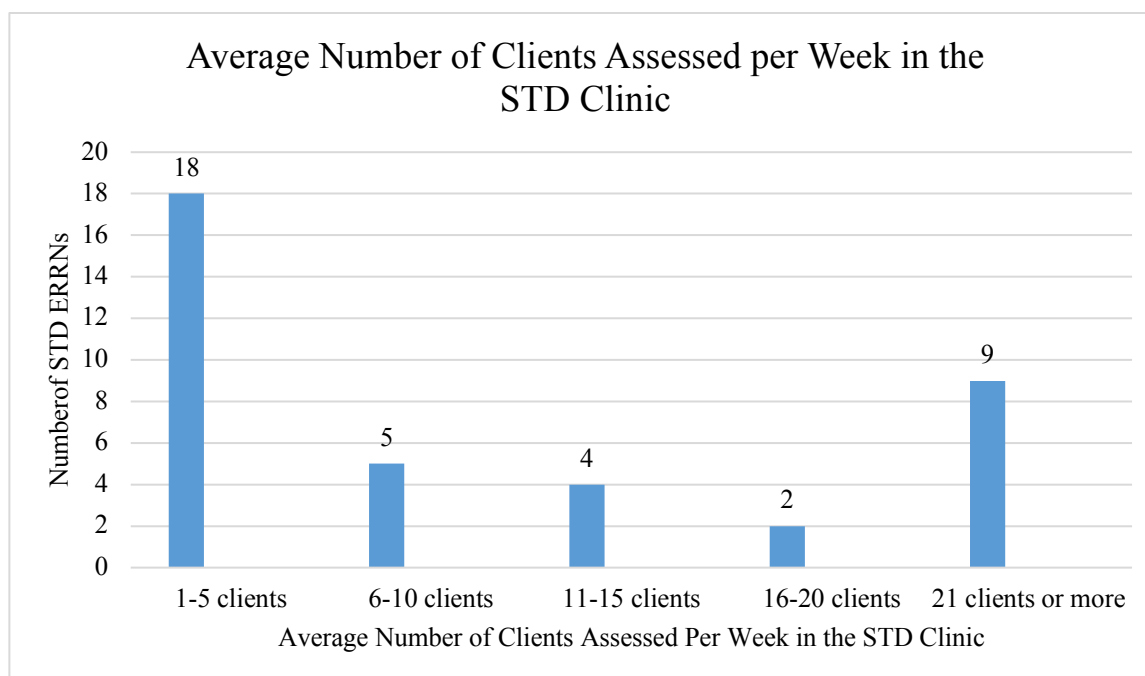


Figure 6. Pretest Question 5, the average number of clients assessed per week in the STD clinic. Eighteen, or 47%, saw 1-5 clients; 24% (9/38) saw 21 clients or more; 13% (5/38) saw 6-10 clients; 11% (4/38) saw 11-15 clients; and 8% (2/38) saw 16-20 clients.

Depression screening practices varied between agencies and within the participants' personal practice. Figure 7 shows the how often the participants reported their agency screened for depression (pretest question 7) and Figure 8 shows the participants' reported professional practice (pretest question 8).

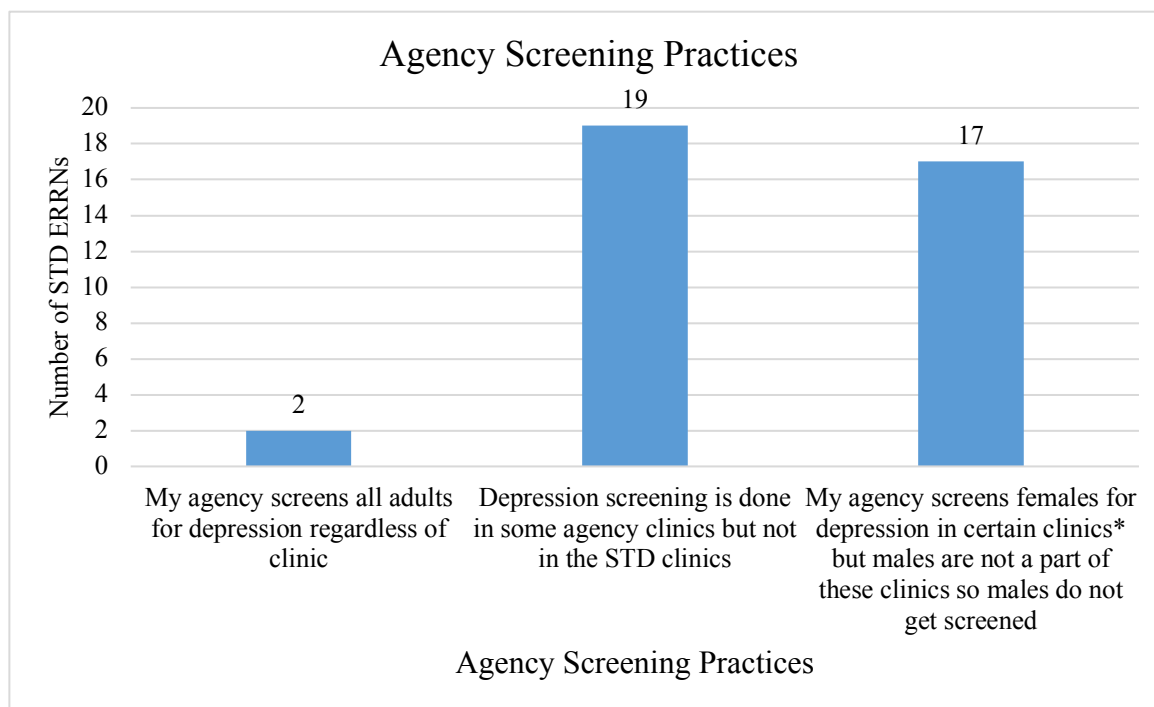


Figure 7. Pretest Question 7, how the participants reported their agency screened for depression. Nineteen out of 38, or 50%, reported their agency screened in some other agency clinics but not the STD clinic; 17/38, or 45%, screened females in certain clinics; and 2/38, or 5%, screened all patients regardless of clinic.

*Certain clinics refers to the prenatal clinic, women's health, family planning, and/or Breast and Cervical Cancer Control Program clinics.

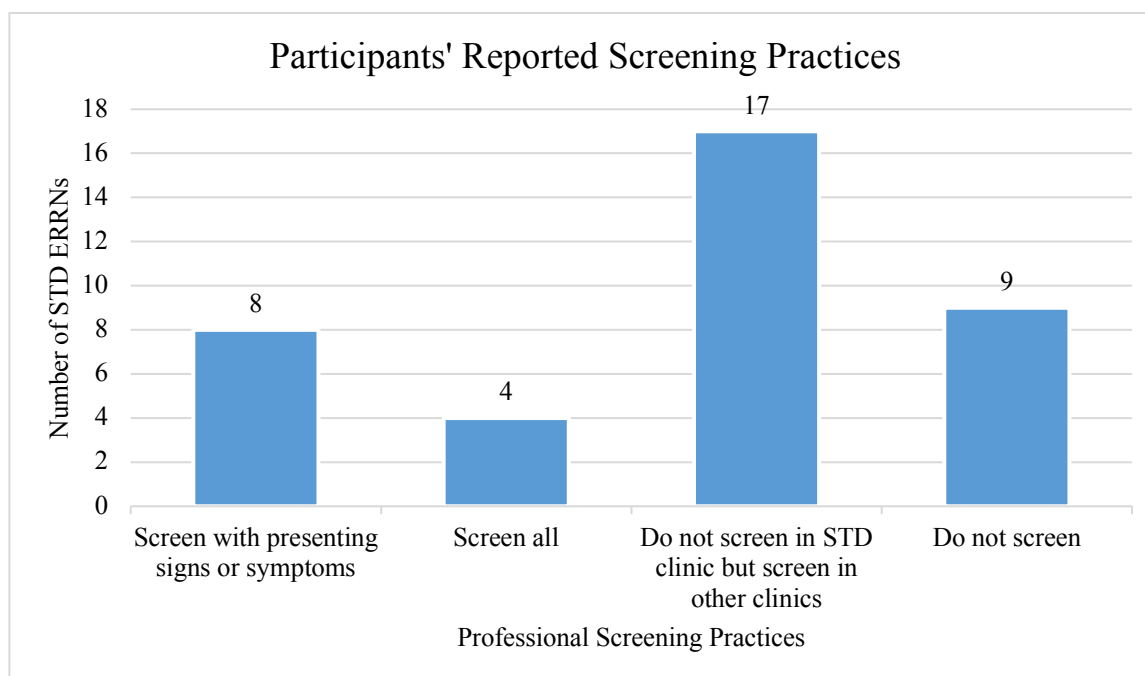


Figure 8. Pretest Question 8, the participants reported professional screening practices. Seventeen out of 38 (45%) STD ERRNs reported they did not screen in the STD clinic but screened in the women’s health and/or prenatal clinics. Nine out of 38, or 24%, stated they did not screen due to their comfort level, lack of mental health resources available, or because depression screening was not required on their LHD assessment forms. Eight out of 38, or 21%, reported they screened if a patient presented with signs or symptoms of depression. The smallest group, 4/38, or 11%, screened all patients regardless of subjective or objective signs of depression.

Twelve STD ERRNs reported screening in the STD clinic; this includes 8 STD ERRNs that stated they screened with signs or symptoms of depression and 4 STD ERRNs that screened all patients. These twelve participants were directed to a logic question stating “How do you screen for depression?” The results are detailed in Figure 9.

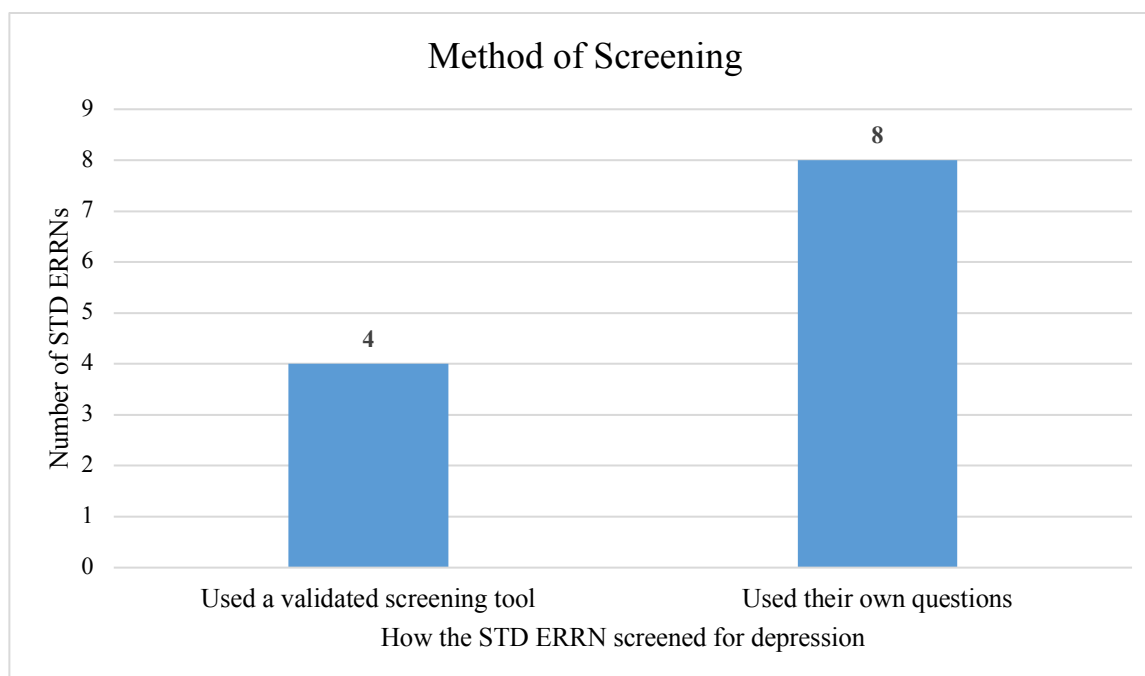


Figure 9. Logic question from pretest question 8, how do you screen for depression. Eight out of the 12, or 67%, screened using their own questions they felt were most appropriate for the patient or situation. Four out of 12, or 33%, used a validated screening tool.

Participants who reported they did not screen for depression ($n = 9$) were directed to a logic question from pretest question 8. This question was a “select all that apply” question asking why the participant did not screen for depression. All stated that depression screens were not required on their STD visit assessment forms, 2/9 (22%) stated they believed mental health referral options were limited should a patient screen positive, and 1/9 (11%) noted comfort level.

Pretest question 9 asked the participants to select any screening barriers from a list of commonly encountered barriers. Figures 10 and 11 compare barriers identified by the participants from the two most common clinics, those with STD ERRNs assessing 1-5 clients per week and those who assessed 21 clients or more.

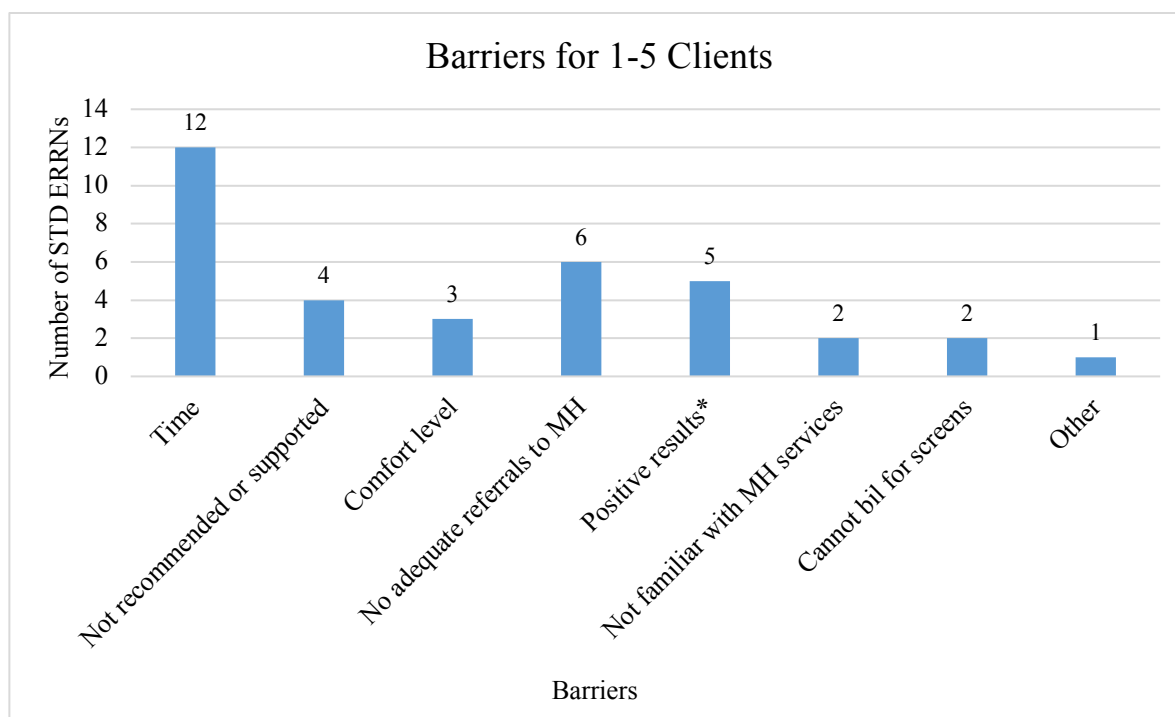


Figure 10. Pretest question 9, barriers STD ERRNs who assess 1-5 clients per week identified. MH = mental health.

*I am concerned with what to do if I get a positive result.

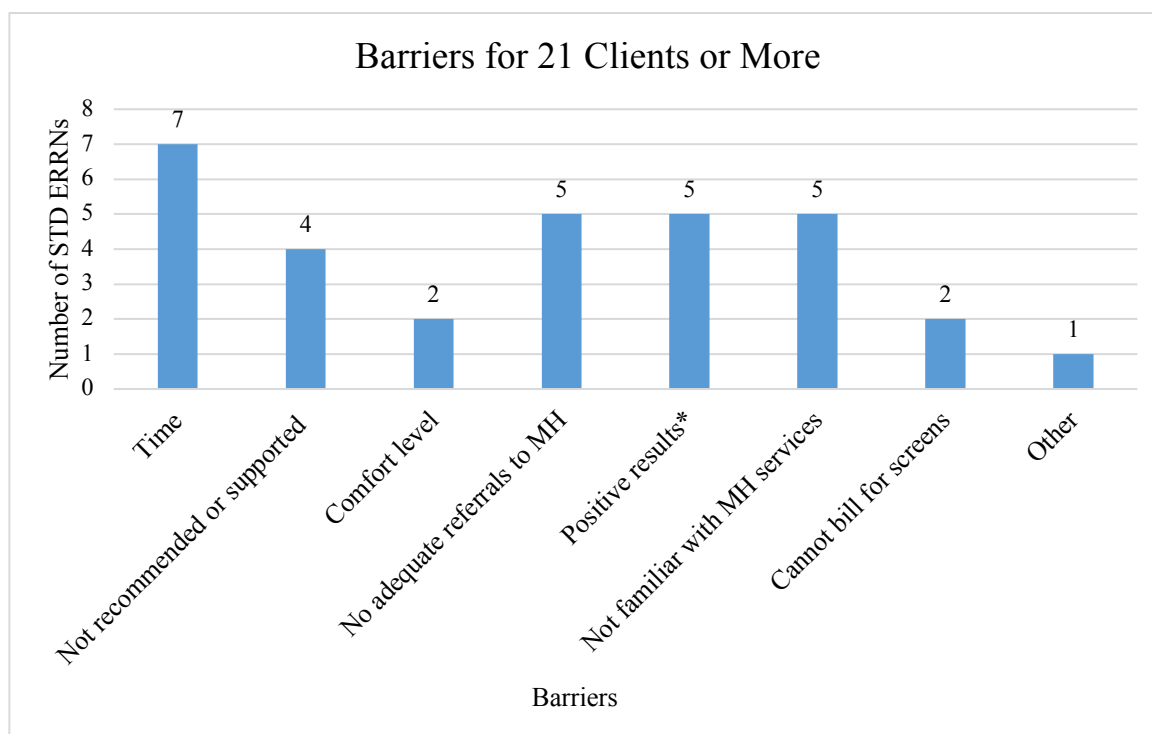


Figure 11. Pretest question 9, barriers STD ERRNs who assess 21 clients or more per week identified. MH = mental health.

*I am concerned with what to do if I get a positive result.

Pretest and Posttest Data

Pretest and Posttest Scores

The pretest and posttest contained the same five knowledge-based questions (pretest questions 11-15 and posttest questions 6-10). The pilot group did not take the course and pretest/posttest a second time. The data presented here is only from the general STD ERRN population participants. All questions (pretest questions 11-15 and posttest 6-10) were included in the analyses and each question was weighted equally. All data was analyzed using an alpha score of 0.05. If the p value was less than 0.05, the null hypothesis was rejected and the conclusion that the difference between the mean test scores was not due to chance was made. The STD ERRNs were given a score from 0-5 based on the number of correct answers. If the

STD ERRNs increased their score from pretest to posttest, they were given a number 1. If the STD ERRNs did not improve or got worse, they were given a 0.

The data was first analyzed using general statistics (Table 8) and then with a one-tailed, paired samples *t*-test to determine whether the scores improved from pretest to posttest (Table 9). These analyses were performed using SPSS software. The sample size (*N*) was 35 because paired *t*-tests require matched pairs and there were 3 extra participants in the pretest. Table 10 presents the binary logistic regression used to determine whether there was a correlation between years of experience, the average number of patients assessed each week, and personal screening practices with improvement on the posttest. This binary logistic regression was performed using SAS software. The sample size analyzed for the binary logistic regression was also 35 due to the 3 that did not complete the posttest. For analysis, the group with 3-4 years of experience had to be combined with the group with 5 years of experience or more because no STD ERRNs in the 3-4 year group improved, scoring a total of 0. This was done to avoid an appearance of missing data that would skew results.

Table 8

Pretest (questions 11-15) and Posttest (questions 6-10) Score General Statistics (N = 35)

	Mean	<i>N</i>	<i>SD</i>	Standard error mean
Pretest	3.89	35	0.72	0.12
Posttest	4.23	35	0.77	0.13

Table 9

Pretest (questions 11-15) and Posttest (questions 6-10) Score Analysis Using One-Tailed, Paired Samples t-Test (N = 35)

	Mean	SD	Standard error mean	95% CI	<i>t</i>	<i>df</i>	<i>p</i>
Posttest - pretest	0.343	1.056	0.178	-.02 - 0.71	1.92	34	.03

Note. CI = Confidence Interval.

Table 10

Improvement in Posttest Scores in Relationship to Additional Factors using Binary Logistic Regression (N = 35)

Improvement	Odds ratio	Standard error	Wald χ^2	$p > \chi^2$	95% confidence interval
Years of Experience as an STD ERRN (compared to 0-1 years)					
1-2 years	0.46	1.88	0.17	0.68	.01 – 18.11
3- 5 years or more	0.59	1.67	0.10	0.75	.02 – 15.50
Average Number of Patients Assessed Per Week (compared to 1-5 patients)					
6-10 patients	9.00	1.64	1.8	0.18	0.36 – 223.18
11-15 patients	0.70	1.50	.06	0.81	.04 – 13.17
16-20 patients	1.60	1.58	.001	0.97	.05 – 23.37
21 patients or more	0.30	1.38	0.77	0.38	.02 – 4.46
Personal Screening Practices (compared to those that do not screen for depression)					
Screen in clinics other than STD	4.09	1.50	0.89	0.35	0.22 – 76.93
Screen with signs of depression	1.02	1.85	0.0002	0.99	0.03 – 38.12
Screen all	7.00	2.04	0.91	0.34	0.13 – 378.07
Baseline odds		1.589	0.35	0.55	

Note: Number of observations = 35; likelihood ratio * $\chi^2(9) = 10.55$; probability $> \chi^2 = 0.31$

There was a statistically significant improvement between scores on pretest questions 11-15 ($M = 3.89$, $SD = 0.72$) to posttest questions 6-10 ($M = 4.23$, $SD = 0.77$), $t(34) = 1.922$, p value = .032. The binary logistic regression results indicated there was an insignificant

association between improvement on the posttest with STD ERRNs' years of experience, number of patients assessed per week, and personal screening practices ($\chi^2(9) = 10.55, p = 0.31$).

Mental Health Familiarity

Pretest question 10 and posttest question 5 asked the participants if they were familiar with the mental health resources available to their patients in their community. Responses could be “no,” “yes,” or “maybe.” The percentage of participants who were familiar with mental health resources increased from pretest to posttest; see Figure 12.

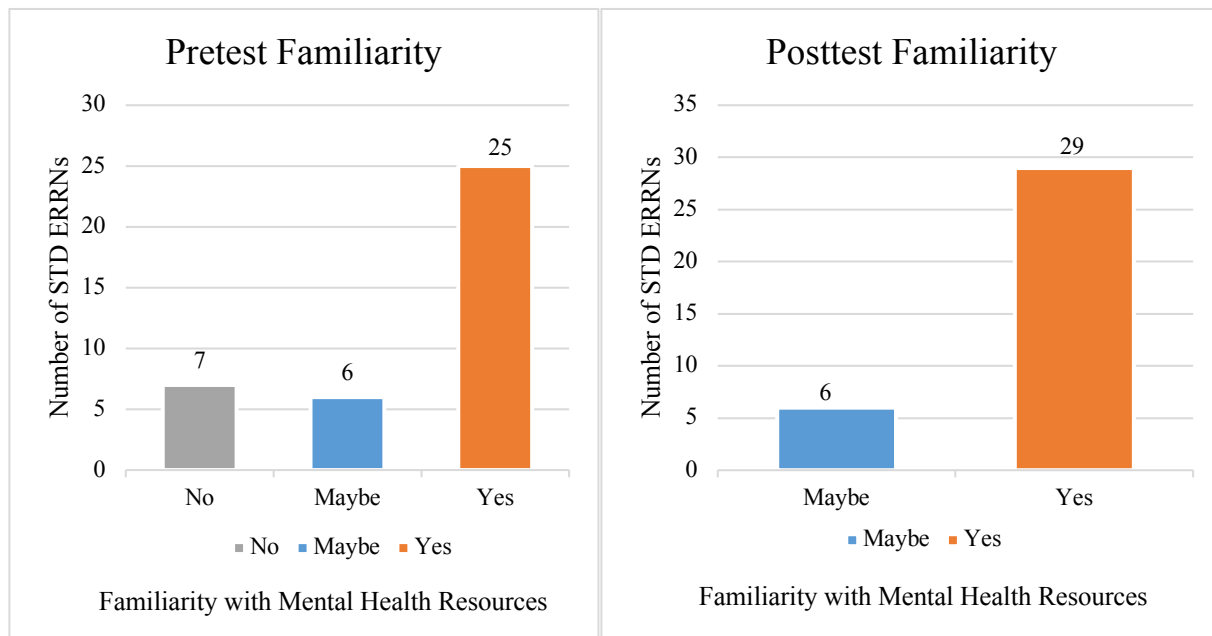


Figure 12. Differences in the familiarity with mental health resources between pretest and posttest participants.

Familiarity with mental health resources increased from pretest to posttest. This is a positive indicator of the course content based on the unfamiliarity barrier identified in the pretest. On the pretest 7/38, or 18%, stated they were unfamiliar with mental health resources and 25/38, or 66%, stated they were familiar. On the posttest, nobody stated they were unfamiliar, and 29/35, or 83%, stated they were familiar.

Change in Comfort and Knowledge

Participants responded to two sets of questions that asked about their comfort level and understanding of the course material. The first set of questions were pretest question 17 and posttest question 12 that read “I am comfortable and confident in my ability to screen for depression and refer to mental health services as necessary.” The second set of questions were pretest question 16 and posttest question 11 that read “I understand the association between populations at risk for STDs/HIV and can apply this concept into my role as an [STD ERN].” Responses were recorded using a 5-point Likert scale from “strongly disagree” with a score of 1 to “strongly agree” with a score of 5.

The data was analyzed using general statistics of the pretest and posttest comfort levels to show the change in the comfort score means (Table 11) and one-tailed, paired samples *t*-test to evaluate for a statistically significant change in comfort scores from pretest to posttest (Table 12). Both analyses were conducted with SPSS software and used a sample size of 35 due to the missing cases on the posttest.

Table 11

Change in Comfort Level Statistics (Pretest question 17 and posttest question 12; N = 35)

	Mean	N	SD	Standard error mean
Pretest comfort level (1-5)	2.37	35	0.77	0.13
Posttest comfort level (1-5)	3.09	35	0.66	0.11

Table 12

Pretest and Posttest Comfort Level Analysis Using One-Tailed, Paired Samples t-Test (Pretest question 17 and posttest question 12; N = 35)

	Mean	SD	Standard error mean	95% CI	t	dF	Significance
Posttest comfort – pretest comfort	0.71	0.96	0.16	0.39 – 1.04	4.42	34	$p < .001$

Note. CI = Confidence Interval

There was a statistically significant difference in improvement from pretest question 17 ($M = 2.37$, $SD = 0.77$) to posttest question 12 ($M = 3.09$, $SD = 0.66$; $t [34] = 4.415$, $p < .001$) that read “I am comfortable and confident in my ability to screen for depression and refer to mental health resources as necessary.”

The second set of questions, pretest question 16 and posttest question 11, were also scored 1 to 5, with 1 representing “strongly disagree” to 5 representing “strongly agree.” Table 13 shows the general statistics to compare the mean knowledge scores on the pretest and posttest. Table 14 uses a one-tailed, paired samples t -test to evaluate for a statistically significant difference in reported knowledge from pretest to posttest. These tests were conducted with SPSS software and used a sample size of 35 to account for the missing cases in the posttest.

Table 13

Change in Pretest and Posttest Reported Knowledge Level (Pretest question 16 and posttest question 11; $N = 35$)

	Mean	<i>N</i>	<i>SD</i>	Standard error mean
Pretest	2.54	35	0.82	0.14
Knowledge Level (1-5)				
Posttest	3.37	35	0.60	0.10
Knowledge Level (1-5)				

Table 14

Pretest and Posttest Reported Knowledge Level Analysis Using One-Tailed, Paired Samples t-Test (Pretest question 16 and posttest question 11; N = 35)

	Mean	SD	Standard error mean	95% CI	<i>t</i>	<i>df</i>	Significance
Posttest							
knowledge -	0.829	0.822	0.139	0.546 -	5.964	34	$p < .001$
pretest				1.111			
knowledge							

Note. CI = Confidence Interval.

There was a statistically significant improvement in agreement from the pretest question 16 ($M = 2.54$, $SD = 0.82$) to posttest question 11 ($M = 3.37$, $SD = 0.60$; $t [34] = 5.964$, $p < .001$) that read “I understand the association between populations at risk for STDs/HIV and depression and can apply this concept in my role as an [ERRN].”

Posttest Comments

Question 17 of the posttest asked for any input on the training, initial depression screening during STD visits, using the PHQ-2 in practice, or any other comments. Twenty-two out of 38 participants responded to this question. Eleven comments were positive and noted the utility of the information in practice. STD ERRNs commented “very informative, anticipating PHQ-2 will be easy to incorporate into STD screening”; “found this information to be very informative and an important piece of STD screening that is missing”; “this training made me more aware of the correlation between depression, drug abuse, and STDs”; “I feel it is definitely needed in working with our STD clients.”

Eleven comments expressed concerns for depression screening barriers in the STD clinic. Eight STD ERRNs stated time was a barrier, 1 stated there was a policy barrier, and 2 expressed concerns over mental health resources. Time was a barrier in two different ways: the time to administer the screen and the time needed to refer the positive screens. Three STD ERRNs commented on the time to administer the screen. These comments included:

- “I do not believe I will be given additional time to do this screening”;
- “My only concern is time. It is already difficult to see the assigned number of patients and get them out within allotted time to get to the next patient. Some of my patients become impatient if not seen close to the allotted time”; and
- “With patients being scheduled every half hour, it may be difficult to assess the client, get them referred if needed, and counsel them regarding STDs before the next person comes in and without getting backed up. Also, may have a lot of noncompliance with the patients as far as keeping the appointment(s) they get so the nurse may feel that all that time spent on the phone and counseling was wasted.”

The other STD ERRNs stated the extra time would be due to the time needed to refer positive screens. As an STD ERRN explained, “Good detail in training. Adding the PHQ-2 depression screen to other questions in STD will require little time, but referral and follow-up for positive answers will require staff resources we do not have.” Another STD ERRN commented,

While I think that [screening for depression in the STD clinic] is potentially a good idea, I feel like this is another thing added to the list...asking the questions is not the hard part, the hard part is if there is ever a positive screen...often times when someone... [is given] referrals the person does not follow up about the depression....

Another STD ERRN noted a lack of policy for suicidal patients. This STD ERRN stated, “This has precipitated awareness that we do not have a policy in place to address clients with suicidal ideations and how to provide for their safety until a Mobile Crisis Unit arrives.”

Similarly, an STD ERRN asked for a handout on the local resources available for her patients (which was provided in the resources accompanying the slides and presentation). Another expressed concern that some of the mental health resources like counseling would not be available to self-pay patients.

Analysis and Discussion of the Course

The course sample population was similar to the Needs Assessment Survey population in terms of years of experience and number of clients assessed per week. The similarities increased the likelihood that the results were indicative of the true population of STD ERRNs and strengthened the Phase Two results. In the Needs Assessment Survey, most of the course participants had 5 years of experience or more (23/38 or 61%). For the course participants, the majority of the STD ERRNs also had 5 years of experience or more (30/61 or 49%). About half of the Needs Assessment Survey participants assessed 1-5 clients per week (18/38 or 47%) followed by 21 clients or more (9/38 or 24%). The course sample population was most likely to see either 1-5 clients per week (19/61 or 31%) followed by 21 clients or more (15/61 or 25%).

STD ERRNs who assessed 1-5 clients per week or 21 clients or more per week both reported time was a top barrier. The next most commonly reported barrier for the 1-5 client group was a concern for adequate referral options. The larger client group's second greatest concern was split among a lack of adequate referrals, concern with what to do with a positive result, or unfamiliarity with mental health services available. Most of the STD ERRNs were experienced and appeared to be familiar with depression screening because they reported doing so in other clinics. Despite this, these experienced STD ERRNs were not screening in the STD clinic. This shows that the barriers to screening for depression are largely related to the time required to screen in the STD clinic, regardless of experience or the number of clients assessed.

Multiple posttest comments affirmed time was a barrier. The time concern was mostly associated with getting a positive screening result due to the difficulty with setting up mental health services. Time could also be a barrier for patients who identified as suicidal because there was not a policy or safety plan in place.

There were three learning outcomes for this DNP project, two of which were associated with the course; the final learning outcome will be addressed in Phase 3. The course met the first learning outcome: to increase the STD ERRNs' knowledge of the relationship between depression and risk of STDs as measured by a statistically significant increase in correct answers from pretest questions 11-15 at the beginning of the CNE to posttest questions 6-10 at the end of the CNE. In corroboration, the STD ERRNs reported an increase in familiarity with mental health resources and showed a statistically significant difference in their reported understanding of the association between STDs and depression. Posttest comments stated the course was informative, helpful, and needed. The course also met the second learning outcome: to increase the STD ERRNs' comfort level with administering depression screens and referring to mental health resources, as appropriate, as measured by a statistically significant increase in comfort levels from the CNE pretest to the CNE posttest using a 5-point Likert scale.

CHAPTER EIGHT: PHASE THREE – POST COURSE FOLLOW-UP SURVEYS AND SMART GOAL ACHIEVEMENT

Methods

Posttest question 18 asked the course participants to provide their email addresses if they would be willing to participate in two follow-up surveys about their SMART goal progress and/or provide additional support (Appendix 21). Out of the 36 participants who completed the posttest, 20 agreed to be a part of the follow-up group (response rate of 55%). The pilot site previously agreed to be a part of the follow-up. This site consisted of six ERRNs, for a total of 26 STD ERRNs interested in the follow-up (response rate 72%).

The first follow-up to the 20 general participants was sent on November 11, 2017 and elicited 12 responses. The second follow-up survey was sent on December 11, 2017 and elicited 14 responses. Although the email was sent out to the same group of STD ERRNs, some of them participated in one or the other survey instead of both.

The 6 pilot site participants needed additional time to prepare their STD clinic for depression screenings. These 6 participants were sent the first follow up survey on December 18, 2017 and returned 2 responses. The 2nd pilot follow-up survey was sent on January 8, 2018 and received 4 responses; one response from the pilot was incomplete, leaving 3 responses for analysis.

The pilot and general participants' responses were combined so that in total, there were 14 participants analyzed for the first follow-up and 17 participants analyzed for the second follow-up. These participants were sent the 2 surveys through the Qualtrics software.

The first follow-up survey consisted of 4 questions asking the STD ERRNs to measure their progress using the Goal Attainment Scale (GAS), to list barriers encountered, to note supportive factors, and to provide additional comments. The final follow-up survey consisted of 9 questions: the same four questions from the first follow-up plus the 5 knowledge-based questions from the pretest/posttest (pretest questions 11-15 and posttest questions 6-10). The follow-up surveys used the GAS because it enabled objective measurement of SMART goals and demonstrated how often the STD ERRNs screened. The 2 GAS scores combined were capable of showing a change in screening efficacy over the course of 6 weeks. It was important to ask about the barriers and supportive factors to see what STD clinic factors hindered or enhanced the STD ERRNs' screening efficacy. Comments were important to this project in order to learn any additional information that was not asked in the previous surveys. The five knowledge-based questions in the posttest were repeated to assess whether the ERRNs had maintained their knowledge by the time of the final follow-up.

Results

SMART Goals

The SMART goals the STD ERRNs set ranged from increasing screening from 50% to 100% of clients. Examples of SMART goals the STD ERRNs set included:

- “I will use the PHQ-2 to screen 60% of patients by one month.”
- “I will screen 80% of my patients in the STD clinic from 10/30/17 to 12/11/2017.”
- “I will use the PHQ-2 screening on 100% of the patients I see as an ERRN in the STD clinic by one month.”
- “I will screen 90% of STD patients for depression at the beginning of their visit by one month.”

- “I will use the PHQ-2 to screen 50% of patients in the STD Clinic by one month.”

Figures 13 and 14 detail how the STD ERRNs rated their success on their SMART goals using the GAS on the 1st follow-up and the 2nd follow-up respectively. The sample size for the first follow-up was 14. The sample size for the second follow-up was 17.

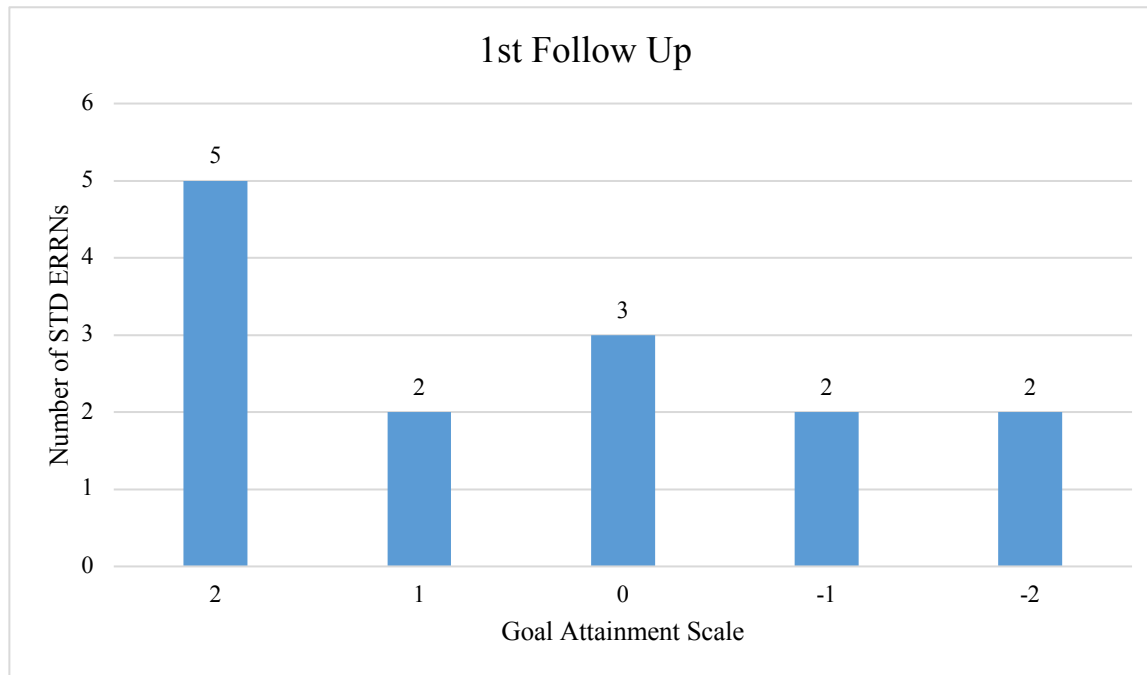


Figure 13. Goal Attainment Scale scores from participants that responded to the first follow-up survey (n = 14). The majority of participants, 10 out of 14, or 71%, met (GAS score 0) or exceeded (GAS 1 or 2) their SMART goal. Out of 14, five participants, or 36%, rated their goal attainment as a +2 or “always exceeded” goal.

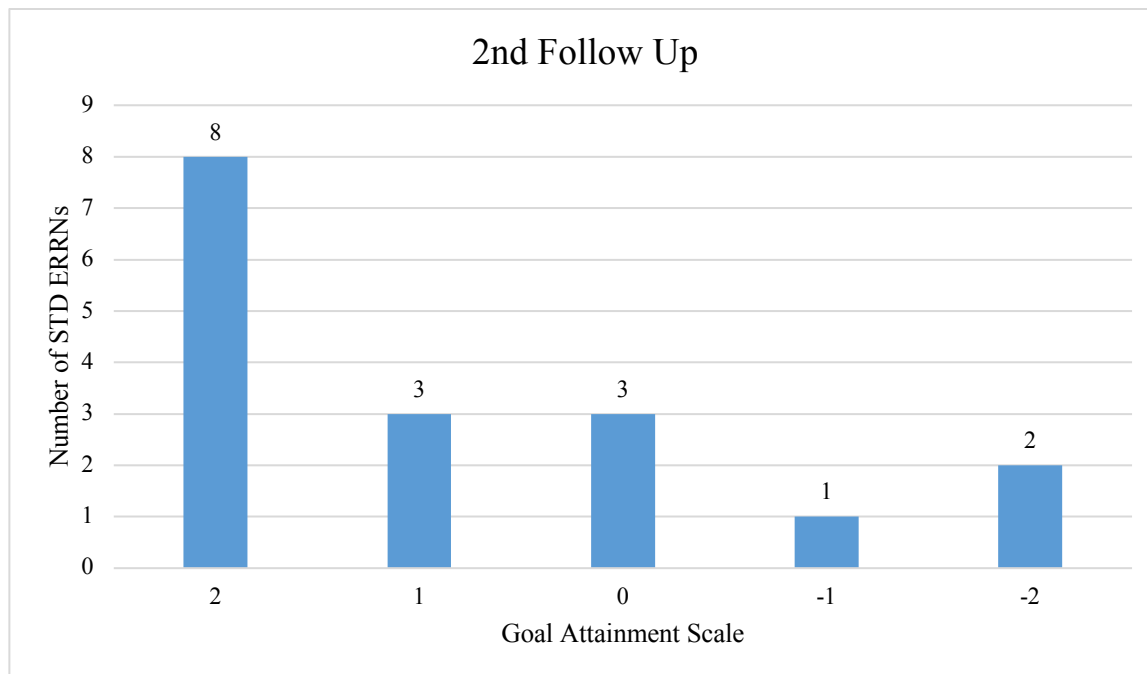


Figure 14. Goal Attainment Scale for participants ($n = 17$) who responded to the 2nd follow-up survey. Fourteen out of 17 (82%) met (GAS 0) or exceeded (GAS 1 or 2) their SMART goal. The majority of participants (8/17 or 47%) rated their goal achievement as a +2 or “always exceeded” goal.

The GAS score means of the two follow-up surveys were calculated in Table 15. The results were then analyzed with an independent samples t -test to determine if there was a statistically significant difference from the first follow-up to the second follow-up, shown in Table 16. This test was required because the two samples are of different sizes and unmatched; the same group of STD ERRNs did not take both follow-up surveys. A Levene’s test for equality of variances was performed that resulted in $F = 0.244$ and $p = 0.625$; equal variances can be assumed. These results were calculated with SPSS software.

Table 15

Goal Attainment Scale Group Statistics

	Group	N	Mean	SD	Standard error mean
GAS	1	14	0.43	1.51	.40
	2	18	0.78	1.40	.33

Note. GAS = Goal Attainment Scale.

Table 16

Goal Attainment Scale Independent Samples Test

	<i>t</i>	dF	<i>p</i> value	Mean difference	Standard error difference	95% CI
GAS	-0.68	30	0.25	-0.35	0.52	-1.40 - 0.70

Note. GAS = Goal Attainment Scale. CI = Confidence Interval.

There was no statistically significant difference in GAS scores from the 1st follow-up survey ($M = 0.43$, $SD = 1.51$) to the 2nd follow-up survey ($M = 0.78$, $SD = 1.40$; $t [30] = -0.68$, $p = 0.25$).

Follow-Up Survey Barriers

The STD ERRNs were asked, “What are some barriers you encountered when screening for depression in your STD clinic?” on question 2 of the 1st follow-up survey and question 7 of the 2nd follow-up survey in a “select all that apply” format. The two pie charts in Figure 15 represent the changes in responses from the 1st to the 2nd follow-up.

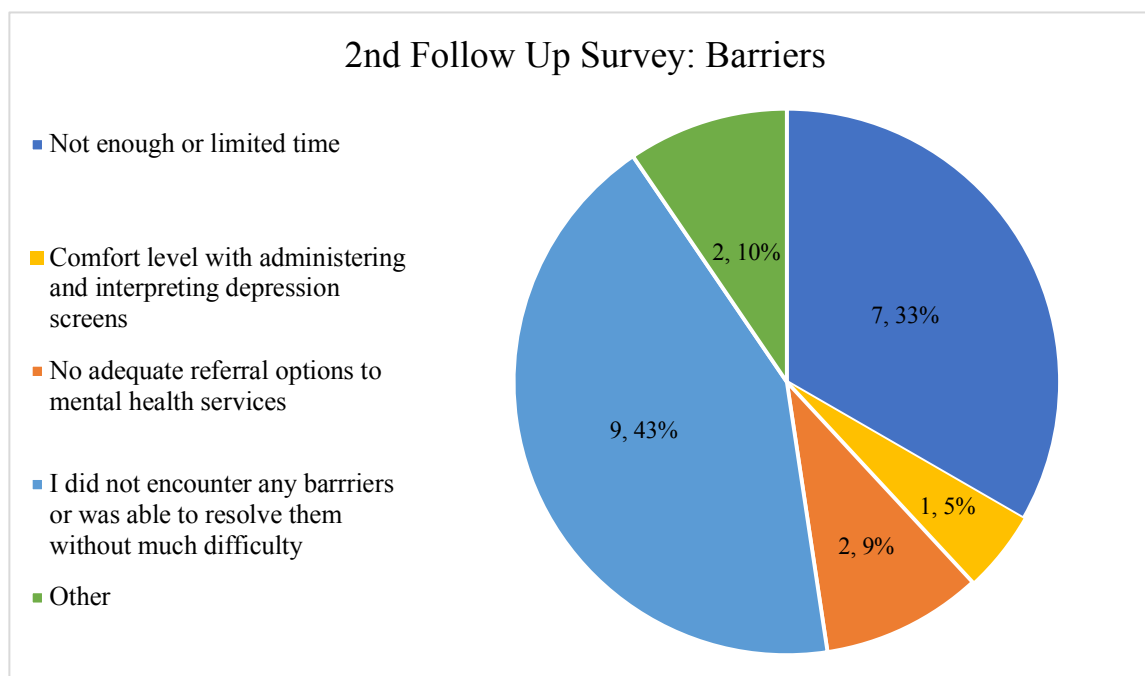
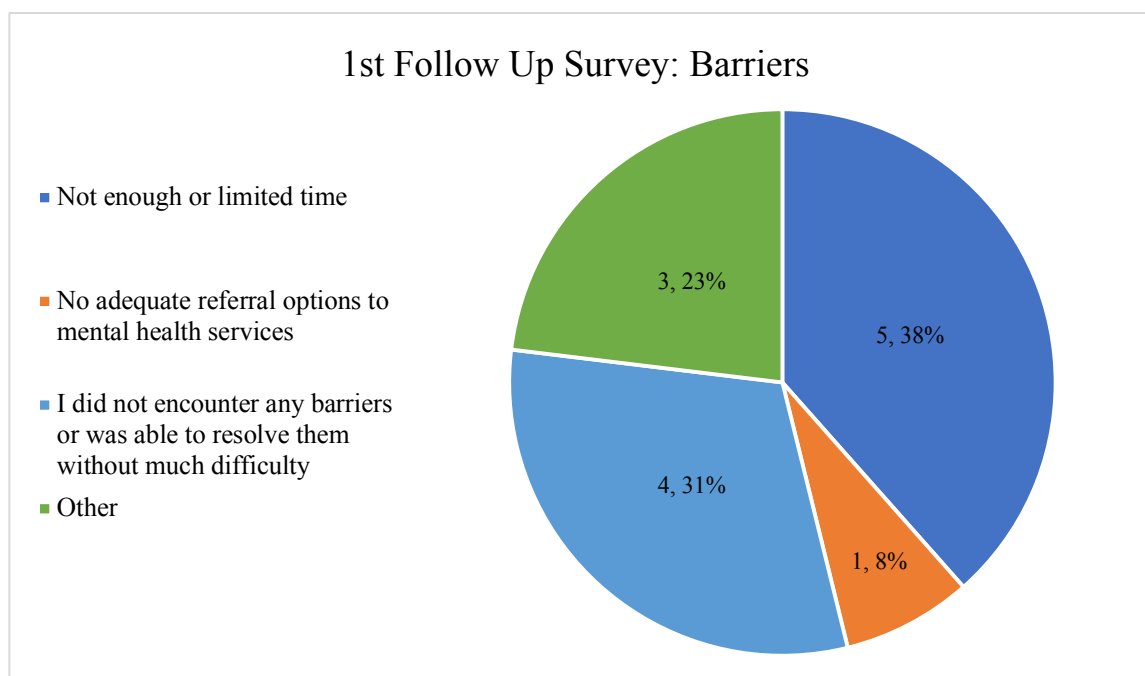


Figure 15. Comparison of barriers reported on the first and second follow-up surveys.

The “other” responses from the 1st follow-up survey included:

- “Integrated well into the STD clinic flow.”
- An STD ERRN said she was not working in the STD clinic during the first 3 weeks.

- Another STD ERRN that stated she was initially forgetting to do the surveys, then had 2 patients who did not want to fill out the survey, and there was another time in which he/she forgot to document results.

The “other” responses from the 2nd follow-up survey included:

- “Did not work in the STD clinic during time frame of study.”
- “Rarely, patients did not want to fill out the survey.”

Follow-Up Survey Supportive Factors

The STD ERRNs were asked, “What are some supportive factors you found when screening for depression in your STD clinic?” on question 3 of the 1st follow-up survey and question 8 of the 2nd follow-up survey in a “select all that apply” format. The two pie charts in Figure 16 represent the changes in responses from the 1st to the 2nd follow-up.

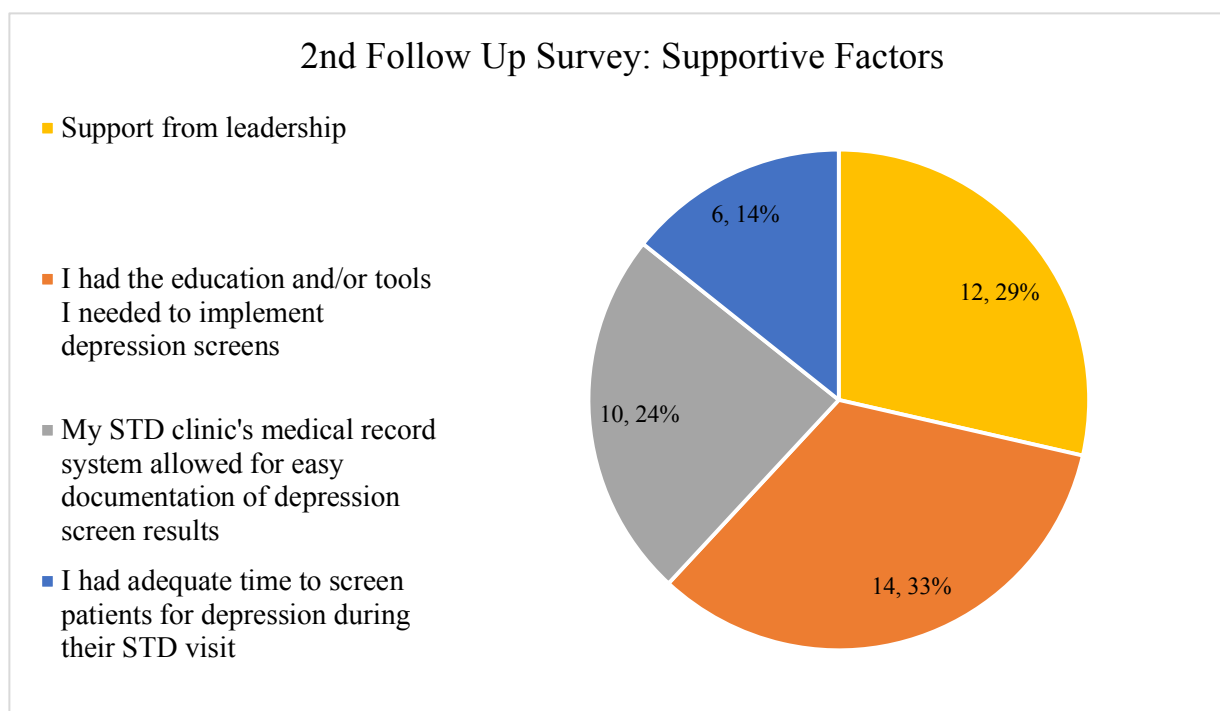
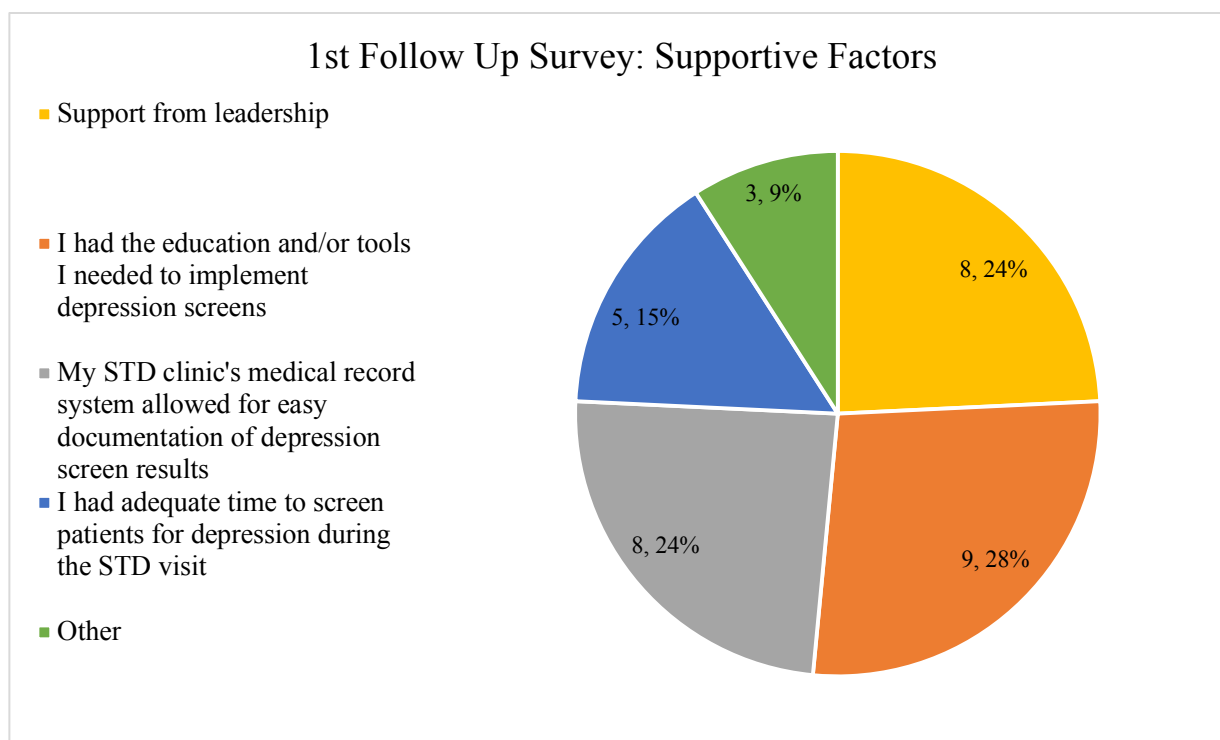


Figure 16. Comparison of supportive factors reported between the first and the second follow-up surveys.

The “other” responses from the 1st follow-up survey included:

- “[Primary care providers] available and resources available.”
- “Have not worked in the STD clinic during the past three weeks.”
- “None applicable.”

First Follow-Up Survey Comments

Six participants responded to question 4, which asked the participants to “Please provide any additional comments you have about your experience implementing depression screens in your STD clinic.” There were 3 positive responses and 3 responses that suggested ways to improve. Two responses stated the patients were receptive to the screening. Another stated an opinion that alluded to a common misconception about depression: depressed people will look depressed. This STD ERRN stated “[I] was surprised to see how many patients scored high on the PHQ-2 questions...not sure if we would have caught that if they hadn’t filled out the questionnaire.”

Three participants offered means for improvement. One stated a theme echoed in the posttest comments:

The issue with time is not in the screening process, it is with the referral process. We are to call to make an appointment while the client is with us, and the facility may keep them on the phone (in our office) for over 30 minutes.

Another suggested the “process would be smoother if it were a part of the current [electronic medical record].” One participant stated the patients “didn’t seem to be too interested in the screenings” and “only one so far has taken a referral.”

Second Follow-Up Survey Comments

Five participants responded to question 9 in the second follow-up survey which asked for additional comments. There were positive comments about the helpfulness of the screening and

the on-site provider, comments about the time barrier, and two comments that spoke to some of the stereotypes of depression. One participant stated the “tools were easy to use and helpful to our patients.” On-site providers were also helpful to implement screenings: “having an upper level provider on site at least part of the time and 100% by phone was helpful.” The participant that stated time was a barrier commented:

Time to do an adequate assessment for someone who seriously needs help is difficult as appointments are scheduled every 45 minutes with no break between clients. When someone is identified who needs more attention, it really leads to backing up the clinic. In our area this has the potential on some days to cause a real problem.

Two comments spoke to some of the common misconceptions of depression. Similar to the comment in the first follow-up, a STD ERRN said, “I was surprised at some of the patients that voiced signs of depression.” Additionally, one STD ERRN had concerns about the reliability of patients’ self-report on the depression screen: “[clients] were willing to answer the questions, but [I’m] unsure if ALL were TRUTHFUL.” These misconceptions will be discussed further in the analysis.

Repeat Knowledge-Based Questions

Questions 2-6 of the 2nd follow-up survey were the same knowledge questions as pretest questions 11-15 and posttest questions 6-10. These were used to determine if there was any loss of knowledge during the time from the end of the course to the end of the follow-up surveys. Questions were scored 1 for correct and 0 for incorrect to calculate the total score for each participant. The 2nd follow-up mean score was 4.53. In comparison, the posttest mean score was 4.23.

Analysis and Discussion of Follow-Up Surveys/SMART Goals

The follow-up surveys are indicative of how well the STD ERRNs met their SMART goals among the barriers and supports they found in their STD clinics. They had set SMART

goals to increase screening for 50% to 100% of clients. In both the first and second follow-up surveys the majority of STD ERRNs stated they “always exceeded their goals” (score of +2), followed by “met their goals” (score 0). In the 1st follow-up, 5/14, or 36%, always exceeded their goal, 2/14 (15%) sometimes exceeded their goal, and 3/14 (21%) met their goal. In the 2nd follow-up survey, the GAS scores increased to: 8/17 (47%) always exceeded their goal, 3/17 (18%) sometimes exceeded their goal, and 3/17 (18%) met their goal.

The final learning outcome for this course was met; to increase the STD ERRNs progress on their individual SMART goals as measured by an improvement on the GAS. The GAS scores were high for both the first and the second follow-up surveys. Although there was no statistically significant difference in scores between the two follow-up surveys, the third learning outcome was met because the GAS scores did increase and were high for both time points. In the first follow-up survey, 10/14 (71%) always exceeded, sometimes exceeded, or met their goal. In the second follow-up survey, 14/17 (82%) always exceeded, sometimes exceeded, or met their goal. This shows the course and policy implementation were effective and the STD ERRNs were able to meet their goals at time point 1 similarly to time point 2.

The STD ERRNs reported the largest barrier to screening in the STD clinic on the first follow-up survey was time (38%). This stayed fairly consistent on the second follow-up: 33% of STD ERRNs reported time was a barrier. Only 15% reported on the 1st follow-up that they had adequate time to screen for depression; this number was 14% on the 2nd follow-up survey.

No STD ERRNs reported that their comfort level was a barrier on the first follow-up survey, although one (5%) reported that comfort was a barrier on the second survey. This STD ERRN could have had a difficult experience after the 1st follow-up that might have affected her/his comfort level at the 2nd follow-up time point.

Not all STD ERRNs experienced barriers. From the first to the second follow-up surveys, the number of STD ERRNs who stated they had no barriers or were able to resolve them easily increased from 31% to 43%. This could be due to the increase in comfort level in dealing with depression that they reported.

Supportive factors included a cohesive medical record system, leadership support, and education and tools provided. Twenty four percent of STD ERRNs in both follow-ups stated that their medical record system allowed for easy documentation of depression screens. This was a barrier for those that did not have a cohesive medical record system. In one follow-up comment, an STD ERRN suggested the screening process would be smoother if the screens were incorporated into the medical record. Depression screen implementation was easier for those STD clinics that were able to incorporate the depression screen into their electronic medical record during the six weeks, as opposed to clinics that required scanning the PHQ-2 paper copy into the chart. STD ERRNs reported an increase in support from leadership (from 24% to 29%) and an increase in the belief that they had the education and tools needed to screen (from 28% to 33%). In the comments, STD ERRNs noted that on-site provider access was advantageous and the depression screen was easy to use and beneficial.

The follow-up comments show an area where STD ERRNs and other health care clinicians can improve: the perception that a patient will look depressed if they are depressed, and the stereotype that self-reported mental health symptoms may not be real. Two STD ERRNs stated they were surprised to see how many scored high on the depression screen. This speaks to the necessity for screenings, as observation alone is not as sensitive. Depression screens remove the subjectivity of a personal assessment that is often clouded by bias. More information will need to be shared about these biases in future courses.

The mean of the follow-up knowledge questions was 4.53, and the mean of the posttest was 4.23. This shows that the STD ERRNs retained their knowledge over the course of six weeks. This knowledge could have contributed to the high GAS scores. It should be noted that the sample sizes for the follow up ($n = 17$) and the posttest ($n = 35$) were very different, so this comparison is not precise.

Phase Two and Three Conclusions

The course was effective at meeting all three learning outcomes: to increase knowledge from pretest to posttest, to increase comfort and confidence level when performing depression screens, and to improve the GAS scores. Multiple STD ERRNs stated the course was beneficial and that it helped to expose needs in the STD clinic. The posttest showed the STD ERRN participants were able to increase their comfort level, as evidenced by responses on posttest question 12 and the high GAS scores on both follow-ups. The STD ERRN participants brought up common themes that were beneficial to screening: a cohesive medical record system that incorporates depression screens into the visit, access to on-site providers and resources, and support from leadership. If not met, these supportive factors were derailments toward screening and increased the time it would take to screen. The time barrier was echoed in the Needs Assessment Survey, pilot, and final course. This concern about time was usually associated with the positive screens. The referral process at some STD clinics is arduous; as one STD ERRN pointed out it takes her/him about 30 minutes to connect a patient to a mental health resource. With barriers aside and the appropriate education and tools in place, STD ERRNs are willing and able to screen effectively. Most STD ERRNs reported they were almost always likely to exceed their screening goals, with goals set anywhere from 50% to 100% of clients. Results from this

project show that addressing these system issues to decrease the time it takes to refer patients would improve implementation of depression screens in the STD clinics.

This project was successful in completing the two project purposes:

1. Expand the STD ERRNs' education to include an understanding of the association of depression with STD risk factors, be able to identify those at high risk for depression, and give them an evidence-based tool to screen for depression, thus enhancing the STD ERRNs' comfort and self-efficacy to screen for depression to facilitate evidence-based practice change in the clinical setting
2. Provide the STD ERRNs with a temporary policy addendum and depression screening guidelines to support them as they perform depression screens in the STD clinic

This project provided a course that included evidence-based recommendations for screening for depression and a validated depression screening tool, along with a temporary policy addendum, to support STD ERRNs as they screened for depression in the STD clinics. These interventions were proven successful, as evidenced by the statistically significant increase in correct answers from pretest to posttest, increased comfort level, improved reported knowledge level, as well as high GAS scores in both follow-ups.

Phase Two and Three Limitations

Limitations for this project include the small sample size, pretest/posttest questions, and self-report questions. Thirty-five STD ERRN participants were included in the analyses for the pretest/posttest, 14 for the 1st follow-up, and 17 for the 2nd follow-up. The pretest/posttest logistic regression was difficult to analyze due to the limited number of STD ERRNs broken into each demographic category. The follow-up sample size was a limitation because this was the group

that reported on the practicality of meeting their screening goals in the STD clinic setting. A larger sample size would have added to the strength of the results.

Pretest questions 11-14 and posttest questions 6-9 could have been more effective at determining a change in knowledge. The starting mean for the pretest questions was high at 3.89 on a scale of 0-5. The course could have been better evaluated had these questions been more difficult.

Additionally, many of the pretest, posttest, and follow-up questions were based on a self-report. For example, the follow-up surveys asked the STD ERRNs how many patients they believed they screened for depression. Self-report is subject to bias, and an objective measurement to support the STD ERRNs' claims would have been a better indicator of the success of screening in the STD clinics.

CHAPTER NINE: SUSTAINABILITY

There are two options to increase the sustainability of this project. First, the results will be presented to the NC DPH Communicable Disease Branch to recommend incorporation of this education into future STD ERRN courses so that all future ERRNs will have the knowledge and skill to utilize depression screens in the STD clinic. Second, recommendations will also be made to the LHD STD clinics to incorporate depression screening as a standard component of an STD visit at their local health department. Because a Temporary Policy Addendum was supported by the NC DPH to adopt or adapt an implementation of depression screening in STD clinics, there is a promising future for the hope that local health departments will continue with this evidence-based quality improvement project.

CHAPTER TEN: NEED FOR FURTHER RESEARCH

Future research is needed to assess why time is a top barrier in the STD clinics. From this project, it appears that mental health referrals would most likely be contributors to the time challenges STD ERRNs already face. Future research is needed to determine why mental health referrals are difficult to provide to public health STD clinics and ways this process can become more efficient.

APPENDIX 1: NC DPH STD CLINIC ASSESSMENT FORM

Sexually Transmitted Diseases Form 2808	N.C. Department of Health and Human Services Division of Public Health
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1. Last Name	First Name	Mi
2. Patient Number	<div style="display: flex; justify-content: space-between;"> — H </div>	3. Date of Birth
		<div style="display: flex; justify-content: space-around;"> Month Day Year </div>

4. Race <input type="checkbox"/> 1. White <input type="checkbox"/> 4. Asian <input type="checkbox"/> 6. Other _____ <input type="checkbox"/> 2. Black/African American <input type="checkbox"/> 5. Native Hawaiian/Other Pacific Islander <input type="checkbox"/> 3. American Indian/Alaskan Native Ethnicity: Hispanic Origin? <input type="checkbox"/> Yes <input type="checkbox"/> No	5. Gender <input type="checkbox"/> 1. Male <input type="checkbox"/> 2. Female <input type="checkbox"/> 3. Transgender
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6. County of Residence <div style="border: 1px solid black; width: 40px; height: 20px; margin: 2px;"></div>	7. Allergies:	DATE OF VISIT _____
--	---------------	----------------------------

8a. Reason(s) for Visit (check all that apply): <input type="checkbox"/> STD Screen/Check <input type="checkbox"/> Asymptomatic <input type="checkbox"/> Symptomatic <input type="checkbox"/> *Positive test for _____ <input type="checkbox"/> Referred by DIS or Health Care Provider or ED <input type="checkbox"/> Contact to person treated for _____ <input type="checkbox"/> Exposed to partner with symptoms <input type="checkbox"/> Other _____	8b. Contact(s) verified by <small>(Check at least one):</small> <input type="checkbox"/> Partner notification card for _____ <input type="checkbox"/> Referral Source _____ <input type="checkbox"/> NC EDSS event ID _____ <input type="checkbox"/> Verbalization of Partner/Contact _____ <input type="checkbox"/> Medical Record of Partner/Contact _____	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 2px; vertical-align: top;"> 9a. Prior STD/STI & Date Dx <input type="checkbox"/> Bacterial Vaginosis _____ <input type="checkbox"/> Chlamydia _____ <input type="checkbox"/> Genital Warts _____ <input type="checkbox"/> Gonorrhea _____ <input type="checkbox"/> HIV _____ Date Dx: _____ State/Country Dx: _____ <input type="checkbox"/> Herpes <input type="checkbox"/> oral _____ <input type="checkbox"/> genital _____ <input type="checkbox"/> MPC _____ <input type="checkbox"/> NGU _____ <input type="checkbox"/> PID _____ <input type="checkbox"/> Syphilis _____ Date Dx: _____ State/Country Dx: _____ Titer: _____ <input type="checkbox"/> Trichomoniasis _____ <input type="checkbox"/> Yeast _____ <input type="checkbox"/> Other _____ <input type="checkbox"/> None _____ </td> <td style="width: 50%; padding: 2px; vertical-align: top;"> 9b. Vaccines & Testing Hep B Vaccine <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Unk # injections _____ Last injection date : _____ Twinrix Vaccine <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Unk # injections _____ Last injection date : _____ Tdap Vaccine <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Unk Last injection date : _____ HPV Vaccine <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Unk # injections _____ Last injection date : _____ Prior HIV Test <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Unk Last test date : _____ HBV Status <input type="checkbox"/> Unk <input type="checkbox"/> Acute <input type="checkbox"/> Chronic (Date Dx) _____ HCV Status <input type="checkbox"/> Unk <input type="checkbox"/> Acute <input type="checkbox"/> Chronic (Date Dx) _____ </td> </tr> </table>	9a. Prior STD/STI & Date Dx <input type="checkbox"/> Bacterial Vaginosis _____ <input type="checkbox"/> Chlamydia _____ <input type="checkbox"/> Genital Warts _____ <input type="checkbox"/> Gonorrhea _____ <input type="checkbox"/> HIV _____ Date Dx: _____ State/Country Dx: _____ <input type="checkbox"/> Herpes <input type="checkbox"/> oral _____ <input type="checkbox"/> genital _____ <input type="checkbox"/> MPC _____ <input type="checkbox"/> NGU _____ <input type="checkbox"/> PID _____ <input type="checkbox"/> Syphilis _____ Date Dx: _____ State/Country Dx: _____ Titer: _____ <input type="checkbox"/> Trichomoniasis _____ <input type="checkbox"/> Yeast _____ <input type="checkbox"/> Other _____ <input type="checkbox"/> None _____	9b. Vaccines & Testing Hep B Vaccine <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Unk # injections _____ Last injection date : _____ Twinrix Vaccine <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Unk # injections _____ Last injection date : _____ Tdap Vaccine <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Unk Last injection date : _____ HPV Vaccine <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Unk # injections _____ Last injection date : _____ Prior HIV Test <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Unk Last test date : _____ HBV Status <input type="checkbox"/> Unk <input type="checkbox"/> Acute <input type="checkbox"/> Chronic (Date Dx) _____ HCV Status <input type="checkbox"/> Unk <input type="checkbox"/> Acute <input type="checkbox"/> Chronic (Date Dx) _____
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<table style="width: 100%;"> <tr> <th style="width: 15%;">Present</th> <th style="width: 15%;">Absent</th> <th style="width: 15%;">Symptom</th> <th style="width: 55%;">Symptom Parameters <small>Specify location, quality, severity, duration, frequency and associated symptoms, if applicable. Document what the client did to relieve the symptoms and the effectiveness of the action.</small></th> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td>Itch</td> <td></td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td>Irritation</td> <td></td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td>Pain</td> <td></td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td>Discharge</td> <td></td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td>Dysuria</td> <td></td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td>Ulcer/Lesion</td> <td></td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td>Rash</td> <td></td> </tr> </table>	Present	Absent	Symptom	Symptom Parameters <small>Specify location, quality, severity, duration, frequency and associated symptoms, if applicable. Document what the client did to relieve the symptoms and the effectiveness of the action.</small>	<input type="checkbox"/>	<input type="checkbox"/>	Itch		<input type="checkbox"/>	<input type="checkbox"/>	Irritation		<input type="checkbox"/>	<input type="checkbox"/>	Pain		<input type="checkbox"/>	<input type="checkbox"/>	Discharge		<input type="checkbox"/>	<input type="checkbox"/>	Dysuria		<input type="checkbox"/>	<input type="checkbox"/>	Ulcer/Lesion		<input type="checkbox"/>	<input type="checkbox"/>	Rash		
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<input type="checkbox"/>	<input type="checkbox"/>	Ulcer/Lesion																															
<input type="checkbox"/>	<input type="checkbox"/>	Rash																															

10. Sexual Risk Assessment Sexual partners past 60 days: # male _____ # female _____ Sites of client's exposure (last 60 days): <input type="checkbox"/> Mouth <input type="checkbox"/> Penis <input type="checkbox"/> Vagina <input type="checkbox"/> Anus Have you ever: Yes/No <input type="checkbox"/> <input type="checkbox"/> Had sex with partner of the same sex <input type="checkbox"/> <input type="checkbox"/> Had sex with a bisexual male <input type="checkbox"/> <input type="checkbox"/> Had sex for drugs or money <input type="checkbox"/> <input type="checkbox"/> Had sex with intravenous drug user <input type="checkbox"/> <input type="checkbox"/> Had sex with HIV(+) partner <input type="checkbox"/> <input type="checkbox"/> Paid for sex <input type="checkbox"/> <input type="checkbox"/> Shared needles	Date of last sexual encounter: _____ In last 2 weeks: # sexual encounters _____ # with condom use _____ Do you currently use: Alcohol <input type="checkbox"/> No <input type="checkbox"/> Yes Frequency _____ Injectable drugs <input type="checkbox"/> No <input type="checkbox"/> Yes Last injection _____ Non-injectable drugs <input type="checkbox"/> No <input type="checkbox"/> Yes
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11. For Women LMP: ____/____/____ <input type="checkbox"/> Regular <input type="checkbox"/> Irregular Frequency _____ Last Pap: ____/____/____ <input type="checkbox"/> Normal <input type="checkbox"/> Abnormal Douche: <input type="checkbox"/> Yes <input type="checkbox"/> No Frequency _____ Last _____ Are you pregnant? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know Are you breastfeeding: <input type="checkbox"/> Yes <input type="checkbox"/> No	Contraception: <input type="checkbox"/> None <input type="checkbox"/> Emergency Contraceptive Pill <input type="checkbox"/> OCP <input type="checkbox"/> Injectable Last given _____ <input type="checkbox"/> Implant <input type="checkbox"/> Diaphragm <input type="checkbox"/> IUD <input type="checkbox"/> Tubal ligation <input type="checkbox"/> Condoms <input type="checkbox"/> Hysterectomy <input type="checkbox"/> Other
--	---

13. Comments: <div style="height: 40px;"></div>	12. Other Pertinent History (document additional information in comments) Antibiotics: (last 2 weeks) <input type="checkbox"/> None <input type="checkbox"/> Yes Other present medication(s): <input type="checkbox"/> None <input type="checkbox"/> Yes Reviewed client's self-history form when used by agency: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
---	---

☐ *If client is returning for treatment/counseling, re-interview the client for changes and if history remains the same, check this box.

Signature/Title of Interviewer: _____ Signature/Interpreter: _____ Date: _____

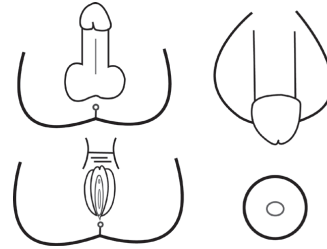
Signature/Title of Provider if not the Interviewer: _____ Date: _____

ATTACH PATIENT LABEL HERE

14. Physical Examination* Vital Signs, if clinically indicated: T:___ B/P: ___ P:___ R:___

<input type="checkbox"/> Oropharynx: no lesions; no erythema; no tonsillar exudate <input type="checkbox"/> abnl:	<input type="checkbox"/> Penis: no lesions; no discharge <input type="checkbox"/> abnl: Circumcised: <input type="checkbox"/> yes <input type="checkbox"/> no
<input type="checkbox"/> Scalp, brows, lashes: no nits; no hair loss <input type="checkbox"/> abnl:	<input type="checkbox"/> Scrotum: no tenderness; no nodules <input type="checkbox"/> abnl:
<input type="checkbox"/> Cervical/supraclavicular/axillary/epitrochlear nodes: no adenopathy <input type="checkbox"/> abnl:	<input type="checkbox"/> Vulva: no lesions/rashes; no lice/nits <input type="checkbox"/> abnl:
<input type="checkbox"/> Skin: clear; no lesions/rashes <input type="checkbox"/> abnl:	<input type="checkbox"/> Vagina: no lesions; no erythema; no discharge <input type="checkbox"/> abnl:
<input type="checkbox"/> Abdomen: no tenderness to palpation; no rebound tenderness <input type="checkbox"/> abnl:	<input type="checkbox"/> Cervix: no lesions; no erythema; no discharge; no CMT <input type="checkbox"/> abnl:
<input type="checkbox"/> Inguinal nodes: no adenopathy <input type="checkbox"/> abnl:	<input type="checkbox"/> Uterus: no enlargement; no tenderness <input type="checkbox"/> abnl:
<input type="checkbox"/> Pubic area: no lesions/rashes; no lice/nits <input type="checkbox"/> abnl:	<input type="checkbox"/> Anus: no lesions <input type="checkbox"/> abnl:

*Additional Findings:



Description of discharge (if present):

Female Clients		Male Clients
Amount: <input type="checkbox"/> small <input type="checkbox"/> moderate <input type="checkbox"/> large	Odor (with or without KOH): <input type="checkbox"/> yes <input type="checkbox"/> no pH: <input type="checkbox"/> ≥4.5 <input type="checkbox"/> <4.5	Amount: <input type="checkbox"/> small <input type="checkbox"/> moderate <input type="checkbox"/> large
Adheres to vaginal wall: <input type="checkbox"/> yes <input type="checkbox"/> no		Color (check all that apply): <input type="checkbox"/> clear <input type="checkbox"/> yellow <input type="checkbox"/> gray/off white <input type="checkbox"/> green <input type="checkbox"/> bloody <input type="checkbox"/> purulent <input type="checkbox"/> color of discharge matches the white swab
		Color (check all that apply): <input type="checkbox"/> clear <input type="checkbox"/> yellow <input type="checkbox"/> green <input type="checkbox"/> purulent <input type="checkbox"/> other, specify _____

15. Laboratory

☐ Gonorrhea test: ☐ NAAT ☐ culture
☐ Cervical ☐ Urethral ☐ Urine
☐ Rectal ☐ Pharyngeal ☐ Vaginal

☐ Urethral gram stain:
☐ No GNID found ☐ ≥ 5 white cells, no GND
☐ GNID found ☐ Extracellular GND only

☐ Herpes test: ☐ culture ☐ serology

☐ HIV

☐ Chlamydia test: ☐ NAAT ☐ other
☐ Cervical ☐ Urethral ☐ Urine
☐ Rectal ☐ Pharyngeal ☐ Vaginal

☐ Syphilis serology

☐ Stat RPR: ☐ reactive ☐ non-reactive

☐ Darkfield: ☐ found ☐ not found

☐ Wet prep: ☐ clue cells ☐ yeast
☐ KOH+ ☐ trich ☐ WBCs _____

☐ Pap smear: ☐ HPV

☐ Pregnancy test: ☐ positive ☐ negative

☐ LE (leukoesterase): ☐ positive ☐ negative

☐ Other _____

16. Clinical Impressions/Diagnosis

☐ Bacterial vaginosis
☐ Candidal infection
☐ Cervicitis/MPC
☐ Chlamydia
☐ Epididymitis
☐ Gonorrhea
☐ Herpes - 1st episode or recurrent
☐ HIV
☐ HPV/Genital warts
☐ NGU
☐ Pediculosis pubis
☐ PID
☐ Scabies
☐ Syphilis: ☐ Unknown duration
☐ Primary ☐ Early latent
☐ Secondary ☐ Late latent

☐ Tinea cruris
☐ Trichomoniasis
☐ Contact to: _____
☐ Normal STD Screening, lab tests pending: _____

☐ Other: _____

17. Treatment/Therapy

☐ None

☐ Reviewed client's allergy history

☐ Reviewed client's pregnancy status

☐ Reviewed client's breastfeeding status

☐ Amoxicillin 500 mg PO TID x 7 days

☐ Azithromycin 1 gm PO stat x 1

☐ Azithromycin 2 gm PO stat x 1

☐ Benzathine penicillin G 2.4 MU IM
☐ bilateral gluteal muscles
☐ other site _____

☐ Ceftriaxone 250 mg IM stat x 1

☐ Doxycycline 100 mg PO BID x _____ days

☐ Metronidazole 250 mg PO TID x 7 days

☐ Metronidazole 500 mg PO BID x 7 days

☐ Metronidazole 2 gm PO stat x 1

☐ Acyclovir/Valacyclovir/Famciclovir _____

18. Instructions/Counseling

☐ Abstain from sex for _____ week(s) and until partner is treated

☐ Use condoms for risk reduction

☐ RTC if symptoms increase/persist

☐ RTC in _____ (specify days, weeks or months)

☐ Partner notification discussed: ☐ Cards given

☐ Expedited partner therapy (EPT) # cards _____

☐ Control measures and counseling provided for HIV+

☐ Printed risk reduction/disease information given

☐ Client given a list of services provided/tests performed

☐ Referrals

19. Follow-up for Test Results:

☐ Clinic will call with results only if a test result is abnormal or requires re-testing

☐ Clinic will call with all test results

☐ Client will call for results

☐ Unique password to obtain test results by phone _____

☐ Preferred phone # to contact client: _____

☐ Clinic may leave message at preferred #

☐ Other _____

☐ Cryotherapy

☐ TCA/Podophyllin/Client applied _____

☐ OTC pediculosis pubis treatment

☐ OTC fungal/yeast treatment

☐ Other _____

Date/Signature/Title of person administering/dispensing treatment if not the primary provider

☐ Medication instructions provided according to policy

☐ Restrictions for Alcohol Consumption given

Specify: _____

Notes:

Primary Provider Signature _____ Co-signature (if applicable) _____

☐ Enhanced Role RN ☐ CNM ☐ NP ☐ PA ☐ MD Time Enhanced Role RN spent with patient: _____ min. = _____ units

North Carolina Department of Health and Human Services. Form 2808. Retrieved from
[http://epi.publichealth.nc.gov/cd/lhds/manuals/std/clinical/DHHS-2808-
SexuallyTransmittedDiseases.pdf](http://epi.publichealth.nc.gov/cd/lhds/manuals/std/clinical/DHHS-2808-SexuallyTransmittedDiseases.pdf)

APPENDIX 2: PATIENT HEALTH QUESTIONNAIRE-2 AND INSTRUCTIONS FOR USE

PHQ-2

Over the past two weeks, how often have you been bothered by any of the following problems?

Little interest or pleasure in doing things.
0 = Not at all
1 = Several days
2 = More than half the days
3 = Nearly every day

Feeling down, depressed, or hopeless.
0 = Not at all
1 = Several days
2 = More than half the days
3 = Nearly every day

Total point score: _____

Score interpretation:

PHQ-2 score	Probability of major depressive disorder (%)	Probability of any depressive disorder (%)
1	15.4	36.9
2	21.1	48.3
3	38.4	75.0
4	45.5	81.2
5	56.4	84.6
6	78.6	92.9

Figure 1. Patient Health Questionnaire-2 (PHQ-2). This questionnaire is used as the initial screening test for major depressive episode.

Information from Kroenke K, Spitzer RL, Williams JB. The Patient Health Questionnaire-2: validity of a two-item depression screener. *Med Care* 2003; 41:1284-92.

Thibault JM, Prasaad Steiner, RW. Efficient identification of adults with depression and dementia. *American Family Physician*, Vol. 70/No. 6 (September 15, 2004)

Thibault, J. (2004). Efficient identification of adults with depression and dementia. *American*

Family Physician, 70(6). Retrieved from <http://www.aafp.org/afp/2004/0915/p1101.html>

APPENDIX 3: PATIENT HEALTH QUESTIONNAIRE-9 AND INSTRUCTIONS FOR USE

Fold back this page before administering this questionnaire

INSTRUCTIONS FOR USE

for doctor or healthcare professional use only

PHQ-9 QUICK DEPRESSION ASSESSMENT

For initial diagnosis:

1. Patient completes PHQ-9 Quick Depression Assessment on accompanying tear-off pad.
2. If there are at least 4 ✓s in the blue highlighted section (including Questions #1 and #2), consider a depressive disorder. Add score to determine severity.
3. **Consider Major Depressive Disorder**
—If there are at least 5 ✓s in the blue highlighted section (one of which corresponds to Question #1 or #2)
Consider Other Depressive Disorder
—If there are 2 to 4 ✓s in the blue highlighted section (one of which corresponds to Question #1 or #2)

Note: Since the questionnaire relies on patient self-report, all responses should be verified by the clinician and a definitive diagnosis made on clinical grounds, taking into account how well the patient understood the questionnaire, as well as other relevant information from the patient. Diagnoses of Major Depressive Disorder or Other Depressive Disorder also require impairment of social, occupational, or other important areas of functioning (Question #10) and ruling out normal bereavement, a history of a Manic Episode (Bipolar Disorder), and a physical disorder, medication, or other drug as the biological cause of the depressive symptoms.

To monitor severity over time for newly diagnosed patients or patients in current treatment for depression:

1. Patients may complete questionnaires at baseline and at regular intervals (eg, every 2 weeks) at home and bring them in at their next appointment for scoring or they may complete the questionnaire during each scheduled appointment.
2. Add up ✓s by column. For every ✓: Several days = 1 More than half the days = 2 Nearly every day = 3
3. Add together column scores to get a TOTAL score.
4. Refer to the accompanying PHQ-9 Scoring Card to interpret the TOTAL score.
5. Results may be included in patients' files to assist you in setting up a treatment goal, determining degree of response, as well as guiding treatment intervention.

PHQ-9 SCORING CARD FOR SEVERITY DETERMINATION

for healthcare professional use only

Scoring—add up all checked boxes on PHQ-9

For every ✓: Not at all = 0; Several days = 1;
More than half the days = 2; Nearly every day = 3

Interpretation of Total Score

Total Score	Depression Severity
0-4	None
5-9	Mild depression
10-14	Moderate depression
15-19	Moderately severe depression
20-27	Severe depression

PATIENT HEALTH QUESTIONNAIRE (PHQ-9)

NAME: _____ DATE: _____

Over the last 2 weeks, how often have you been
bothered by any of the following problems?
(use "✓" to indicate your answer)

	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself—or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed. Or the opposite —being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead, or of hurting yourself	0	1	2	3

add columns + +

(Healthcare professional: For interpretation of TOTAL, TOTAL:
please refer to accompanying scoring card).

10. If you checked off <i>any</i> problems, 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	_____

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A2663B 10-04-2005

Scottish Government. Delivering for health: Using self-help in primary care and community
based everyday service delivery for mild to moderate psychological problems. Retrieved
from <http://www.gov.scot/Publications/2007/01/09114002/12>

APPENDIX 4: INSTITUTIONAL REVIEW BOARD

----- Original message-----

From: IRB

Date: Tue, May 30, 2017 7:52 AM

To: Grimes, Jessica;

Cc: Davison, Jean Ann; Miller, Lisa H;

Subject: IRB Notice – 17-1048

To: Jessica Grimes

School of Nursing

From: Office of Human Research Ethics

Date: 5/30/2017

RE: Determination that Research or Research-Like Activity does not require IRB Approval

Study #: 17-1048

Study Title: Improving STD Enhanced Role RN Education of the Importance of Depression Screening during STDs/HIV Risk Assessments to Evoke Practice Change

This submission was reviewed by the Office of Human Research Ethics, which has determined that this submission does not constitute human subjects research as defined under federal regulations [45 CFR 46.102 (d or f) and 21 CFR 56.102©(e)(l)] and does not require IRB approval.

Study Description:

Purpose: This DNP project is an educational project targeting Enhanced Role Registered Nurses (ERRN) who work in the NC Local Health Department STD Clinics. The PI (Jessica Grimes) will provide evidence-based education to the ERRNs on the importance of utilizing depression screens for patients at risk for HIV or STDs and evaluate the effectiveness of the education and the ERRN's self-reported efficacy and frequency of depression screens in the STD Clinics.

Participants: Enhanced Role Registered Nurses who work in the NC Local Public Health Department STD Clinics

Procedures (methods):

This project will be completed in three phases. During Phase One, the ERRNs will complete a voluntary participation needs assessment survey to determine the ERRN's baseline knowledge and skills along with barriers to practice.

In Phase Two, the PI will design and offer an evidence based Continuing Nurse Education

(CNE) course on depression screening to the ERRNs to meet the knowledge and skills gap identified in the needs assessment. The CNE will include pretest and posttest questions to measure learner outcomes. CNE will be offered for participants who request CNE, via the NC Division of Public Health Public Health Nursing and Professional Development Unit, which is the regulatory body that awards CNE credit to ERRNs. This DNP project will look at pre/post test results with names and identifying data removed.

Finally, in Phase Three, the ERRNs who voluntarily participate in the course will receive two surveys spaced three weeks apart weeks to evaluate the ERRNs' knowledge on the association between risk for STDs/HIV and depression, the ERRNs self-reported self-efficacy and practice change as measured by self-reported frequency of depression screens performed in the STD Clinics, and achievement of Specific, Measurable, Attainable, Realistic and Timely (SMART) goals they set after the CNE course.

Please be aware that approval may still be required from other relevant authorities or "gatekeepers" (e.g., school principals, facility directors, custodians of records), even though IRB approval is not required.

If your study protocol changes in such a way that this determination will no longer apply, you should contact the above IRB before making the changes.

CC:

Jean Davison, School of Nursing

Lisa Miller , School of Nursing Deans Office
IRB Informational Message - please do not use email REPLY to this address

APPENDIX 5: JUNE 11, 2017 EMAIL WITH MEMO TO DIRECTORS OF NURSING

Sent on behalf of Jessica Grimes, RN, DNP candidate at UNC SON. Please send all replies to Jessica.

To NC LHD Directors of Nursing and Nurse Supervisors,

My name is Jessica Grimes and I am a second year Doctor of Nursing Practice (DNP) student at the University of North Carolina at Chapel Hill School of Nursing. I am emailing you to request your support for my DNP project designed to provide education to the Enhanced Role Registered Nurses about the importance of depression screening in the STD clinics. I have attached a memo for further detail of my objectives and wishes for my DNP Project. I welcome any questions, comments, or suggestions you have. I appreciate your feedback and support. I look forward to working with you!

Jessica Grimes, BSN, RN
DNP Candidate
University of North Carolina at Chapel Hill

301-717-2290 mobile
jkaylyn@email.unc.edu

Memo Attachment

TO: NC LHD Directors of Nursing and Nurse Supervisor

FROM: Jessica Grimes, RN, and DNP Candidate

SUBJECT: Requesting Support for Providing Education to ERRNs on Depression Screening during STD Clinic Visits

My name is Jessica Grimes and I am a Doctor of Nursing Practice (DNP) Family Nurse Practitioner student at the University of North Carolina at Chapel Hill. I am beginning a DNP Project designed to enhance healthcare systems through evidence-based interventions and guidelines on depression screening and request your support for my DNP Project. I am passionate about incorporating mental health into primary care. Depression screening is an effective way to identify individuals needing mental health care. The United States Preventative Services Task Force (USPSTF) recommends depression screening for all adolescents and adults. Research shows that individuals who are at risk for STDs are also at risk for depression because both share some of the same risk factors like drug/substance use and unprotected sex.

In learning about the Enhanced Role Registered Nurses' pivotal role in the STD Clinics, I believe the ERRNs are in a great position in their daily interactions with individuals at risk for STDs to also screen for depression in accordance with the USPSTF guidelines.

For my DNP Project, I will provide Continuing Nurse Education (CNE)* to ERRNs about the importance of depression screening in the STD Clinics in hopes that the ERRNs will be able to take this education and screen patients in the STD Clinics for depression. I understand that there will be a multitude of barriers to address. Therefore, I will send out a needs assessment survey to the ERRNs to assess the learning gaps and barriers to better tailor my CNE to fit the ERRNs' needs. Following the dissemination of the CNE course, I will follow up with the ERRNs to see if the education has changed or affected their practice.

I am fortunate to have Dr. Jean Davison as my DNP Project chair and Dr. Susan Little on my committee who have both been instrumental in helping me to understand the structure and role of the ERRNs in the STD Clinics as I prepare to offer this CNE. In addition, the NC Communicable Disease Branch and TATP Nurse Consultants are in support of this project. Your leadership is key in supporting the ERRNs as they care for underserved populations. I hope that I can add to the strong contribution the ERRNs make to their communities through my DNP Project. Please let me know any questions you have and I look forward to working with you.

Sincerely,

Jessica Grimes, BSN, RN
DNP Candidate
University of North Carolina at Chapel Hill School of Nursing
301-717-2290 mobile
jkaylyn@email.unc.edu

*The Public Health Nursing and Professional Development Unit, North Carolina Division of Public Health, is approved as a provider of continuing nursing education by the North Carolina Nurses Association, an accredited approver by the American Nurses Credentialing Center's Commission on Accreditation.

APPENDIX 6: JUNE 11, 2017 EMAIL WITH MEMO: LHD DON FEEDBACK

Email with Question

From: LHD DON
Sent: Monday, June 12, 2017 8:15 AM
To: Little, Susan H
Subject: RE: Depression Screening in the STD Clinic

Susan, has this been vetted with the STD Nurse Consultants across the regions? Is depression screening a mandated part of the STD assessment and exam and is there a tool recommended currently for the assessment? I think this is the only way it will be incorporated as a required element of the patient care for the STD ERRNs? Will it be taught as a part of the ERRN coursework in Chapel Hill? I am drafting a policy for working with new CH ERRNs and the CRAAFT screening tool is a required element for them for adolescent assessments. Thanks

LHD DON

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Email Response from Susan Little

From: Little, Susan H
Sent: Monday, June 12, 2017 8:41 AM
To: LHD DONs and Nurse Supervisors
Cc: STD Nurse Consultant>; jkaylyn@email.unc.edu
Subject: RE: Depression Screening in the STD Clinic

Good morning, LHD DON;

Thank you so much for your insightful questions. Jessica is using this DNP project and the related CNE training and practice evaluation to evaluate the integration of EB depression screening, as recommended by the United States Preventative Services Task Force, into the STD ERRN visit. The STD Nurse Consultant, of the CD Branch, and Dr. Jean Davison, UNC SPH Instructor of the STD ERRN training have been involved in the planning of the project (Dr. Davison is Jessica's DNP Committee Chair). The STD Nurse Consultant has been communicating with the other TATP Nurse Consultants about the project.

We have spoken at length about some of the barriers that will need to be addressed, policy being one of them. They will use a tool that is already addressed in the STD ERRN training (PHQ-

2). Agency policy and where/how to document in the existing STD visit encounter form will be addressed as part of the training. Dr. Davison will assess the DNP project outcomes with the intention of integrating the content into the STD ERRN training once the project is complete and data has been collected.

Please let me know if you have any other questions!

Take
Susan

Email Response from LHD DON

Great to know all sides are working on this to incorporate into the ERRN STD assessment. Behavioral Health is so much a missed opportunity in all areas of our practice. THX

LHD DON

CONFIDENTIALITY NOTICE: This message and any attachments included are from the Mecklenburg County Health Department and are for sole use by the intended recipient(s). The information contained herein may include confidential or privileged information. Unauthorized review, forwarding, printing, copying, distributing, or using such information is strictly prohibited and may be unlawful. If you received this message in error, or have reason to believe you are not authorized to receive it, please contact the sender by reply email and destroy all copies of the original message. Thank you!

Selected LHD DON Email Response with Support

Email One

You are absolutely correct in that many of my clients have issues with depression and low self-esteem. These are not stupid people that seem to be on a revolving door into my clinic. Their poor choices are rather a product of needing attention in some cases rather than not knowing of the risks and dangers of having unprotected sex with “strangers”. I use the word strangers a lot in discussing risk reduction in that when you know someone’s name and facial recognition, that does not mean that you know them. I look forward to you presenting the course to NC STD ERRN’s. I have been an STED ERRN since 1996 and am anxious to learn anything new to help my clients.

LHD DON

Email Response from Jessica Grimes

LHD DON,

It is wonderful to hear a first-hand experience from caring for this vulnerable population. I really hope I can make a difference and strengthen a wonderful program and cause!

Thank you for your support!

Jessica Grimes

Email Two

Thank you for sharing your project, yes I think this is a great idea and I wholeheartedly support it. I am actually doing a project where we are incorporating Post-Partum Depression Screening in our WIC clinics. I am copying our Health Manager for our Adult Clinics to let her know I am in support of this initiative. Please advise how I can help. I actually have over 30 years of community behavioral experience. I just joined the PHD two years ago. I look forward to speaking to you in the future.

LHD DON

Email Response from Jessica Grimes

LHD DON,

Thank you so much for your thoughtful and supportive response. I am excited to work with such an influential group of nurses and hope I can make a difference for these clients. Thank you for copying your Health Manager to this email. I will definitely email you for any advice going forward.

I look forward to working with you!

Jessica Grimes, BSN, RN
DNP Candidate
University of North Carolina at Chapel Hill

301-717-2290 mobile
jkaylyn@email.unc.edu

APPENDIX 7: NEEDS ASSESSMENT SURVEY

At the start of the survey, the ERRN were asked to enter a best contact email and state the county the ERRN works in. Additionally, the ERRNs were asked the following question to see if they would be interested in a CNE opportunity:

A Continuing Nurse Education will be offered to ERRNs addressing the importance of depression screening during STDs/HIV risk assessments and the application of depression screening into practice. Would you find this Continuing Nurse Education content beneficial?

- a. Yes
- b. No
- c. Maybe

If interested, may we contact you by email?

- a. Yes
- b. No

After the introduction question, the survey will begin with a statement of confidentiality and voluntary consent: “Thank you for voluntarily taking this survey. This is a Doctor of Nursing Practice project with the University of North Carolina at Chapel Hill School of Nursing. Your responses will be anonymous and data will be compiled so that your comments and responses will not be associated with your email or personal identifying information.”

The survey questions are as follows:

1. How many years have you worked as an STD Enhanced Role RN?
 - a. 0-1 years
 - b. 1-2 years
 - c. 3-4 years

- d. 5 years or greater
2. How many days per week are STD services available at your agency?
- a. 1-2 days
 - b. 3-4 days
 - c. 5 days or more
3. What is the average number of patients/clients you assess as an STD Enhanced Role RN in the STD clinic per week?
- a. 1-5 clients
 - b. 6-10 clients
 - c. 11-15 clients
 - d. 16-20 clients
 - e. 21 clients or more
4. Do you function in other ERRN or clinic roles? If so what are those roles?
- a. No
 - b. Yes. Please describe.
5. How often does your agency screen for depression?
- a. My agency screens all adults for depression regardless of clinic
 - b. Depression screening is done in some agency clinics but not in the STD clinics*
 - c. My agency screens females for depression in clinics such as the prenatal care, women's health, family planning, and/or Breast and Cervical Cancer Control Program (BCCCP) but males are not a part of these clinics so males do not get screened for depression

If a survey participant selects answer choice 5b they will be directed to the following question:

What agency clinics do screen for depression? Please write in your answer.

6. How often do you screen for depression? Please choose the best answer that reflects your personal screening practices.

a. I personally screen for depression if a patient presents with signs of depression.

Signs of depression include but are not limited to apathy in regards to treatment of STDs, lack of social support, depressed mood, expressing feelings of hopelessness, self-care deficit, or changes in behavior, mood, or affect if you see this patient on multiple occasions**.

b. I personally screen all patients for depression regardless of subjective or objective signs of depression**.

c. I personally do not screen for depression in the STD clinic, but screen in women's health and/or prenatal clinics.

d. I personally do not screen for depression due to my comfort level, lack of mental health referral services, and because depression screening is not required on our assessment forms***.

**If a survey participant selects answer choice 6a or 6b they will be directed to the following question: How do you screen for depression?

a. A verified screening tool. If yes, what is the screening tool? Please write in your answer.

b. I use my own questions I feel are most appropriate for the patient or situation.

*** If a survey participant selects answer choice 6d they will be directed to the following

question: Individually check all that apply. I personally do not screen for depression due to:

- a. My comfort level
 - b. I believe mental health referral options are limited should a patient screen positive on the depression screen
 - c. Depression screens are not required on our assessment forms
 - d. Other. Please write in your answer.
7. What are some barriers to depression screening in your **STD Clinic**? Check all that apply.
- a. No enough or limited time
 - b. Not recommended or supported in our STD clinic
 - c. Comfort level with administering and interpreting depression screens
 - d. No adequate referrals to mental health services
 - e. I am concerned with what to do if I get a positive result
 - f. I am not familiar with the mental health services available
 - g. I cannot bill for depression screens in the STD Clinic
 - h. Other. Please describe
8. I am comfortable and confident in my ability to screen for depression and refer to mental health resources as necessary.
- a. Strongly agree
 - b. Agree
 - c. Neither agree nor disagree
 - d. Strongly disagree
9. Are you familiar with the mental health resources available to your patients in your community?

- a. Yes
 - b. No
 - c. Somewhat
10. Does your agency have a referral process in place for clients needing mental health services?
- a. Yes
 - b. No
 - c. I don't know
11. What are some risk factors STDs/HIV and depression share? Select all that apply.
- a. Unprotected sex
 - b. Sex with multiple partners
 - c. Sexual relations with sex workers
 - d. Drug and or alcohol use
 - e. Sexual compulsivity
 - f. Sex for drugs or money
12. I understand the association between populations at risk for STDs/HIV and depression and can apply this concept into my role as an Enhanced Role RN.
- a. Strongly agree
 - b. Agree
 - c. Neither agree nor disagree
 - d. Strongly disagree
13. Please share your preferred learning method. Check all that apply.
- a. Live webinars where I can ask questions

- b. Online modules I can take at anytime
- c. Other. Please describe.

14. Please share your preferred learning style. Select all that apply.

- a. Visual
- b. Verbal (such as writing out the new concept in your own words via an outline or notes)
- c. Auditory
- d. Learning through experience or practice
- e. Taking time to reflect on what you know and the new information you will be learning

APPENDIX 8: NEEDS ASSESSMENT SURVEY CROSS TABULATION TABLES

Table 3

ERRN Years of Experience with Depression Screening Practices

	ERRN years of experience				Total
	0-1 years	1-2 years	3-4 years	5 years or more	
I personally do not screen for depression.	1 (11%)	2 (20%)	1 (8%)	3 (10%)	7 (11%)
I personally do not screen for depression in the STD clinic, but screen in women's health and/or prenatal clinics.	3 (33%)	2 (20%)	9 (75%)	9 (30%)	23 (38%)
I personally screen for depression if a patient presents with signs of depression.	2 (22%)	5 (50%)	2 (17%)	16 (53%)	25 (41%)
I personally screen all patients for depression regardless of subjective or objective signs of depression.	3 (33%)	1 (10%)	0 (0%)	2 (7%)	6 (10%)
Total number (n)	9	10	12	30	61

Table 4

ERRN Years of Experience with Comfort Level with Administering Depression Screens and Referring to Mental Health

“I am comfortable and confident in my ability to screen for depression and refer to mental health services if needed.”	ERRN years of experience				Total
	0-1 years	1-2 years	3-4 years	5 years or more	
Strongly disagree	0 (0%)	0 (0%)	1 (9%)	0 (0%)	1 (2%)
Disagree	1 (11%)	1 (10%)	1 (9%)	3 (10%)	6 (10%)
Neither agree nor disagree	2 (22%)	4 (40%)	4 (36%)	4 (14%)	14 (24%)
Agree	5 (56%)	5 (50%)	4 (36%)	19 (66%)	33 (56%)
Strongly agree	1 (11%)	0 (0%)	1 (9%)	3 (10%)	5 (8%)
Total number (n)	9	10	11	29	59

Table 5

ERRN's Comfort Level with Administering Depression Screens and Referring to Mental Health with Depression Screening Practices

	"I am comfortable and confident in my ability to screen for depression and refer to mental health services if needed."					Total
	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	
I personally do not screen for depression.	0 (0%)	3 (50%)	3 (21%)	1 (3%)	0 (0%)	7 (12%)
I personally do not screen for depression in the STD clinic, but screen in women's health and/or prenatal clinics.	1 (100%)	1 (17%)	4 (29%)	12 (36%)	3 (60%)	21 (36%)
I personally screen for depression if a patient presents with signs of depression.	0 (0%)	2 (33%)	6 (43%)	15 (45%)	2 (40%)	25 (42%)
I personally screen all patients for depression regardless of subjective or objective signs of depression.	0 (0%)	0 (0%)	1 (7%)	5 (15%)	0 (0%)	6 (10%)
Total number (n)	1	6	14	33	5	59

Table 6

ERRN's Understanding of the Association between STDs/HIV and Depression with Depression Screening Practices

	I understand the association between populations at risk for STDs/HIV and depression and can apply this concept into my role as an Enhanced Role RN.				
	Disagree	Neither agree nor disagree	Agree	Strongly agree	Total
I personally do not screen for depression.	0 (0%)	3 (19%)	4 (12%)	0 (0%)	7 (12%)
I personally do not screen for depression in the STD clinic, but screen in women's health and/or prenatal clinics.	1 (50%)	5 (31%)	12 (36%)	3 (43%)	21 (36%)
I personally screen for depression if a patient presents with signs of depression.	1 (50%)	5 (31%)	15 (45%)	3 (43%)	24 (42%)
I personally screen all patients for depression regardless of subjective or objective signs of depression.	0 (0%)	3 (19%)	2 (6%)	1 (14%)	6 (10%)
Total number (n)	2	16	33	7	58

Table 7

Average Number of Patients Seen per Week with Depression Screening Practices

Average number of patients seen in STD clinic per week						
	1-5 patients	6-10 patients	11-15 patients	16-20 patients	21 patients or more	Total
I personally do not screen for depression.	0 (0%)	1 (8%)	0 (0%)	1 (14%)	5 (33%)	7 (11%)
I personally do not screen for depression in the STD clinic, but screen in women's health and/or prenatal clinics.	9 (47%)	5 (42%)	3 (38%)	2 (29%)	4 (27%)	23 (38%)
I personally screen for depression if a patient presents with signs of depression.	8 (42%)	(50%)	(38%)	(57%)	(27%)	5 (41%)
I personally screen all patients for depression regardless of subjective or objective signs of depression.	2 (11%)	0 (0%)	2 (25%)	0 (0%)	2 (13%)	6 (10%)
Total number	19 (31%)	12 (20%)	8 (13%)	7 (11%)	15 (25%)	61

APPENDIX 9: EMAIL TO BRANCH HEADS REQUESTING TEMPORARY POLICY
ADDENDUM APPROVAL WITH ATTACHED TEMPORARY POLICY ADDENDUM

Dear Branch Heads,

Hello, my name is Jessica Grimes and I am a Doctor of Nursing Practice (DNP) student at the University of North Carolina at Chapel Hill. For my DNP Project, I am excited to work with the STD Enhanced Role RNs (ERRNs) to incorporate a depression screening questionnaire into the STD risk history assessment. I will provide the ERRNs with training on the Patient Health Questionnaire-2 or PHQ-2 to screen all clients in the STD clinics for depression. The PHQ-2 is a great option for STD clinics because it is quick, easy to use, includes the same symptoms as the American Psychiatric Association's diagnostic criteria for depression, and has a high sensitivity and specificity. I have worked with Dr. Jean Davison from the UNC School of Nursing and Dr. Susan Little and a TATP Nurse Consultant from the NC DPH during the planning of this project and creation of the training and related documents.

I understand that in order for the Enhanced Role RNs to screen for depression in the STD Clinic, there must be a temporary LHD STD program policy addendum in place. I have attached a proposed policy addendum to this email that I created in consultation with Dr. Little and the TATP Nurse Consultant. I would greatly appreciate any feedback, comments, or concerns.

I am grateful for the opportunity to collaborate with NC DPH and work with the Enhanced Role RNs over the course of my DNP Project. I hope I can enhance the great work the Enhanced Role RNs do every day to improve the health of our communities. Thank you for your time and consideration. I look forward to hearing from you soon with any feedback or suggestions to improve the draft policy addendum I have attached.

Sincerely,

Jessica Grimes, BSN, RN
DNP Candidate
University of North Carolina at Chapel Hill

301-717-2290 mobile
jkaylyn@email.unc.edu

COUNTY HEALTH DEPARTMENT

Policy and Procedure Addendum

Title: ERRN Depression Screening in the STD Clinic	Category/Number:
Approved By: _____ _____	Section: _____ Program: _____
Effective Date: _____ Current Revision Effective Date: Revision History Date/s: _____	Review Date/s: _____ _____ _____

Purpose: The United States Preventative Services Task Force recommends depression screening for all adolescents and adults. Because depression is associated with the risk of STDs/HIV, all STD Enhanced Role RNs (ERRNs) will integrate depression screening into the STD visits during a pilot project conducted by the UNC School of Nursing. The pilot project will start once the STD ERRNs have received training and will continue through December 2017.

Policy: The STD Enhanced Role RNs will screen all patients they assess in the STD Clinic using the PHQ-2 depression screen.

Definitions: The Patient Health Questionnaire-2 or PHQ-2 is a two question depression screen filled out by the patient and scored by the clinician. The PHQ-2 asks the patient the frequency of anhedonia or depressed mood over the past two weeks.

Responsibilities: STD Enhanced Role RNs

Procedure:

1. The ERRNs will give a paper copy of the PHQ-2 to the patients they assess in the STD Clinic for the patient to complete.
2. The ERRNs will score, date, and sign the paper PHQ-2, affix a patient label, and scan the screen into the patient's chart.
3. If the PHQ-2 score is positive as indicated by a score of 3 or above, the ERRN will ask the patient "Have you had thoughts that you would be better off dead or of hurting yourself in some way?" and record the answer in the comments section.

4. In the comments section of the visit encounter, the STD ERRN will also add a note with the results of the PHQ-2 screening, any information provided to the patient, and any referrals made to mental health resources.

References: The United States Preventative Services Task Force recommends depression screening for all adolescents and adults.

U.S. Preventative Services Task Force. (2016). Final recommendation statement: depression in adults: screening. Retrieved from <https://www.uspreventiveservicestaskforce.org/Page/Document/RecommendationStatementFinal/depression-in-adults-screening1>

APPENDIX 10: SEPTEMBER 25, 2017 EMAIL REQUESTING SUPPORT TO THE DIRECTORS OF NURSING AND NURSE SUPERVISORS

To the Directors of Nursing and Nurse Supervisors,

Hello, my name is Jessica Grimes and I am a Doctor of Nursing Practice (DNP) student at UNC Chapel Hill. In partial fulfillment of my degree, I am conducting a DNP Project in which I will be disseminating a course which is eligible to count toward STD ERRN continuing education requirements. The course is about the importance of performing depression screens in the STD clinics due to the close association between depression and the risk of STDs/HIV and the USPSTF's recommendation to screen all adolescents and adults for depression. I originally reached out to you about this project on 6/11/2017 and am seeking your support in helping the ERRNs conduct depression screens in your STD clinic after they complete the required online course. I have included a copy of the course presentation (attached to this email).

I am grateful to have Dr. Susan Little and Dr. Jean Davison on my project committee who have been instrumental in helping me formulate and offer this course to the STD ERRNs. I have created a temporary policy addendum (attached to this email) with the help of Dr. Little, Dr. Davison, and three TATP STD Nurse Consultants that has been approved by NC DPH Branch Heads to support the STD ERRNs as they begin to conduct depression screens in the STD clinic. Depending on the policies and logistics of your health department, you may adopt this temporary policy addendum as is or adapt it as you see fit to support the ERRNs performing depression screens in the STD clinic.

The below timeline was created to support implementation during this pilot project:

1. October 2 to October 16: The course will be sent out the ERRNs and they will have two weeks to view the course and complete the course requirements
2. October 16 to October 30: The ERRNs will be asked to communicate and work with you to decide the best way to implement depression screens in your clinic including change in clinic process to include new practice, adopting or adapting the temporary policy addendum, and training ERRNs and other affected agency employees on the new policy
3. October 30: The ERRNs will begin implementing depression screens in the STD clinic
4. November 20: I will send out an initial survey asking the ERRNs to self-report their progress on their SMART goal around screening for depression in the STD clinic. This is a self-report, I am not asking for any specific client data
5. December 11: I will send out a final survey asking the ERRNs to self-report their progress on screening for depression in the STD clinic (again, I am not asking for any client data or chart audits)

Please let me know if you have any questions or concerns and I would be happy to address them with you. Thank you for your consideration, time, and support. I look forward to working with you and the ERRNs.

Sincerely,

Jessica Grimes, BSN, RN
DNP Candidate
University of North Carolina at Chapel Hill

301-717-2290 mobile
jkaylyn@email.unc.edu

APPENDIX 11: EMAIL TO STD ERRNS OFFERING COURSE

Sent on behalf of Jessica Grimes, RN, DNP candidate at UNC SON. Please send all replies to Jessica (jkaylyn@email.unc.edu). Please excuse this email if you are not involved in the STD clinic. Susan

STD ERRNs,

Hello, my name is Jessica Grimes and I am a Doctor of Nursing Practice (DNP) student at UNC Chapel Hill. You may remember this summer I sent a survey to all STD ERRNs asking about current depression screening practices in the STD clinic. Based on your feedback, I am offering a course with CNE contact hours, which can be used toward your required ERRN continuing education, on the benefit and need to perform depression screening in the STD clinic. This course will provide you with the knowledge and tools to understand why depression screening is vital to patients presenting to the STD clinic, information about depression, how to perform depression screens specific to the STD clinic and this project and set goals to assist transitioning knowledge into practice.

After completing the online course, STD ERRNs are asked to conduct depression screening in the STD clinic for this pilot project. The timeline below was created to support implementation and has been shared with nursing supervisors and DONs:

October 2 to October 16: View the course and complete the course requirements

October 16 to October 30: Work with your program or nursing supervisor/DON to decide the best way to implement depression screens in your clinic including any change in clinic process to include new practice, adopting or adapting the temporary policy addendum, and training STD ERRNs and other affected agency employees on the new policy

October 30: Begin implementing depression screens in the STD clinic

November 20: I will send out an initial survey asking the STD ERRNs to self-report their progress on their goal around screening for depression in the STD clinic. This is a self-report, I am not asking for any specific client data

December 11: I will send out a final survey asking the STD ERRNs to self-report their progress on screening for depression in the STD clinic

To receive 2.0 CNE contact hours for this course, you must complete the pretest prior to the course, the course, and the posttest. For your reference, this email includes the following attachments: the PowerPoint presentation with speaker notes and PowerPoint presentation handout, mental health resources available to you and your patients, the PHQ-2 depression screen, and a temporary policy addendum in support of STD ERRNs performing depression screens in the STD clinic. The links to the pretest, course, and posttest are below.

Pretest: https://unc.az1.qualtrics.com/jfe/form/SV_dgsnevMcxMFOJM1

Course: <https://echo360.org/media/ff2d88db-446d-4b10-858e-5c7f0f9e7815/public>

Posttest and link to certificate: https://unc.az1.qualtrics.com/jfe/form/SV_e3RLiw2I0eWOFHT

Please let me know if you have any questions. I look forward to working with you!

Jessica Grimes, BSN, RN
DNP Candidate
University of North Carolina at Chapel Hill

APPENDIX 12: FOLLOW-UP SURVEYS

First Follow-Up Survey

1. Reflect on the SMART goal you set a few weeks ago. Measure your SMART goal progress using the Goal Attainment Scale below.
 - a. I always exceeded my goal
 - b. I almost always exceeded my goal
 - c. I met my goal
 - d. I sometimes met my goal
 - e. I never met my goal
2. What are some barriers you encountered when screening for depression in your STD clinic? Select all that apply.
 - a. Not enough or limited time
 - b. We weren't able to get support from our leadership
 - c. Comfort level with administering and interpreting depression screens
 - d. No adequate referrals options to mental health services
 - e. I am not familiar with the mental health services available
 - f. It was difficult to document depression screen results in the medical record
 - g. I did not encounter any barriers or was able to resolve them without much difficulty
 - h. Other. Please describe.
3. What are some supportive factors you found when screening for depression in your STD clinic? Select all that apply.
 - a. Support from leadership

- b. I had the education and /or tools I needed to implement depression screens
 - c. My STD clinic's medical record system allowed for easy documentation of depression screen results
 - d. I had adequate time to screen patients for depression during the STD visit
 - e. Other. Please describe.
4. Please provide any additional comments you have about your experience implementing depression screens in your STD clinic.

Second Follow Up Survey


1. Reflect on the SMART goal you set a few weeks ago. Measure your SMART goal progress using the Goal Attainment Scale below.
- a. I always exceeded my goal
 - b. I almost always exceeded my goal
 - c. I met my goal
 - d. I sometimes met my goal
 - e. I never met my goal
2. What are some risk factors STDs/HIV and depression share? Check one or more that apply.
- a. Unprotected sex
 - b. Sex with multiple partners
 - c. Sexual relations with sex workers
 - d. Drug and or alcohol use
 - e. Sexual compulsivity
 - f. Sex for drugs or money

- g. All of the above
- 3. What are signs and symptoms of depression?
 - a. Anhedonia (inability to feel pleasure in things that were once pleasurable)
 - b. Psychomotor agitation (movements that serve no purpose such as pacing around the room, tapping your toes, or abruptly starting and stopping tasks)
 - c. Feeling tired or having little energy
 - d. All of the above
- 4. How does the United States Preventative Services Task Force recommend clinicians screen for depression?
 - a. Screen only adults
 - b. Screen adults and adolescents with appropriate systems in place to ensure adequate follow up
 - c. Screen in mental health clinics only that are more equipped to deal with depression
 - d. Screen adults only if they show signs and symptoms of depression
- 5. The PHQ-2 is
 - a. A brief depression screen
 - b. Establishes a diagnosis of depression
 - c. Uses symptoms from DSM-5
 - d. Both A and C
- 6. The PHQ-2 asks the following two questions:
 - a. Feeling bad about yourself or that you are a failure or have let yourself or your family down

- b. Thoughts that you would be better off dead or of hurting yourself in some way
 - c. Little interest or pleasure in doing things
 - d. Feeling down, depressed, or hopeless
7. What are some barriers you encountered when screening for depression in your STD clinic? Select all that apply.
- a. Not enough or limited time
 - b. We weren't able to get support from our leadership
 - c. Comfort level with administering and interpreting depression screens
 - d. No adequate referrals options to mental health services
 - e. I am not familiar with the mental health services available
 - f. It was difficult to document depression screen results in the medical record
 - g. I did not encounter any barriers or was able to resolve them without much difficulty
 - h. Other. Please describe.
8. What are some supportive factors you found when screening for depression in your STD clinic? Select all that apply.
- a. Support from leadership
 - b. I had the education and /or tools I needed to implement depression screens
 - c. My STD clinic's medical record system allowed for easy documentation of depression screen results
 - d. I had adequate time to screen patients for depression during the STD visit
 - e. Other. Please describe.


9. Please provide any additional comments you have about your experience implementing depression screens in your STD clinic.

APPENDIX 13: DEPRESSION SCREENING IN THE STD CLINIC COURSE



DEPRESSION SCREENING IN THE STD CLINIC

Jessica Grimes, BSN, RN
DNP Candidate
University of North Carolina at
Chapel Hill School of Nursing
jgrimes@email.unc.edu




DISCLOSURES

This CNE activity is being provided by the NC Division of Public Health's Public Health Nursing and Professional Development Approved Provider Unit in collaboration with the University of North Carolina School of Nursing and the NC Division of Public Health Communicable Disease Branch Technical Assistance and Training Program.

Completion Criteria: the Learner must attend 100% of the educational activity, and complete a pre-test and post-test/evaluation form to receive 2 CNE contact hours.

No conflict of interest exists for any individual in a position to control content of the activity, including planning committee members and presenter.

The Public Health Nursing and Professional Development Unit, North Carolina Division of Public Health, is approved as a provider of continuing nursing education by the North Carolina Nurses Association, an accredited approver by the American Nurses Credentialing Center's Commission on Accreditation.



Needs Assessment Survey

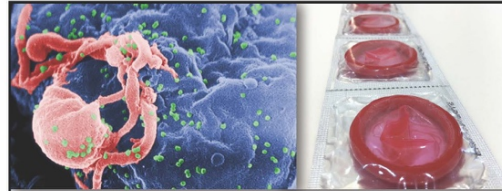
LEARNER OUTCOMES

Upon completion of this CNE activity, the learner will:

- Understand the association between risk for STDs/HIV and depression
- Be able to interpret the PHQ-2
- Be able to apply the PHQ-2 in the STD Clinic
- Be able to create a S.M.A.R.T. goal related to using the PHQ-2 in practice in the STD Clinic

COURSE OUTLINE

1. Prevalence of STDs/HIV
2. Depression and STDs/HIV
3. Depression overview
4. How to perform depression screening
5. S.M.A.R.T. goals



PREVALENCE OF STDs/HIV

HIV STATISTICS

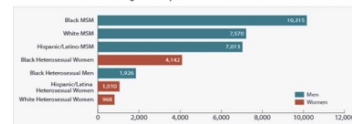
- 1.1 million people in the USA are living with HIV
- 1 out of 7 people living with HIV do not know they are infected
- 2015: 39,513 people were diagnosed with HIV
- Number of new HIV diagnoses decreased 19% from 2005 to 2014



CDC, <http://www.cdc.gov/hiv/data/index.htm>; HIV Surveillance Report 2014:27, CDC, <http://www.cdc.gov/hiv/data/index.htm>; From National HIV Survey, 2014.

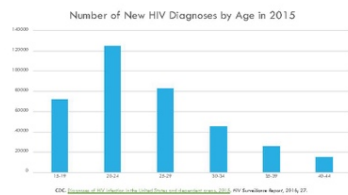
HIV STATISTICS: DISPARITIES IN SEXUAL ORIENTATION AND ETHNICITY

Number of New HIV Diagnoses by Race and Sexual Orientation in 2015



CDC, <http://www.cdc.gov/hiv/data/index.htm>; HIV Surveillance Report 2015:27, CDC, <http://www.cdc.gov/hiv/data/index.htm>; Subpopulations representing 95% of new HIV diagnoses are not reflected in this chart. Subpopulations MSM, men who have sex with men.

HIV STATISTICS: DISPARITIES IN AGE



HIV STATISTICS: DISPARITIES BY REGION

Rates of HIV Diagnoses Among Adults and Adolescents in 2015



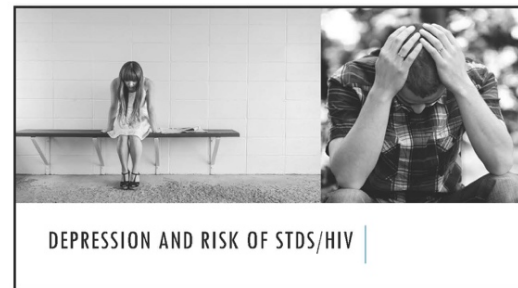
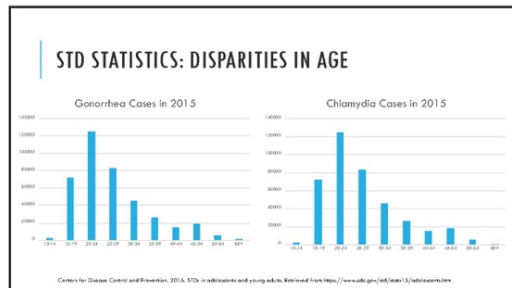
STD STATISTICS

2015 is the second year in a row that all three nationally reported STDs increased.

	2015 Cases	Rate per 100,000	Rate Change from 2014 to 2015
Chlamydia	1,526,658	479	+ 6%
Gonorrhea	395,216	124	+ 13%
Syphilis (primary and latent)	23,872	8	+ 19%

STD STATISTICS: DISPARITIES IN SEXUAL ORIENTATION AND ETHNICITY

- Gay, bisexual, and other men who have sex with men are at the highest risk of acquiring STDs
- African Americans and Hispanic/Latinos are more likely to acquire STDs than whites



DEPRESSION, SUBSTANCE ABUSE, AND STDs/HIV

Jackson, Seth, DiClemente, & Lin conducted a study of 701 African American female adolescents and found that depressive symptoms and substance abuse both significantly increased the likelihood of risky sexual behaviors and STDs.

DEPRESSION, SUBSTANCE ABUSE, AND STDs/HIV

Tross et al. studied DAST-10 scores in 1,258 adult patients in an outpatient substance abuse treatment program

- With each standard deviation increase in DAST-10, unprotected sex while drunk or high increased by 23%; for IDU unprotected sex while high increased by 78%

DEPRESSION, RISKY SEXUAL BEHAVIOR, AND STDS/HIV



Chicago Male Drug Use and Health Survey:
216 MSM

- Participants with the highest CES-D scores were 5.7 times more likely to have unprotected sex with a serodiscordant partner

DEPRESSION, RISKY SEXUAL BEHAVIOR, AND STDS/HIV

Canadian study of sex trade workers

- Injection drug use increased risk of depression
- 84.6% identified as depressed on the CES-D tool
- Depressed participants were more likely to have a low self-efficacy for positive sexual health practices



DEPRESSION, RISKY SEXUAL BEHAVIOR, AND STDS/HIV



Columbia University study of HIV+ men

- Severity of depression correlated with number of unprotected sexual encounters

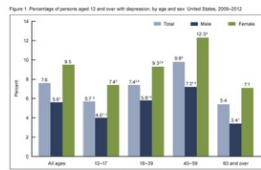


DEPRESSION

Prevalence
Diagnosis
Signs and symptoms
Mental health terminology
Screening
Management

DEPRESSION IS A MAJOR HEALTH CONCERN

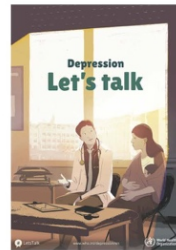
- Depression affects 7.6% of the United States, roughly 16 million people
- Young adults 18-25 are 60% more likely to suffer from depression than people aged 50 and over
- Women are 70% more likely than men to suffer from depression
- Of those with severe depression, only 35% have had contact with a mental health professional within the past year



CDC/NCHS, National Health and Nutrition Examination Survey, 2009-2012

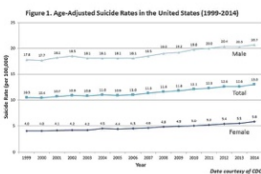
DEPRESSION IS A MAJOR HEALTH CONCERN

- The World Health Organization states depression is the leading cause of disability in the world
- In the U.S. depression accounts for 210.5 billion dollars in medical care costs directly related to depression, suicide, loss of workplace productivity, and costs of comorbidities related to depression



DEPRESSION IS A MAJOR HEALTH CONCERN

- Suicide rate has increased by 24% from 1999 to 2014. Prior to 1999, suicide rates were consistently declining.
- In the U.S. suicide is the 10th leading cause of death. In 2014, 1.3 million adults attempted to end their lives and 9.3 million adults reported thoughts of suicide
- 1 person dies from suicide every 13 minutes



Centers for Disease Control and Prevention, 2015. Suicide. Retrieved from <https://www.cdc.gov/suicide/prevention/suicide-data.html>

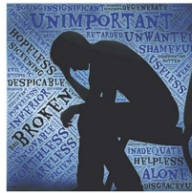
ETIOLOGY OF DEPRESSION

- Alcohol or drug use
- Genetics
- Medical illness
- Medications
- Environment/trauma
- Brain changes

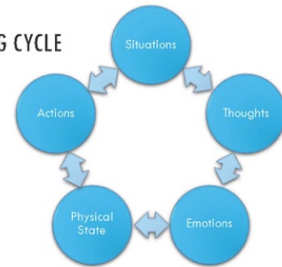


DEPRESSION IS MORE THAN A BAD DAY

- Depression is more than a "rough patch"
- Requires treatment
- You can't "snap out" of depression
- Depression isn't all in a person's head and depression is not a person's fault
- Depression is a medical illness
- Depression should be treated and validated in the same way any other diagnosis would be such as diabetes or hypertension



NEGATIVE THINKING CYCLE



SIGNS AND SYMPTOMS

- Depressed mood most of the day and nearly every day
- Markedly diminished interest or pleasure in all, or almost all, activities most the day and nearly every day
- Significant weight loss when not dieting or weight gain or changes in appetite nearly every day
- Insomnia or hypersomnia nearly every day

SIGNS AND SYMPTOMS

- Psychomotor agitation or retardation nearly every day
- Fatigue or loss of energy nearly every day
- Feelings of worthlessness or excessive or inappropriate guilt nearly every day
- Diminished ability to think or concentrate or indecisiveness nearly every day
- Recurrent thoughts of death (not a fear of dying). Recurrent suicidal ideation without a specific plan, suicide attempt, or specific plan for committing suicide.

SIGNS AND SYMPTOMS

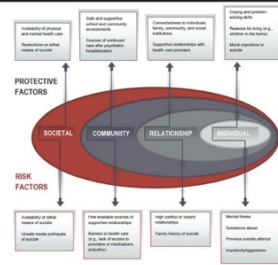
- To be diagnosed with Major Depressive Disorder, a patient must have:
 - 5 or more of the 9 symptoms listed on the previous slides over the same 2 week period
 - Symptoms must represent a change in previous functioning
 - At least one of the symptoms must be depressed mood or anhedonia (loss of interest or pleasure in doing things that were previously pleasurable)
 - No symptoms can be attributed to other medical conditions or physiological effects of a substance
 - The symptoms cause clinically significant distress or impairment in functioning

MENTAL HEALTH TERMINOLOGY

How can a clinician look, evaluate, and describe signs and symptoms of depression?

- Behavior
- Mood
- Affect

SUICIDE FACTORS



DEPRESSION SCREENING

HOW OFTEN TO SCREEN FOR DEPRESSION

2016 United States Preventive Services Task Force (USPSTF) Depression Screening Guidelines: Grade B

Depression screening for adolescents	Screen adolescents 12-18 years old. Screening should be implemented with adequate systems in place to ensure accurate diagnosis, effective treatment, and appropriate follow-up.
Depression screening for adults	Screen the general adult population, including pregnant and postpartum women. Screening should be implemented with adequate systems in place to ensure accurate diagnosis, effective treatment, and appropriate follow-up.

SURVEY RESULTS

How often do you screen for depression? Please choose the best answer that reflects your personal screening practices.

- a) I personally screen for depression if a patient presents with signs of depression. Signs of depression include but are not limited to apathy in regards to treatment of STDs, lack of social support, depressed mood, expressing feelings of hopelessness, self-care deficit, or changes in behavior, mood, or affect if you see this patient on multiple occasions.
- b) I personally screen all patients for depression regardless of subjective or objective signs of depression.
- c) I personally do not screen for depression in the STD clinic, but screen in women's health and/or prenatal clinics.
- d) I personally do not screen for depression due to my comfort level, lack of mental health referral services, and because depression screening is not required on our assessment forms.

10% or 6 out of 61 reported they screened all patients for depression

	I understand the association between populations at risk for STDs/HIV and depression and can apply this concept into my role as an Enhanced Role RN.				
	Disagree	Neither agree nor disagree	Agree	Strongly agree	Total
Do not screen	0 (0%)	3 (19%)	4 (12%)	0 (0%)	7 (12%)
Do not screen for depression in the STD clinic	1 (50%)	5 (31%)	12 (36%)	3 (43%)	21 (36%)
Screen if a patient presents with signs of depression	1 (50%)	5 (31%)	15 (45%)	3 (43%)	24 (42%)
Screen all patients	0 (0%)	3 (19%)	2 (6%)	1 (14%)	6 (10%)
Total number (n)	2	16	33	7	58

SURVEY RESULTS

How do you screen for depression?

- a) A verified screening tool. If yes, what is the screening tool? Please write in your answer.
- b) I use my own questions I feel are most appropriate for the patient or situation.

- Those that screened all (n = 6) → 83% (5/6) used verified tool
- Those that only screened with symptoms of depression (n = 25) → 40% (10/25) used tool and 60% (15/25) did not

- Patient Health Questionnaire-2 (PHQ-2) is an initial depression screen and does not establish a diagnosis
 - If a patient scores greater than or equal to 3 = Positive screen and warrants follow up
- Patient Health Questionnaire-9 (PHQ-9) is a comprehensive depression screen and can also evaluate depression severity and response to treatment

- Initial depression screen
- Does not establish a diagnosis
- Scores range from 0 to 6
- Scores based on the number of days a patient experiences the symptom
- The higher the score the greater likelihood the patient has a depressive disorder
- A score of 3 or greater warrants follow up

PHQ-2

Over the past two weeks, how often have you been bothered by any of the following problems?

1. Little interest or pleasure in doing things

2. Feeling down, depressed, or hopeless

3. Trouble falling or staying asleep, or sleeping too much

4. Trouble concentrating

5. Tired or exhausted

6. Thoughts of harming yourself

7. Thoughts of death or suicide, or suicide attempts

8. Other (specify): _____

1 = Not at all
2 = A few days
3 = More than a few days
4 = Nearly every day

Total score (sum of items 1-8): _____

Score interpretation:

PHQ-2 score	Probability of major depressive disorder	Probability of any depressive disorder
0	0%	0%
1	13.4	35.9
2	29.1	48.3
3	36.4	75.9
4	45.5	87.2
5	56.4	94.6
6	75.0	92.9

Figure 1. Patient Health Questionnaire-2 (PHQ-2). This questionnaire is used as the initial screening test for major depressive episode.

Information from Koenig K, Sykes R, Williams JB. The Patient Health Questionnaire-2: validity for detecting depression in primary care. *Med Care*. 2002; 40: 378-82.

- Scores range from 0-27
- Scores based on the number of days a patient experiences the symptom
- Less than or equal to 4 = Minimal depression
- 5-9 = Mild depression
- 10-14 = Moderate depression
- 15-19 = Moderately severe depression
- 20-27 = Severe depression

[illegible]

1. Have print outs of the PHQ-2 ready to go at the start of the day.
2. Give the patient the PHQ-2 to complete during the STD visit.
3. Add the two questions together to get the PHQ-2 score.
4. If the score is a 3 or greater, ensure the patient answers the question asking if he/she has ever had thoughts that you would be better off dead or of hurting yourself in some way.
5. Note the score on the PHQ-2 form, sign, date, & affix patient label.
6. In the comments section of the visit documentation, add a note with the results of the PHQ-2 screening, any information provided to the patient, and any referrals made to mental health resources.
7. Scan the scored PHQ-2 into the chart.

PSYCHIATRIC EMERGENCY

- Ask if they have a plan
- Assess practicality and lethality
- Evaluate risk factors for suicide
- Imminent danger to themselves or others → Call 911
- Call Crisis Solutions North Carolina

MANAGEMENT

- Some people may just have one episode of depression in their lifetime
- The majority of people will have reoccurring depressive episodes and, if left without treatment, will get worse over time
- Depressive episodes can last months to years
- In the STD clinic it is important to connect depressed patients with mental health resources

MENTAL HEALTH RESOURCES

- A patient can be referred to Mental Health Managed Care Organizations (MCO) based on the patient's location
- General Managed Care Organization Directory website: <https://www.ncdhhs.gov/providers/lms-mco-directory>
- If in a crisis/emergency situation:
 - Crisis Solutions North Carolina: <https://crisisinfo@ncdhhs.gov>. Lists crisis options for each county to include the MCOs, Mobile Crisis Teams, and Crisis Centers
 - NC DHHS Crisis Services: <https://www.ncdhhs.gov/crisisassistance/mental-health-substance-abuse/crisis-services>

[illegible]

KNOWLEDGE → OUTCOMES

- How can we put our knowledge into practice?
- Potential barriers:
 - Time
 - Supervisor support/organizational policy
 - Comfort



SETTING AND ATTAINING YOUR GOALS

SMART Goals
Create your own goal
Goal Attainment Scale

S.M.A.R.T. GOALS

- Specific- Detailed and precise. Will others know what your goal is?
- Measurable- Quantify your goal
- Attainable- Goal is achievable based on where you work, skill, ability, and resources
- Relevant- Applicable to your current role and linked to your responsibilities
- Timely- A point in time in which you can evaluate your progress

S.M.A.R.T. GOALS

"I will lose weight"



"I will run 20 minutes a day in order to lose 8 pounds at the end of 3 months"

Specific: Run 20 minutes a day
Measurable: Lose 8 pounds
Attainable: I live near a running path and have 30 minutes in the morning to work out
Relevant: Summer vacation in 3 months
Timely: End of 3 months

CREATE YOUR OWN S.M.A.R.T. GOAL

Start by reflecting on your own practice. What are your strengths? What do you need to consider in your personal practice to make your goal relevant to you?

Create a S.M.A.R.T. goal that would help you increase depression screening in the STD Clinic.

HOW DO I MEASURE MY S.M.A.R.T. GOAL?

"I will use the PHQ-2 to screen 60% of patients I assess in the STD Clinic by 2 months"

Goal Attainment Scale

- +2 Always exceeded goal
- +1 Almost always exceeded goal
- 0 Met goal
- 1 Sometimes met goal
- 2 Never met goal

+2	Screened all patients
+1	Screened 80% of patients
0	Screened 60% of patients
-1	Screened 40% of patients
-2	Screened no patients

TIMELINE TO IMPLEMENTATION

1. October 2 to October 16: Course open
2. October 16 to October 30: Communicate with your DON and Nurse Supervisor to decide the best way to implement depression screens in your clinic (either through adopting or adapting the temporary policy addendum)
3. October 30: Begin implementing depression screens in the STD clinic
4. November 20: 1st follow up to measure S.M.A.R.T. goal progress
5. December 11: Final follow up to measure S.M.A.R.T. goal progress

THANK YOU!!!

APPENDIX 14: ANCC NC DPH PUBLIC HEALTH NURSING & PROFESSIONAL
DEVELOPMENT UNIT: ACTIVITY PLANNING TABLE – LIVE/ENDURING MATERIAL

Title of Activity: Depression Screening in the STD Clinic

Identified Gap(s): The learners do not know the relationship between depression and risk for STDs and could potentially not be applying this knowledge and skill into practice. A needs assessment survey, deployed outside of the context of this learning activity, will help to determine the current knowledge and skills base to best formulate the CNE to meet the ERRN's needs. See needs assessment results attached.

Description of current state: NC STD ERRNs do not consistently use depression screening tools in STD visits in LHDs. This may be due to lack of supporting policy or lack of understanding the association between depression and high-risk sexual activities.

Description of desired/achievable state: The learner should be able to understand the association between risk for STDs and depression; USPSTF depression guidelines; use the PHQ2 regularly in the STD clinics; be able to recognize and work to overcome barriers to screening for depression in the STD clinics.

Gap to be addressed by this activity: ☒ Knowledge ☒ Skills ☐ Practice ☐
Other: Describe

Learning Outcome (s)

1. The learner will understand the association between risks for STDs and depression
2. The learner will be able to interpret the PHQ2
3. The learner will be able to apply the PHQ2 in the STD clinic
4. The learner will create a SMART Goal related to using the PHQ2 in their practice in the STD clinic

Select all that apply: Nursing Professional Development ☒ Patient Outcome ☐
Other: Describe

CONTENT (Topics)	TIME FRAME (If live)	PRESENTER/AUT HOR	TEACHING METHODS/ LEARNER ENGAGEMENT STRATEGIES
<ul style="list-style-type: none"> ▪ Information about STDs/HIV (quick review and update for the ERRN) <ul style="list-style-type: none"> ○ Prevalence of STDs/HIV with an emphasis on those who do not know their STDs/HIV status and those that are STDs/HIV positive but not in treatment ○ Comparison of national STDs/HIV goals and the progress North Carolina has made to meet these national objectives ○ Pathophysiology of STDs/HIV transmission ○ STDs/HIV risk factors ○ Ways to reduce STDs/HIV risks via primary prevention measures including pre-exposure prophylaxis ○ STDs/HIV screening recommendations/secondary prevention ○ Importance of getting an HIV+ person into treatment to prevent the comorbidities of HIV and progression to AIDS/tertiary prevention ○ Legal and ethical 	2 hours	Jessica Grimes	<ul style="list-style-type: none"> • Webinar will have visual PowerPoint slides with voice over • Demonstration videos of how to perform and interpret depression screens • Follow along question and answer • Opportunities to reflect on current practice and potential to integrate new knowledge into practice

<p>considerations for people living with STDs/HIV and providers caring for people living with STDs/HIV</p> <ul style="list-style-type: none"> ▪ Information about depression <ul style="list-style-type: none"> ○ Prevalence of depression and prevalence of depression in people living with STDs/HIV ○ USPSTF guidelines on depression screening for adolescents and adults ○ Signs and symptoms of depression ○ Differences in mood/affect/behavior ○ Overview of suicide/homicide ○ Brief overview of depression management and treatment ○ Comorbidities of depression and association with STDs/HIV risk factors ○ Depression's effect on treatment follow up and medication compliance for people living with STDs/HIV ○ USPSTF guidelines on depression screening ▪ Depression and risk of STDs/HIV <ul style="list-style-type: none"> ○ Risk factors shared 			
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<p>between depression and STDs/HIV</p> <ul style="list-style-type: none"> ○ How screening for depression is beneficial to reduce a person's risk of acquiring STDs/HIV ○ How to recognize risk factors for STDs/HIV as an increased need for depression screening ○ Types of depression screening and why the PHQ-2 is most appropriate for populations seeking care from a STD clinic ○ How to use and interpret results from the PHQ-2 and PHQ-9 ○ Role play demonstration videos on how to screen for depression ○ Barriers to depression screening and how to address these barriers ○ Brief motivational interviewing techniques for patients who identify as depressed ○ Available mental health resources ○ How and when to refer to mental health ○ Psychiatric emergencies and how to handle these 			
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<p>emergencies</p> <ul style="list-style-type: none"> ○ Provider bias of people living with depression <p>▪ Specific, Measurable, Achievable, Realistic, and Timely goals (SMART)</p> <ul style="list-style-type: none"> ○ What are SMART goals ○ How do SMART goals provoke or influence practice change ○ How to set up SMART goals and measure progress via the GAS ○ Create one or two SMART goals in “class” 			
<p style="text-align: center;">References</p> <p>American Psychiatric Association. (2013). <i>Diagnostic and statistical manual of mental disorders</i> (5th ed.). Arlington, VA: American Psychiatric Association.</p> <p>Centers for Disease Control and Prevention. (2014). Depression in the U.S. household population, 2009-2012. Retrieved from https://www.cdc.gov/nchs/data/databriefs/db172.htm</p> <p>Centers for Disease Control and Prevention. (2016a). HIV/AIDS basic statistics. Retrieved from https://www.cdc.gov/hiv/basics/statistics.html</p> <p>Centers for Disease Control and Prevention. (2016b). HIV in the United States by geographic distribution. Retrieved from https://www.cdc.gov/hiv/statistics/overview/geographicdistribution.html</p> <p>Centers for Disease Control and Prevention. (2016c). National Center for Health Statistics: Depression. Retrieved from http://www.cdc.gov/nchs/fastats/depression.htm</p> <p>Centers for Disease Control and Prevention. (2017). Sexually transmitted diseases: Adolescents and young adults. Retrieved from https://www.cdc.gov/std/life-stages-populations/adolescents-youngadults.htm</p>			

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If Live:

Note: Time spent evaluating the learning activity may be included in the total time when calculating contact hours.

Total Minutes TBD divided by 60= contact hour(s)

If Enduring:

Method of calculating contact hours:

 Pilot Study Historical Data Complexity of Content

Other: Describe

Number of Contact Hours to be awarded:

Completed By:

 Name and Credentials Date

**NC DPH Public Health Nursing & Professional Development Unit Conflict of Interest
Form**

Instructions for completing the **Depression Screening in the STD Clinic** Conflict of Interest Form:

1. Please complete sections 1, 2, & 3 only. Please provide only the information requested. We do not need a resume or CV.
2. The form must remain in word format, so your dated electronic signature is accepted in lieu of an original signature.
3. Once you have completed the form, please email it to Susan Little at susan.little@dhhs.nc.gov. If you have any questions, do not hesitate to give me a call 919-215-4471.

Warm regards,

Susan Little, RN

Susan Little, DNP, RN, PHNA-BC, CPHQ

Continuing Nursing Education Specialist/Primary Nurse Planner

Public Health Nurse Consultant

Division of Public Health, Local Technical Assistance and Training Branch

Public Health Nursing & Professional Development Unit

North Carolina Department of Health and Human Services

919-215-4471 mobile

susan.little@dhhs.nc.gov

Title of Educational Activity: Depression Screening in the STD Clinic

Educational Activity Date: TBD

Role in Educational Activity: (Check all that apply)

Nurse Planner
☒ Content Expert
☒ Faculty/Presenter/Author
Content Reviewer
Other – Describe:

Section 1: Demographic Data

Name with Credentials/Degrees: Jessica Grimes, BSN, RN

If RN, Nursing Degree(s): AD Diploma ☒ BSN Masters Doctorate

Address: 710 Perkins Drive Chapel Hill, NC 27514

Phone Number: 301-717-2290 Email Address: jkaylyn@email.unc.edu

Current Employer and Position/Title: UNC Health Care, RN on Child and Adolescent Psychiatry unit

Please describe expertise and years of training specific to the educational activity listed above. (If the description of expertise does not provide adequate information, the activity Nurse Planner may request additional documentation.)

My expertise for this educational activity includes my role as a RN and my Doctor of Nursing Practice candidacy. As a psychiatric nurse, I perform depression screens, counsel patients suffering from depression, and counsel patients who perform high risk behaviors such as drug use, prostitution, and or compulsive sexual behavior. In these patient interactions, I must consistently interpret depression screens and make recommendations to the healthcare team. In addition, I am currently in the second year of the University of North Carolina at Chapel Hill School of Nursing DNP program. As a DNP student, I am researching the effect of depression on STD risk behavior and formulating a CNE for Enhanced Role Registered Nurses on the importance of performing depression screens in the STD clinics.

Section 2: Conflict of Interest

The potential for conflicts of interest exists when an individual has the ability to control or influence the content of an educational activity **and** has a financial relationship with a *commercial interest*,* the products or services of which are pertinent to the content of the educational activity. The Nurse Planner is responsible for evaluating the presence or absence of conflicts of interest and resolving any identified actual or potential conflicts of interest during the planning and implementation phases of an educational activity. If the Nurse Planner has an actual or potential conflict of interest, he or she should recuse himself or herself from the role as Nurse Planner for the educational activity.

***Commercial interest**, as defined by ANCC, is any entity producing, marketing, reselling, or distributing healthcare goods or services consumed by or used on patients, or an entity that is owned or controlled by an entity that produces, markets, resells, or distributes healthcare goods

or services consumed by or used on patients. (Please reference content integrity document for further clarity <http://www.nursecredentialing.org/Accreditation-CEContentIntegrity.pdf>)

All individuals who have the ability to control or influence the content of an educational activity must disclose all **relevant relationships**** with any commercial interest, including but not limited to members of the Planning Committee, speakers, presenters, authors, and/or content reviewers. Relevant relationships must be disclosed to the learners during the time when the relationship is in effect and for 12 months afterward. All information disclosed must be shared with the participants/learners prior to the start of the educational activity.

****Relevant relationships**, as defined by ANCC, are relationships with a commercial interest if the products or services of the commercial interest are related to the content of the educational activity.

- Relationships with any commercial interest of the individual's spouse/partner may be relevant relationships and must be reported, evaluated, and resolved.
- Evidence of a relevant relationship with a commercial interest may include but is not limited to receiving a salary, royalty, intellectual property rights, consulting fee, honoraria, ownership interest (stock and stock options, excluding diversified mutual funds), grants, contracts, or other financial benefit directly or indirectly from the commercial interest.
- Financial benefits may be associated with employment, management positions, independent contractor relationships, other contractual relationships, consulting, speaking, teaching, membership on an advisory committee or review panel, board membership, and other activities from which remuneration is received or expected from the commercial interest.

Is there an actual, potential or perceived conflict of interest for yourself or spouse/partner?

_____ Yes X No

If yes, please complete the table below for all actual, potential or perceived conflicts of interest**:

Mark all that apply	Category	Description
	Salary	
	Royalty	
	Stock	
	Speakers Bureau	
	Consultant	
	Other	

* *All conflicts of interest, including potential ones, must be resolved prior to the planning, implementation, or evaluation of the continuing nursing education activity.

Section 3: Statement of Understanding

Completion of the line below serves as the electronic signature of the individual completing this Conflict of Interest Form and attests to the accuracy of the information given above.

Jessica Grimes, BSN, RN **Name and Credentials (Required)** 6/9/17 **Date**

Section 4: Conflict Resolution (to be completed by Nurse Planner)

_____ Supporting documentation attached

A. Procedures used to resolve conflict of interest or potential bias if applicable for this activity:

_____ Not applicable since no conflict of interest.

_____ Removed individual with conflict of interest from participating in all parts of the educational activity.

_____ Revised the role of the individual with conflict of interest so that the relationship is no longer relevant to the educational activity.

_____ Not awarding contact hours for a portion or all of the educational activity.

_____ Undertaking review of the educational activity by the Nurse Planner and/or member of the planning committee to evaluate for potential bias, balance in presentation, evidence-based content or other indicator of integrity, and absence of bias, AND monitoring the educational activity to evaluate for commercial bias in the presentation.

_____ Undertaking review of the educational activity by the Nurse Planner and/or member of the planning committee to evaluate for potential bias, balance in presentation, evidence-based content or other indicator of integrity, and absence of bias, AND reviewing participant feedback to evaluate for commercial bias in the activity.

_____ Undertaking review of the educational activity by a content reviewer to evaluate for potential bias, balance in presentation, evidence-based content or other indicators of integrity, and absence of bias, AND monitoring the educational activity to evaluate for commercial bias in the presentation.

_____ Undertaking review of the educational activity by a content reviewer to evaluate for potential bias, balance in presentation, evidence-based content or other indicators of integrity, and absence of bias, AND reviewing participant feedback to evaluate for commercial bias in the activity.

_____ Other - Describe: _____

Nurse Planner Signature (*If form is for the activity Nurse Planner, a different Nurse Planner must review and sign).

Completion of the line below serves as the electronic signature of the Nurse Planner reviewing the content of this Conflict of Interest Form.

_____ **Name and Credentials (Required)** _____ **Date**

APPENDIX 15: MENTAL HEALTH RESOURCES HANDOUT

Mental Health Managed Care Organizations

MCO	Counties Served	Contact Information
Vaya Health	Alexander, Alleghany, Ashe, Avery, Buncombe, Caldwell, Cherokee, Clay, Graham, Haywood, Henderson, Jackson, Macon, Madison, McDowell, Mitchell, Polk, Rutherford, Swain, Transylvania, Watauga, Wilkes, Yancey	# 828-225-2785 Crisis # 800-849-6127 http://vayahealth.com/
Cardinal Innovations Healthcare Solutions Office	Alamance, Cabarrus, Caswell, Chatham, Davidson, Davie, Forsyth, Franklin, Granville, Halifax, Mecklenburg, Orange, Rockingham, Person, Rowan, Stanly, Stokes, Union, Vance and Warren	# 704-939-7700 Crisis # 800-939-5911 https://www.cardinalinnovations.org/
Partners Behavioral Health Management	Burke, Catawba, Cleveland, Gaston, Iredell, Lincoln, Surry, Yadkin	# 704-884-2501 Crisis # 888-235-4673 https://www.partnersbhm.org/
Alliance Behavioral Healthcare	Cumberland, Durham, Johnston, Wake	# 919-651-8401 Crisis # 800-510-9132 https://www.alliancebhc.org/
Sandhills Center	Anson, Guilford, Harnett, Hoke, Lee, Montgomery, Moore, Randolph, Richmond	# 910-673-9111 Crisis # 800-256-2452 http://www.sandhillscenter.org/
Trillium Health Resources	Brunswick, Carteret, New Hanover, Onslow, Pender, Beaufort, Bertie, Camden, Chowan, Craven, Currituck, Dare, Gates, Hertford, Hyde, Jones, Martin, Northampton, Pamlico, Pasquotank, Perquimans, Pitt, Tyrrell, Washington	# 866-998-2597 Crisis # 877-685-2415 https://www.trilliumhealthresources.org/
Eastpointe	Bladen, Columbus, Duplin, Edgecombe, Greene, Lenoir, Nash, Robeson, Sampson, Scotland, Wayne, Wilson	# / Crisis # 800-913-6109 http://www.eastpointe.net/

APPENDIX 16: PILOT LHD EMAIL

Dear LHD STD ERRNs,

Hello, my name is Jessica Grimes and I am a Doctor of Nursing Practice (DNP) student at UNC Chapel Hill. In fulfillment of my degree, I am conducting a DNP Project; I will be teaching STD ERRNs a course on the benefit and need to conduct depression screens in the STD clinic which will be eligible for CNE contact hours. I will also be following up with the ERRNs after the course to see their progress on conducting depression screens in the STD clinic and to offer support/answer any questions. You may remember this summer I sent a survey to the ERRNs asking about current depression screen practices that I incorporated into the course so I can make my course as successful as it can be.

I am grateful for the opportunity to present you information about depression screening in the STD clinic to receive your feedback before I disseminate the course to all ERRNs. Attached to this email is the PowerPoint presentation, a PDF of mental health resources, and a PDF of the PHQ-2 depression screen. In order to receive CNE contact hours for this course, please take the pretest before the course and the posttest after the course. The links to the pretest, course, and posttest are below.

Pretest: https://unc.az1.qualtrics.com/jfe/form/SV_b4yA2UDzDu0O7at

Course: <https://echo360.org/media/7ec649e1-cf97-4065-b2bd-18f1152f3ede/public>

Posttest: https://unc.az1.qualtrics.com/jfe/form/SV_b2CHfvsjwpoJ0cR

Please bring any notes and feedback about the course, pretest, and posttest to our meeting on Tuesday, September 19th from 11-12 so I can present the best possible information to the rest of the ERRNs. Your input is pivotal to the success of this project. As this is a pilot, Dr. Susan Little will be creating the CNE certificates after our meeting on the 19th.

Please let me know if you have any questions and I look forward to meeting you soon!

Sincerely,

Jessica Grimes, BSN, RN
DNP Candidate
University of North Carolina at Chapel Hill

APPENDIX 17: PRETEST

1. Name
2. Email
3. How many years have you worked as an STD Enhanced Role RN?
 - a. 0-1 years
 - b. 1-2 years
 - c. 3-4 years
 - d. 5 years or greater
4. How many days per week are STD services available at your agency?
 - a. 1-2 days
 - b. 3-4 days
 - c. 5 days or more
5. What is the average number of patients/client you assess as an STD Enhanced Role RN in the STD clinic per week?
 - a. 1-5 clients
 - b. 6-10 clients
 - c. 11-15 clients
 - d. 16-20 clients
 - e. 21 clients or more
6. Do you function in other ERRN or clinic roles? If so, what are those roles?
 - a. No
 - b. Yes. Please describe.
7. How often does your agency screen for depression?

- a. My agency screens all adults for depression regardless of clinic
- b. Depression screening is done in some agency clinics but not in the STD clinics*
- c. My agency screens females for depression in clinics such as prenatal care, women's health, family planning, and/or Breast and Cervical Cancer Control Program (BCCCP) but males are not a part of these clinics so males do not get screened for depression

* If choice 7b is selected, the participant will be directed to the following question:

What agency clinics do screen for depression? Write in your answer.

8. How often do you screen for depression? Please choose the best answer that reflects your personal screening practices.
- a. I personally screen for depression if a patient presents with signs of depression. Signs of depression include but are not limited to apathy in regards to treatment of STDs, lack of social support, depressed mood, expressing feelings of hopelessness, self-care deficit, or changes in behavior, mood, or affect if you see this patient on multiple occasions**.
 - b. I personally screen all patients for depression regardless of subjective or objective signs of depression**.
 - c. I personally do not screen for depression in the STD clinic, but screen in women's health and/or prenatal clinics.
 - d. I personally do not screen for depression due to my comfort level, lack of mental health referral services, and because depression screening is not required on our assessment forms***.

**If a survey participant selects answer choice 6a or 6b they will be directed to the following question: How do you screen for depression?

- a. A verified screening tool. If yes, what is the screening tool? Please write in your answer.
- b. I use my own questions I feel are most appropriate for the patient or situation.

*** If a survey participant selects answer choice 6d they will be directed to the following question: Individually check all that apply. I personally do not screen for depression due to:

- a. My comfort level
- b. I believe mental health referral options are limited should a patient screen positive on the depression screen
- c. Depression screens are not required on our assessment forms
- d. Other. Please write in your answer.

9. What are some barriers to depression screening in your STD clinic?

- a. Not enough or limited time
- b. Not recommended or supported in our STD clinic
- c. Comfort level with administering and interpreting depression screens
- d. No adequate referrals to mental health services
- e. I am concerned with what to do if I get a positive result
- f. I am not familiar with the mental health services available
- g. I cannot bill for depression screens in the STD clinic
- h. Other. Please describe.

10. Are you familiar with the mental health resources available to your patients in your community?

- a. Yes
- b. No
- c. Maybe

11. What are some risk factors STDs/HIV and depression share? Select one or more that apply.

- a. Unprotected sex
- b. Sex with multiple partners
- c. Sexual relations with sex workers
- d. Drug and or alcohol use
- e. Sexual compulsivity
- f. Sex for drugs or money
- g. All of the above

12. What are signs and symptoms of depression?

- a. Anhedonia (inability to feel pleasure in things that were once pleasurable)
- b. Psychomotor agitation (movements that serve no purpose such as pacing around the room, tapping your toes, or abruptly starting and stopping tasks)
- c. Feeling tired or having little energy
- d. All of the above

13. How does the United States Preventative Services Task Force recommend clinicians screen for depression?

- a. Screen only adults
- b. Screen adults and adolescents with appropriate systems in place to ensure adequate follow up

- c. Screen in mental health clinics only that are more equipped to deal with depression
- d. Screen adults only if they show signs and symptoms of depression

14. The PHQ-2 is

- a. A brief depression screen
- b. Establishes a diagnosis of depression
- c. Uses symptoms from DSM-5
- d. Both A and C

15. The PHQ-2 asks the following two questions:

- a. Feeling bad about yourself or that you are a failure or have let yourself or your family down
- b. Thoughts that you would be better off dead or of hurting yourself in some way
- c. Little interest or pleasure in doing things
- d. Feeling down, depressed, or hopeless

16. I understand the association between populations at risk for STDs/HIV and depression and can apply this concept into my role as an Enhanced Role RN

- a. Strongly agree
- b. Agree
- c. Neither agree nor disagree
- d. Disagree
- e. Strongly disagree

17. I am comfortable and confident in my ability to screen for depression and refer to mental health resources as necessary

- a. Strongly agree
- b. Agree
- c. Neither agree nor disagree
- d. Disagree
- e. Strongly disagree

APPENDIX 18: PILOT POSTTEST

1. Name
2. Email
3. How many years have you worked as an STD Enhanced Role RN?
 - a. 0-1 years
 - b. 1-2 years
 - c. 3-4 years
 - d. 5 years or greater
4. How many days per week are STD services available at your agency?
 - a. 1-2 days
 - b. 3-4 days
 - c. 5 days or more
5. Are you familiar with the mental health resources available to your patients in your community?
 - a. Yes
 - b. No
 - c. Maybe
6. What are some risk factors STDs/HIV and depression share? Select one or more that apply.
 - a. Unprotected sex
 - b. Sex with multiple partners
 - c. Sexual relations with sex workers
 - d. Drug and or alcohol use

- e. Sexual compulsivity
 - f. Sex for drugs or money
 - g. All of the above
7. What are signs and symptoms of depression?
- a. Anhedonia (inability to feel pleasure in things that were once pleasurable)
 - b. Psychomotor agitation (movements that serve no purpose such as pacing around the room, tapping your toes, or abruptly starting and stopping tasks)
 - c. Feeling tired or having little energy
 - d. All of the above
8. How does the United States Preventive Services Task Force recommend clinicians screen for depression?
- a. Screen only adults
 - b. Screen adults and adolescents with appropriate systems in place to ensure adequate follow up
 - c. Screen in mental health clinics only that are more equipped to deal with depression
 - d. Screen adults only if they show signs and symptoms of depression
9. The PHQ-2 is
- a. A brief depression screen
 - b. Establishes a diagnosis of depression
 - c. Uses symptoms from DSM-5
 - d. Both A and C
10. The PHQ-2 asks the following two questions:

- a. Feeling bad about yourself or that you are a failure or have let yourself or your family down
- b. Thoughts that you would be better off dead or of hurting yourself in some way
- c. Little interest or pleasure in doing things
- d. Feeling down, depressed, or hopeless

11. I understand the association between populations at risk for STDs/HIV and depression and can apply this concept into my role as an Enhanced Role RN

- a. Strongly agree
- b. Agree
- c. Neither agree nor disagree
- d. Disagree
- e. Strongly disagree

12. I am comfortable and confident in my ability to screen for depression and refer to mental health resources as necessary

- a. Strongly agree
- b. Agree
- c. Neither agree nor disagree
- d. Disagree
- e. Strongly disagree

13. Create a S.M.A.R.T. goal to help you implement depression screens in the STD clinic.

For example: "I will use the PHQ-2 to screen 60% of patients in the STD Clinic by one month." To make sure your goal is a S.M.A.R.T. goal, please write in how your goal is specific, measurable, attainable, relevant, and timely.

- a. Specific:
- b. Measureable:
- c. Attainable:
- d. Relevant:
- e. Timely:
- f. Your S.M.A.R.T. goal:

14. Please rate your intention to change your practice as a result of this educational activity

- a. I have no intention to use this information in my practice
- b. I possibly will use this information at some point in the future
- c. I probably will use this information in the near future
- d. I plan to use this information immediately in my practice

15. I anticipate the following supportive factors in implementing what I learned in my workplace. Check all that apply.

- a. Supervisor support
- b. Access to appropriate technology, supplies, and/or equipment
- c. Time to implement
- d. Organizational policy
- e. Timely, constructive, and supportive feedback
- f. Directly related to my job duties
- g. Incentives for good performance
- h. Other. Please specify.

16. I anticipate the following barriers in implementing what I learned in my workplace.

Check all that apply.

- a. Lack of supervisor support
 - b. Lack access to appropriate technology, supplies, and/or equipment
 - c. Lack of time to implement
 - d. Lack of supporting organizational policy
 - e. Lack of timely, constructive, and supportive feedback
 - f. Not directly related to my job duties
 - g. Lack of incentives for good performance
 - h. Other. Please specify.
17. Please provide any comments you have about the training, screening for depression during STD visits, using the PHQ-2 in your STD ERRN practice, or any other related information you would like for us to know. Your comments will remain confidential.
18. Please provide your email address if you are willing to be contacted via email twice over the next 4-8 weeks to follow up on your SMART goal progress and to answer any questions you may have or provide support. All participants will be entered to win a retail gift card.

APPENDIX 19: PILOT PHQ-2 HANDOUT

Date:

Name:

Patient Health Questionnaire-2

Total Score: _____

Over the past two weeks, how often have you been bothered by any of the following problems?

Little interest or pleasure in doing things

<i>Not at All</i>	<i>Several Days</i>	<i>More than Half the Days</i>	<i>Nearly Every Day</i>
0	1	2	3

Feeling down, depressed, or hopeless

0	1	2	3

APPENDIX 20: FINAL PHQ-2 HANDOUT

Name:

Date:

Patient Health Questionnaire-2

Over the last two weeks how often have you been bothered by any of the following problems?
Please circle your response according to the scale below.

0 = Not at all 1 = Several days 2 = More than half the days 3 = Nearly every day

- | | | | | |
|--|-----|----|---|---|
| 1. Little interest or pleasure in doing things | 0 | 1 | 2 | 3 |
| 2. Feeling down, depressed, or hopeless | 0 | 1 | 2 | 3 |
| 3. Thoughts that you would be better off dead or of hurting yourself in some way | Yes | No | | |

For clinicians. Total score of questions 1 and 2 only: _____

APPENDIX 21: FINAL REVISED POSTTEST

1. Name
2. Email
3. How many years have you worked as an STD Enhanced Role RN?
 - a. 0-1 years
 - b. 1-2 years
 - c. 3-4 years
 - d. 5 years or greater
4. How many days per week are STD services available at your agency?
 - a. 1-2 days
 - b. 3-4 days
 - c. 5 days or more
5. Are you familiar with the mental health resources available to your patients in your community?
 - a. Yes
 - b. No
 - c. Maybe
6. What are some risk factors STDs/HIV and depression share? Select one or more that apply.
 - a. Unprotected sex
 - b. Sex with multiple partners
 - c. Sexual relations with sex workers
 - d. Drug and or alcohol use

- e. Sexual compulsivity
 - f. Sex for drugs or money
 - g. All of the above
7. What are signs and symptoms of depression?
- a. Anhedonia (inability to feel pleasure in things that were once pleasurable)
 - b. Psychomotor agitation (movements that serve no purpose such as pacing around the room, tapping your toes, or abruptly starting and stopping tasks)
 - c. Feeling tired or having little energy
 - d. All of the above
8. How does the United States Preventive Services Task Force recommend clinicians screen for depression?
- a. Screen only adults
 - b. Screen adults and adolescents with appropriate systems in place to ensure adequate follow up
 - c. Screen in mental health clinics only that are more equipped to deal with depression
 - d. Screen adults only if they show signs and symptoms of depression
9. The PHQ-2 is
- a. A brief depression screen
 - b. Establishes a diagnosis of depression
 - c. Uses symptoms from DSM-5
 - d. Both A and C
10. The PHQ-2 asks the following two questions:

- a. Feeling bad about yourself or that you are a failure or have let yourself or your family down
- b. Thoughts that you would be better off dead or of hurting yourself in some way
- c. Little interest or pleasure in doing things
- d. Feeling down, depressed, or hopeless

11. I understand the association between populations at risk for STDs/HIV and depression and can apply this concept into my role as an Enhanced Role RN

- a. Strongly agree
- b. Agree
- c. Neither agree nor disagree
- d. Disagree
- e. Strongly disagree

12. I am comfortable and confident in my ability to screen for depression and refer to mental health resources as necessary

- a. Strongly agree
- b. Agree
- c. Neither agree nor disagree
- d. Disagree
- e. Strongly disagree

13. Create a S.M.A.R.T. goal to help you implement depression screens in the STD clinic.

For example: "I will use the PHQ-2 to screen 60% of patients in the STD Clinic by one month." To make sure your goal is a S.M.A.R.T. goal, please write in how your goal is specific, measurable, attainable, relevant, and timely. This goal does not have to be

evaluated using actual client data. You can evaluate your goal based on your personal self-report or how well you think you are meeting your goal.

- a. Specific:
- b. Measureable:
- c. Attainable:
- d. Relevant:
- e. Timely:
- f. Your S.M.A.R.T. goal:

14. Please rate your intention to change your practice as a result of this educational activity

- a. I have no intention to use this information in my practice
- b. I possibly will use this information at some point in the future
- c. I probably will use this information in the near future
- d. I plan to use this information immediately in my practice

15. I anticipate the following supportive factors in implementing what I learned in my workplace. Check all that apply.

- a. Supervisor support
- b. Access to appropriate technology, supplies, and/or equipment
- c. Time to implement
- d. Organizational policy
- e. Timely, constructive and supportive feedback
- f. Directly related to my job duties
- g. Incentives for good performance
- h. Other. Please specify.

16. I anticipate the following barriers in implementing what I learned in my workplace.

Check all that apply.

- a. Lack of supervisor support
- b. Lack access to appropriate technology, supplies, and/or equipment
- c. Lack of time to implement
- d. Lack of supporting organizational policy
- e. Lack of timely, constructive and supportive feedback
- f. Not directly related to my job duties
- g. Lack of incentives for good performance
- h. Other. Please specify.

17. Please provide any comments you have about the training, screening for depression

during STD visits, using the PHQ-2 in your STD ERRN practice, or any other related information you would like for us to know. Your comments will remain confidential.

18. Please provide your email address if you are willing to be contacted via email twice over

the next 4-8 weeks to follow up on your SMART goal progress and to answer any questions you may have or provide support. All participants will be entered to win a \$50 retail gift card. In the follow up, you will be self-evaluating your progress on your goal and do not have to obtain real client data about how many patients you screen for depression. Your goal will be measured based on your subjective report of how many patients you believe you screened for depression.

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