

IMPROVING ADOLESCENT FRIENDLY HEALTHCARE SERVICES:
IMPLEMENTING COMPREHENSIVE PSYCHOSOCIAL HISTORIES INTO PRACTICE

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Implementing Comprehensive Psychosocial Histories into Practice

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ABSTRACT

Adolescence is a unique period of rapid physical and psychosocial growth and development. Adolescents are most often physically healthy, but as a normal part of adolescent development the population commonly experiments with risky behaviors, which may lead to the development of unhealthy habits (National Research Council and Institute of Medicine [NRC/IOM], 2009). Additionally, risky behaviors are connected to the top three causes of potentially preventable adolescent death – accidents/unintentional injury, homicide, and suicide (Goldenring & Rosen, 2004; NRC/IOM, 2009).

Primary healthcare providers may have not received specialized training in providing healthcare to the adolescent population, or may feel uncomfortable engaging in communication about psychosocial risk factors with adolescents (NRC/IOM, 2009). One critical gap involves the fragmented healthcare services available to adolescents and the missed opportunities for health promotion and disease prevention when adolescents do seek healthcare. Incorporating comprehensive psychosocial adolescent histories into practice may help facilitate positive changes in adolescent healthcare delivery.

In response to the need for improved adolescent friendly healthcare services, an online continuing education module was created in collaboration with the American Association of Nurse Practitioners Continuing Education Center. The psychosocial assessment focused on utilizing the HEEADSSS assessment, as psychosocial risk factors contribute to the leading causes of adolescent morbidity and mortality (Goldenring & Rosen, 2004; NRC/IOM, 2009).

The module was evaluated through pretest, posttest, and evaluation questions. Data were collected for approximately two months, and there were 328 participants. Following completion of the module, over half (52.4%; n = 172) of the participants reported they will modify their practice, and nearly all of the participants (91.8%; n = 301) felt that the level of content was “just

right” for nurse practitioners. Five pretest and posttest questions related to the module’s content demonstrated increased knowledge as a result of the module. Additionally, a majority of the written qualitative responses were in support of or praising the quality of the module. Overall, data indicate a positive impact from the continuing education module about conducting comprehensive psychosocial interviews with adolescent patients.

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DEDICATION

I first dedicate this accomplishment to my Lord and Savior who has given me strength when I didn't think I had strength to keep going. My husband, Pete, has been my ultimate cheerleader from start to finish. He has been a shoulder to cry on, a partner to celebrate with, and an open ear to vent to during the ups and downs of my clinical dissertation, and I am forever thankful.

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CHAPTER ONE. INTRODUCTION

Background and Significance

Emerging in the early 20th century, “adolescence” is a fairly new term (National Research Council and Institute of Medicine [NRC/IOM], 2009). Prior to describing individuals between the ages of 10 to 19 as adolescents, the group was either considered to be children or adults (NRC/IOM, 2009). Adolescence is a unique period of rapid physical and psychosocial growth and development. Adolescents are most often physically healthy, but as a normal part of adolescent development the population commonly experiments with risky behaviors, which may lead to the development of unhealthy habits including alcohol and tobacco use and abuse, risky driving, and high-risk sexual behavior (Goldenring & Rosen, 2004; NRC/IOM, 2009). Risky behaviors are connected to the top three causes of death among adolescents — accidents/unintentional injury, homicide, and suicide (Goldenring & Rosen, 2004; NRC/IOM, 2009).

Adolescents made up nearly 14% of the United States Population in 2006 accounting for about 42 million individuals (NRC/IOM, 2009). The number of adolescents is projected to increase about 28% by 2050 (NRC/IOM, 2009). Identifying and addressing healthcare issues in the adolescent population is of utmost importance, as the decisions made during this period have the potential to not only affect the population’s immediate health status but also the population’s health status as adults (NRC/IOM, 2009). As the adolescent population is growing, the health decisions made by the population have the potential to vastly improve or harm the future health status of the United States. Despite the significant importance of tailoring healthcare services to adolescents’ unique needs including their rapid psychosocial growth and development, high quality adolescent healthcare services are not universal in the United States (NRC/IOM, 2009).

Adolescent friendly healthcare services require a dual approach of reducing risky behaviors while increasing protective factors or positive behaviors for adolescents to carry throughout their lives. Adolescents often receive healthcare services that are tailored either towards children or adults; however, the practice models of child and adult healthcare are not satisfactory to provide care to adolescents (NRC/IOM, 2009). Childhood healthcare focuses on parents as caregivers, and adult healthcare focuses on the patient as an individual (NRC/IOM, 2009). Adolescent healthcare calls for a unique blend of treating the patient as an autonomous individual, yet reinforcing the importance of strong family and support structures (NRC/IOM, 2009). An integral component to developing and providing adolescent friendly healthcare services involves the incorporation of guidelines tailored to the adolescent populations' unique psychosocial needs (Goldenring & Rosen, 2004).

The healthcare available to adolescents is many times highly fragmented, resulting in the adolescent needing to go to multiple public and private sites to receive complete and holistic care (NRC/IOM, 2009). Furthermore, there may not be streamlined, coordinated care available to adolescents leading to missed opportunities and adolescents who fail to follow up with their healthcare needs (NRC/IOM, 2009). Healthcare facilities are many times best equipped to service adolescents' acute care needs such as infections or fractures, which involve similar protocols as adult care (NRC/IOM, 2009). The chief complaint may then become the focus of the office visit, when in reality the healthcare provider is missing opportunities to address other developmental and psychological needs of the adolescent (NRC/IOM, 2009). With adolescence being a fairly new concept, healthcare providers may not be trained with the necessary skills to interact appropriately and effectively with adolescent populations (Goldenring & Rosen, 2004; NRC/IOM, 2009). Adequately addressing the comprehensive healthcare needs of adolescents

may require changes to healthcare provider education and the services offered to the unique adolescent population.

Problem Statement

Implementing change to healthcare as a whole is highly complex due to the multifaceted systems involving individuals with various motivating factors. Healthcare providers often have very busy clinic schedules and may feel they do not have enough time to learn a new concept or change the current practice style they utilize (Price, Miller, Kulchak, Brace, & Larson, 2010). Primary healthcare providers may have not received particular training in providing healthcare specifically to the adolescent population, or may feel uncomfortable engaging in communication about psychosocial risk behaviors with adolescents (NRC/IOM, 2009). Incorporating comprehensive psychosocial adolescent histories into practice may help to facilitate positive changes in adolescent healthcare delivery.

The healthcare system in the United States has much room for advancement and improvement. One critical gap involves the fragmented healthcare services available to adolescents and the missed opportunities for health promotion and disease prevention when adolescents do seek care from healthcare providers (NRC/IOM, 2009). Implementing comprehensive adolescent psychosocial histories into primary care has the potential to improve adolescents' rate of preventable morbidity and mortality as well as positively impact the future health status of our country.

Objectives and Project Description

The purpose of this practice improvement project is to increase nurse practitioners' knowledge about providing adolescent friendly health services through achieving the following objectives: 1) identify the current leading causes of adolescent morbidity and mortality; 2)

increase healthcare providers' awareness about the importance of completing a comprehensive psychosocial history with adolescent patients; 3) identify one comprehensive mnemonic for use in conducting a psychosocial history with adolescent patients; and 4) increase healthcare providers' comfort related to conducting comprehensive adolescent psychosocial histories. Specifically, nurse practitioners working in primary care in the frontier counties of North Dakota were a targeted population. Bringing awareness of the importance of adolescent psychosocial assessments to nurse practitioners may be a beginning step to expanding the availability of adolescent friendly health services for adolescents residing in the frontier counties in North Dakota.

An online continuing education module was created in conjunction with the American Association of Nurse Practitioners Continuing Education Center (AANP CE Center) to educate about adolescent psychosocial assessment methods as well as provide information to help healthcare providers effectively communicate with the adolescent population. The psychosocial assessment was focused on, as psychosocial risk factors are many times contributory to the leading causes of adolescent morbidity and mortality (Goldenring & Rosen, 2004; NRC/IOM, 2009). The focused continuing education module was created to increase nurse practitioners' knowledge about providing adolescent friendly health services and about the key factors of performing an adolescent psychosocial interview.

The continuing education module was distributed to American Association of Nurse Practitioner members in the United States, and the focused population was nurse practitioners working with adolescents in any capacity. With the intent of capturing data from the more focused population of primary care nurse practitioners working in the frontier counties of North Dakota, a post card was mailed to this population with a link to the continuing education module.

The continuing education module is available online, making the intervention accessible and convenient to the healthcare providers. Pretest and posttest questions were incorporated into the continuing education module to specifically address how the module met the objectives and affected the healthcare provider's knowledge about comprehensive adolescent psychosocial histories. The questions collected demographic information from the participants, specifically whether they practice in a rural or urban setting, and also which region of the country the nurse practitioner practices in. Data collected from the continuing education module were helpful in identifying further needs of the healthcare providers in regards to providing quality adolescent friendly healthcare services.

CHAPTER TWO. LITERATURE REVIEW

Introduction

Adolescence is a period of progressive change between childhood and adulthood involving biological, psychological, social, and cognitive transformations (Katzman & Neinstein, 2012). These transformations help the individual progress through adolescence and prepare for adulthood. As a result of the rapid changes occurring during adolescence, providing healthcare to the population poses many opportunities and challenges. The health decisions made by adolescents impact not only the population's immediate health, but also impact the adolescents' adult life. Healthcare providers caring for adolescents must remember how influential the behaviors and lifestyle choices of adolescents are in regards to both their immediate and future health (Katzman & Neinstein, 2012). Adequate literature is available regarding the growth, development, and healthcare needs of adolescents, but comprehensive resources to educate healthcare providers about the topic are not readily available (Meschke, Peter, & Bartholomae, 2011).

Adolescence

Most adolescents are generally healthy despite the vast growth and developmental changes the population experiences (Goldenring & Rosen, 2004; NRC/IOM, 2009). The transformation from childhood to adulthood known as adolescence may be described as confusing, dynamic, and a period of ebb and flow among all areas of human development. Adolescents are living in a period between being a dependent child and being an independent adult (White, 2010). Adolescence may be defined taxonomically as specific age groups including early adolescence (11 to 13 years), middle adolescence (14 to 16 years), and later adolescence (17 to 21 years) (Katzman & Neinstein, 2012). A more accurate description of the population may include growth and development criteria (Katzman & Neinstein, 2012).

Adolescents are experiencing constant physical, social, emotional, and behavioral growth and change (NRC/IOM, 2009). The adolescent period becomes increasingly complex and confusing for healthcare providers because various authors describe and define the stages of adolescence differently. Furthermore, the biological, cognitive, and social development of an adolescent may not progress at the same rate (Meschke et al., 2011). For example, an early growth spurt may speed up an individual's biological development, but their cognitive and/or social development may be much less advanced. Importantly, adolescent health related assessments and education might become increasingly complex as one may consider the adolescent's developmental stages in addition to the biological age to effectively and positively impact the adolescent.

Erik Erickson defined eight critical stages of life based on psychosocial crisis. Erickson defines two major stages in relation to the biological maturation and social demands which occur during the adolescent years (Shaffer & Kipp, 2010). Between the ages 6 and 12, individuals are struggling with industry versus inferiority (Shaffer & Kipp, 2010). During industry versus inferiority, adolescents often compare themselves with their peers (Shaffer & Kipp, 2010). Success or failure during this specific stage can significantly impact a variety of decisions made by early adolescents. If adolescents experience industry, they will more likely develop reassuring academic and social skills, which can be helpful throughout adolescent development and adulthood (Shaffer & Kipp, 2010). However, if the adolescent is not able to develop the skills necessary to achieve industry, feelings of inferiority may result (Shaffer & Kipp, 2010).

As adolescents continue to develop, they may struggle with the period of identity versus role confusion, which typically occurs between ages 12 and 20 (Shaffer & Kipp, 2010). During identity versus role confusion, adolescents may strive to create a self-identification (Shaffer & Kipp, 2010). As adolescents are working to create their own identity whether through social,

educational, or occupational engagements, the population may start to make independent decisions as well as experiment with new behaviors (NRC/IOM, 2009; Shaffer & Kipp, 2010). Experimenting with new behaviors, whether high risk or protective behaviors, is a normal part of creating a self-identification during adolescence (NRC/IOM, 2009). There are an array of behaviors adolescents may explore as a normal part of growth and development including purchasing high-calorie and low-nutrient foods, experimenting with drugs and alcohol, high risk driving behaviors, and exploring sexual interactions (NRC/IOM, 2009). Adolescents will likely become close to their peers as the population explores new behaviors to create their own identification (NRC/IOM, 2009; Shaffer & Kipp, 2010).

Despite adolescents' movement towards peers as a reference group, adolescents' relationships and interactions with positive adult role models have a significant positive impact (Beier, Rosenfeld, Spitalny, Zansky, & Bontempo, 2000). Parents many times play a key role in promoting positive health behaviors among adolescents (NRC/IOM, 2009). Adult role models, including teachers, coaches, healthcare providers, religious leaders, and neighbors may also play a significant role in adolescent development as protective factors (Beier et al., 2000; Rishel et al., 2007; Shaffer & Kipp, 2010). While adolescents strive to create their own identity, positive adult role models have the ability to coach the population regarding positive activities and personal skill development (NRC/IOM, 2009). Adolescents who have strong positive relationships with adult role models were found to participate significantly less in certain risk factors including: carrying a weapon, illicit drug use in the past 30 days, smoking more than five cigarettes per day, and sex with more than one partner in the past 6 months (Beier et al., 2000).

Healthcare providers have the ability to be positive adult role models during the period of adolescent uncertainty. Adolescents have identified that it was important to them to have an

ongoing and confidential relationship with a healthcare provider (Coker et al., 2010). Healthcare providers have the opportunity and responsibility to encourage adolescents and stress the importance of positive adult relationships (Meadows-Oliver & Jackson-Allen, 2012). Additionally, the healthcare provider can educate parents about the importance of positive adult role models in their adolescent's life (Meadows-Oliver & Jackson-Allen, 2012). Healthcare professionals have the opportunity to discuss sensitive topics related to both physical and psychosocial health with adolescents as well as provide education and counseling to the population in regards to health promotion and disease prevention (NRC/IOM, 2009).

Adolescent Morbidity and Mortality

Adolescents are generally a physically healthy population with low incidences of both acute and chronic illness (NRC/IOM, 2009). About 80% of adolescents between the ages of 12 and 17 report their health status as very good or excellent (Bloom, Cohen, & Freeman, 2011). Between the years of 1999 and 2006, less than 1 percent of the total deaths in the United States were among adolescents between the ages of 12 and 19 (Miniño, 2010). Despite the low prevalence of death in relation to total deaths among all ages, adolescent morbidity and mortality is an urgent public health concern (Miniño, 2010). The leading causes of death among adolescents include accidents/unintentional injury, homicide, and suicide, and an estimated 75% of death and injury from these three causes are preventable (Katzman & Neinstein, 2012; Miniño, 2010). These three causes of death account for nearly three quarters (71%) of all adolescent and young adult deaths (Katzman & Neinstein, 2012). When specifically considering injury, for every death caused by injury, 1000 emergency department visits and 34 hospitalizations result (Katzman & Neinstein, 2012). The most common unintentional injuries suffered by adolescents in 2010 include motor vehicle crashes, homicide by firearm,

unintentional poisoning, unintentional drowning, and unintentional suicide by suffocation or firearm (Centers for Disease Control and Prevention [CDC], 2012). Specifically in North Dakota, motor vehicle accidents are the leading cause of adolescent injury related death (Children's Safety Network, 2012).

Adolescents of all cultures and nationalities experience similar and vast psychological changes during the adolescent years. Starting around the age of 10 and through adolescence, the frontal lobe, which normally leads decision-making, controlling impulses, and planning for the future, is in a state of flux (White, 2010). The changing brain and psychosocial maldevelopment during adolescence, including feelings of inferiority and role confusion, can contribute to engaging in high-risk behaviors and activities (Fox, McManus, & Arnold, 2010; White, 2010). As the frontal lobe is in a state of flux, it is normative for adolescents to challenge rules and experiment with risk behaviors, many of which may be harmless (NRC/IOM, 2009; White, 2010). Unfortunately, this experimentation may lead to the development of unhealthy habits that progress with the adolescent into adulthood and place them at risk for unfavorable outcomes (NRC/IOM, 2009; White, 2010). High risk behaviors in adolescents are commonly clustered together; for example, over half (52.8%) of high school students in the United States reported they were involved with 2 or more significant risk factors (Fox et al., 2010). Male and female adolescents are commonly involved in different clusters of high-risk behaviors. For instance, male adolescents more commonly “engage in problem alcohol behavior, carrying a weapon, physical fighting, using marijuana, seriously considering or planning suicide, having intercourse before age 14, and smoking frequently” (Fox et al., 2010, pg. 3). Conversely, female adolescents more often experience persistent sadness, engage in abnormal weight loss behavior, do not exercise consistently, and have unprotected sex (Fox et al., 2010).

Risky Sexual Behavior

Among adolescent individuals in grades 9 to 12, nearly 50% of both males and females have had vaginal intercourse at least once (Katzman & Neinstein, 2012). Some may predict that rural adolescents are less sexually active than adolescents living in urban settings; however, nationwide rural and urban adolescents engage in sexual intercourse at similar rates (Curtis, Waters, & Brindis, 2011). In North Dakota, about 45% of adolescents reported having ever had sexual intercourse, and about 13% reported having sexual intercourse with 4 or more partners in their lifetime (CDC, 2011a). About 38% of high school students who are sexually active did not use a condom when they last had sexual intercourse (Katzman & Neinstein, 2012). Adolescents engage in higher rates of oral sex as they portray oral sex as not being linked to negative consequences or being risky (Katzman & Neinstein, 2012). In the United States, approximately 4 million adolescents acquire a sexually transmitted infection (STI) annually (Katzman & Neinstein, 2012). Adolescents account for about 25% of annually diagnosed STIs, specifically about one quarter of all individuals diagnosed annually with gonorrhea and about one third of all individuals diagnosed annually with chlamydia (Katzman & Neinstein, 2012).

According to the CDC, between 2009 and 2010 the United States teen birth rate declined an average of 9% (Hamilton & Ventura, 2012). North Dakota was 1 of 3 states between 2008 and 2010 with no significant decrease in teen birth rates along with Montana and West Virginia; whereas, Minnesota and South Dakota teen birth rates dropped between 8% and 19% (Hamilton & Ventura, 2012). Despite the progression towards decreased teen birth rates, the United States has some of the highest teen birth rates among industrialized countries (Hamilton & Ventura, 2012).

Rural youth in the upper Midwest many times do not receive adequate education regarding condoms and birth control (Hamilton & Ventura, 2012). Office-based primary care settings that are often available to adolescents may not consistently address high-risk behaviors such as unsafe sexual activity (NRC/IOM, 2009). Adolescents of a rural upper Midwest state revealed that healthcare providers only discussed condoms use 32.2% of the time and birth control 24.5% of the time at their last healthcare clinic visit (Secor-Turner, Randall, Brennan, Anderson, & Gross, 2013). Improved sex education for adolescents has the potential to decrease the transmission of sexual transmitted infections as well as unplanned pregnancies.

Substance Use and Abuse

Substance abuse is directly correlated with other risky behaviors adolescents engage in. Cigarette smoking is proven to have negative effects among users of any age, however the chance of becoming addicted and dependent on nicotine is greater during adolescence (White, 2010). In 2011, nearly 30% of adolescents in North Dakota reported using tobacco products in the past 30 days (CDC, 2011a). Adolescents may start smoking as an act of rebellion or to experiment with a new activity, but unfortunately nearly half of adolescent smokers in North Dakota made no attempt at smoking cessation in the past year (CDC, 2011a). Most adult smokers began smoking during their teenage years rather than in their adult life (White, 2010).

By high school graduation, nearly half of all adolescents have tried an illicit drug, about three quarters have consumed alcohol, and about one half have been drunk at least one time in their life (Katzman & Neinstein, 2012). Specifically in North Dakota, about 68% of adolescents have had at least one drink of alcohol in their lifetime, and about one quarter reported having five or more drinks in a row in the past 30 days (CDC, 2011a). Additionally, rural adolescents were more likely to report riding with a drunk driver than urban youth (Curtis et al., 2011). About one

quarter of North Dakota adolescents reported riding with a driver who had been drinking alcohol in the past 30 days (CDC, 2011a). About 15% of adolescents in North Dakota reported using marijuana one or more times in the past 30 days, and 16% reported illegally taking prescription drugs in their lifetime (CDC, 2011a).

Early alcohol consumption directly impacts adult health, as adolescents who start using drugs or alcohol before the age of 15 are five times more likely to develop an addictive disorder later in their adult life (Katzman & Neinstein, 2012). Alcohol and drug use during adolescence can also affect developing brain structures into young adulthood and potentially have a negative effect on memory and verbal learning (Hanson, Cummins, Tapert, & Brown, 2011). Among rural adolescents in an upper Midwest state, nearly half of the adolescents reported their healthcare provider did not discuss alcohol use (55%), drug use (55%), chewing tobacco (59%), and smoking (52%) (Secor-Turner et al., 2013). Educating adolescents about both the short- and long-term effects of drugs and alcohol may be beneficial in reducing preventable morbidity and mortality related to drug and alcohol use.

Mental Health

Mental health issues are significant during the period of adolescence, but often overlooked (Jackson-Allen & McGuire, 2011; NRC/IOM, 2009). Nearly half of all lifetime mental health disorders, including anxiety, impulse-control, substance use, and mood disorders, began by the age of 14, and three fourths began by 24 years of age (Kessler et al., 2005). Many times the early signs of mental health disorders go unaddressed by healthcare professionals, which not only compromises the adolescent's immediate health, but also their adult health status (Jackson-Allen & McGuire, 2011; NRC/IOM, 2009). Mental health needs that go untreated during adolescence may lead to delayed treatment and more advanced illness as well as

disability, poor social skills, reduced productivity, and even suicide (Jackson-Allen & McGuire, 2011).

Nationwide, suicide ranks as the third leading cause of adolescent death; however, in North Dakota suicide is the second leading cause of preventable adolescent death (Children's Safety Network, 2012; Katzman & Neinstein, 2012). In North Dakota, about 24% of high school students reported feeling sad or hopeless almost every day for two or more weeks in a row to the point they may have stopped participating in some of their usual activities in the past 12 months (CDC, 2011a). Additionally, about 15% of adolescents seriously considered attempting suicide, about 12% made a plan about how they would attempt suicide, and nearly 11% attempted suicide one or more times in the past 12 months in North Dakota (CDC, 2011a). The incidence of suicide among adolescents age 15 to 19 in North Dakota is much higher among American Indian adolescents in comparison to Caucasian adolescents (approximately 80 adolescents compared to 10 adolescents per 100,000 population respectively) (Children's Safety Network, 2012). The most common cause of completed suicide among adolescents age 15 to 19 in North Dakota is firearm, and the rate of suicide is 4.2 times higher among males than females (Children's Safety Network, 2012). For every completed suicide, an estimated 50 to 100 suicide attempts are made (Katzman & Neinstein, 2012). Early identification and referrals for mental health symptoms may reduce the progression to more severe mental health disorders and related complications (Jackson-Allen & McGuire, 2011).

Unhealthy Eating and Exercise Habits

Unhealthy eating habits, whether over- or under-eating, or inadequate intake of high quality nourishing foods, are a significant problem during adolescence. Nearly 40% of adolescents in North Dakota and about 38% of adolescents in the United States reported eating

vegetables less than one time per day in the past 7 days (CDC, 2011a; CDC, 2011b).

Additionally, nearly 80% of adolescents in North Dakota reported drinking soda in the past 7 days, and over one quarter drank soda one or more times per day, which is very comparable to the United States overall rates (CDC, 2011a; CDC, 2011b). Over 50% of adolescents in the United States reported they participated in 60 minutes of physical activity on less than 5 days out of the last 7 days (CDC, 2011b). The dietary and exercise habits of adolescents may be influenced by many factors including families, schools, and medical providers as well as advertising companies and media sources (CDC, 2013).

In the past 30 years, obesity rates among adolescents have more than tripled (Ogden, Carroll, Kit, & Flegal, 2012). The rate of obese adolescents increased from about 5% in 1980 to about 18% in 2010 (Ogden et al., 2012). Furthermore, in 2010 more than one third of children and adolescents fell into overweight or obese categories (Ogden et al., 2012). In North Dakota, nearly 15% of adolescents were overweight and 11% were obese, per the 2000 CDC growth charts; however, over one quarter of adolescents considered themselves to be slightly to very overweight (CDC, 2011a). Over 10% of adolescents in North Dakota admitted to not eating for 24 or more hours to try to lose weight during the past 30 days (CDC, 2011a).

The eating habits established during adolescence affect not only the population's immediate health, but also have lifelong influences on the population's health and lack of health (NRC/IOM, 2009). Adolescents who are overweight or obese are more likely to be overweight or obese adults who may suffer from diabetes or cardiovascular disease (NRC/IOM, 2009). Additionally, overweight or obese adolescents will more commonly suffer from a decreased self-esteem and depression (NRC/IOM, 2009).

Healthy People 2020 identifies the most significant problems during adolescence as: homicide, suicide, motor vehicle crashes including those caused by drinking and driving, substance use and abuse, smoking, sexual transmitted infections including human immunodeficiency virus, teen and unplanned pregnancies, and homelessness (HealthyPeople.gov, 2012b). Healthy People 2020 has identified goals to include the adolescent population, but no known published action plan is helping healthcare providers get closer to achieving the goals in rural settings. Many of the Healthy People 2020 adolescent objectives relate to community and school safety (Meadows-Oliver & Jackson-Allen, 2012). Two of the eleven adolescent objectives are directed toward the primary care setting. These Healthy People 2020 objectives include: increasing the proportion of adolescents who have had a wellness check in the past 12 months, and increasing the proportion of adolescents who are connected to a parent or other positive adult caregiver (HealthyPeople.gov, 2012b). According to HealthyPeople.gov (2012a), the four Healthy People 2020 overarching goals can all be directly related to adolescent health:

- Attain high-quality, longer lives free of preventable disease, disability, injury, and premature death.
- Achieve health equity, eliminate disparities, and improve the health of all groups.
- Create social and physical environments that promote good health for all.
- Promote quality of life, health development, and healthy behaviors across all life stages. (n. pag.)

Adolescent Friendly Health Services

The importance of adolescent health education has gained more attention over the recent years, however few resources linking developmental stages with particular practices strategies

are available (Meschke et al., 2011). Adolescents need healthcare services that help support the transitions between childhood and adolescence as well as between adolescence and adulthood (NRC/IOM, 2009). Health concerns and behaviors that remain unaddressed during adolescence can lead to preventable illness in adulthood including cancer, heart disease, physical and mental disability as well as diabetes (Curtis et al., 2010). Preventable chronic illnesses can vastly reduce the quality and years of healthy life lived by today's adolescents (Meadows-Oliver & Jackson-Allen, 2012). Adolescent friendly health services, including health promotion and disease prevention, have the potential to decrease high risk behaviors contributing to preventable causes of morbidity and mortality among adolescents, as well as nurture protective and positive behaviors (NRC/IOM, 2009).

Healthcare facilities must consider the positive outcomes that may result from providing developmentally appropriate healthcare to the adolescent population. Appropriate adolescent healthcare involves the consideration of both risk and protective factors in the areas of physical, social, emotional, and cognitive development (Meschke et al., 2011). Since the adolescent's biological, cognitive, and social development may not progress at the same rate, education must be malleable to fit the individual's personal needs (Meschke et al., 2011). By including the adolescent's specific social and emotional needs into educational opportunities, the education will likely be more effective and meaningful (Meschke et al., 2011). Adolescent guidelines may help healthcare providers identify the priorities of adolescent healthcare and tailor their care specifically to the individual's priorities and needs.

The Institutes of Medicine and the National Research Council have identified five characteristics to describe successful adolescent friendly health services including services that are accessible, acceptable, appropriate, effective, and equitable (Table 1) (NRC/IOM, 2009).

Healthcare services provided to adolescents in primary care, school-based programs, hospital-based programs, and community-based models have been shown to exhibit some of the characteristics of responsive adolescent health services; however, services will rarely exhibit all five characteristics (NRC/IOM, 2009). Healthcare providers who do not take the time to counsel and educate adolescents while striving for the five characteristics of responsive adolescent health services may be neglecting the adolescent population.

Table 1

Five Characteristics of Responsive Adolescent Health Services

Characteristic	Description
Accessible	Policies and procedures ensure that services are broadly accessible.
Acceptable	Policies and procedures consider culture, relationships, and the climate of engagement.
Appropriate	Health services fulfill the needs of all young people.
Effective	Health services reflect evidence-based standards of care and professional guidelines.
Equitable	Policies and procedures do not restrict the provision of and eligibility for services.

(NRC/IOM, 2009)

Three quarters of all adolescents under the age of 17 had the opportunity to be in contact with their doctor or healthcare provider in the past 6 months (Bloom et al., 2011).

In rural North Dakota, adolescents have a relatively high level of access to healthcare providers as 94% of adolescents reported having seen a primary healthcare provider in the past year (Secor-Turner et al., 2013). Similarly, 4.7% of adolescents in the United States have no standard source of healthcare (Bloom et al., 2012). The care of adolescents fits into the scope of many

disciplines including pediatrics, family medicine, psychiatry, and gynecology (NRC/IOM, 2009). Primary healthcare providers are found to be the most effective for adolescent populations, as adolescents can theoretically have all of their needs addressed with one healthcare provider at one visit (NRC/IOM, 2009). Disease prevention, health promotion, and behavioral health need to be the focus of adolescent's visits in primary care (NRC/IOM, 2009). Healthcare providers who care for adolescents may have often not been educated about and equipped with the necessary skills to provide healthcare to adolescents. Less than half of the physicians, nurse practitioners, and nurses who regularly provide care to adolescents have received formal training regarding adolescent friendly healthcare (Burack, 2000). Adolescents may benefit from having healthcare providers with expanded healthcare training specifically related to the multiple physical and psychological needs of the population (NRC/IOM, 2009).

Adolescent health services are likely more successful when the healthcare providers have positive attitudes and effective communication skills with adolescents in addition to providing confidential care (Meadows-Oliver & Jackson-Allen, 2012). Office visits that may be perceived as simple or routine by the healthcare provider may seem quite daunting to the adolescent. Adolescents are more likely to be open with healthcare providers when confidentiality and trust are ensured (Katzman & Neinstein, 2012; NRC/IOM, 2009). Adolescents may fear that their confidential information will be exposed to their parents or other individuals present in the healthcare setting (Anoshiravani, Gaskin, Groshek, Kuelbs, & Longhurst, 2012). This fear of breached confidentiality may be enough to deter the adolescent from seeking or returning back to a healthcare setting. Healthcare providers should strive to provide confidential care to the adolescent when possible, but also stress the importance of accepting guidance from parents and other trustworthy adults. When considering adolescents fear of not maintaining confidentiality,

Anoshiravani et al. (2012) identified six common factors that may lead to a breach of confidentiality during office visits (Table 2).

Table 2

Potential Breach of Confidentiality Points in Adolescent Office Visit

Point	Description
1.	Calling a clinic to make an appointment (and providing a reason for the visit).
2.	Potential posting of e-mail, text, or patient portal confirmations of the appointment (to which the parents may have direct access).
3.	Reviewing and reconciling medications, problem lists, or health-related behaviors (such as smoking status as required by meaningful use) with a clinician during the actual visit (during which the parent might see or hear about sensitive medications or diagnoses).
4.	Receiving and filling of new medication prescriptions (especially when a medication can be used for multiple problems).
5.	Releasing sensitive laboratory results through electronic means (if parents have online access to such results).
6.	Automated posting of bills and after-visit summaries (AVS) either by mail or to patient portal accounts.

(Anoshiravani et al., 2012)

In regards to providing confidential healthcare to adolescents, minor consent laws vary from state to state. In North Dakota, many of the minor consent laws are related to sexual health including sexually transmitted diseases, contraception, pregnancy, and abortion services (National District Attorneys Association [NDAA], 2013). Minors in North Dakota need parental consent for abortion services, and there are no specific laws protecting adolescents' confidentiality regarding contraceptive services and medical care for a minor's child (Guttmacher Institute, 2013). A pregnant minor is able to consent to prenatal care during her first trimester, and for the first visit after the first trimester (Guttmacher Institute, 2013; NDAA,

2013). In subsequent visits during the second and third trimesters, parental consent is required, and additionally in regards to prenatal and pregnancy care, parental or guardian consent is needed prior to submitting charges to third party payers (Guttmacher Institute, 2013; NDAA, 2013). Minors over the age of 14 in North Dakota are able to consent to examination and treatment for sexually transmitted diseases, alcohol abuse, and drug abuse without parental consent (Guttmacher Institute, 2013; NDAA, 2013). Legislative changes giving adolescents more autonomy over their own healthcare decisions are controversial and multi-faceted, but may help adolescents seek and receive more autonomous care (NRC/IOM, 2009).

Providing Healthcare to Adolescents

Despite rapid growth, development, and experimentation with risky behaviors, adolescents are generally a healthy population (Goldenring & Rosen, 2004; NRC/IOM, 2009). Providing adolescent preventative care and education related to protective factors is of utmost importance as the leading causes of adolescent morbidity and mortality may be preventable with education and support (Katzman & Neinstein, 2012; Miniño, 2010). Standardized screening tools are infrequently utilized when providing adolescent healthcare, and when screening tools are incorporated into adolescent healthcare they may focus on one risky behavior instead of a holistic approach encompassing multiple risk and protective behaviors (NRC/IOM, 2009). A holistic psychosocial history to identifying risk and protective factors may help make a positive impact on adolescent morbidity and mortality (Goldenring & Rosen, 2004). Focusing on assessment of the home and environment, education and employment, eating, peer related activities, drugs, sexuality, suicide/depression, and safety from injury and violence, the HEEADSSS mnemonic helps healthcare providers place emphasis on the psychosocial aspects of an adolescent's history (Table 3) (Goldenring & Rosen, 2004). The HEEADSSS mnemonic

covers all of the public health or social problems that start or peak during adolescence as well as gives healthcare providers an opportunity to discuss protective factors in these areas (HealthyPeople.gov, 2012b).

Table 3

HEEADSSS Mnemonic

Letter	Description
H	Home & Environment
E	Education & Employment
E	Eating
A	Activities (peer related)
D	Drugs
S	Sexuality
S	Suicide & Depression
S	Safety (from injury and violence)

(Goldenring & Rosen, 2004)

Similar to the HEEADSSS assessment mnemonic, the Bright Futures assessment describes five priority topics to cover during adolescent visits including physical growth and development, social and academic competence, emotional well-being, risk reduction, and violence/injury prevention (Duncan & Pirretti, 2009). Despite the specific adolescent healthcare guidelines or recommendations utilized by a healthcare provider, adolescents must be educated about risk and disease prevention as well as provided with education about protective factors (Duncan & Pirretti, 2009). According to Duncan and Pirretti (2009), there are six qualities and

characteristics that a healthcare facility or clinic must hold which are linked to quality preventative services (Table 4).

Table 4

Healthcare Facility Qualities Linked to Quality Preventative Services

Number	Quality
1.	Do we ask about youth concerns and document that we have addressed them?
2.	Do we have a way to keep track of these screenings and assessments over time?
3.	Do we have a system to link our patients and their families to community services that would benefit their health, and a mechanism for follow-up when appropriate?
4.	Do we have a recall and reminder system so youth are likely to get in for their recommended preventive services and visits?
5.	Do we have a way to identify which youth have special healthcare needs so we can make a particular effort to make sure they get their preventive services as well as early guidance on transition to an adult healthcare provider?
6.	Are we using a strengths-based approach and shared decision making strategies?

(Duncan & Pirretti, 2009, p. 4-5)

Because healthcare providers often have specific information they are looking for such as information surrounding an episodic complaint (i.e. sore throat, abdominal pain, headaches), the healthcare provider may interview with narrowly focused questions (Goldenring & Rosen, 2004). Screening techniques utilized by healthcare providers may not always identify and respond to the risk behaviors and common causes of morbidity among adolescents including unwanted pregnancies, high incidences of sexually transmitted diseases, obesity and eating disorders, and mental health disorders including substance and alcohol abuse and depression, as well as the interplay between these factors (Goldenring & Rosen, 2004; NRC/IOM, 2009). A comprehensive psychosocial assessment, such as the HEEADSSS assessment (Table 3), may be

completed to identify problems and provide early preventative education and protective factors related to the major causes of adolescent morbidity and mortality (Goldenring & Rosen, 2004). If these key psychosocial factors are not discussed with adolescents, healthcare providers cannot expect to make an impact on decreasing preventable causes of adolescent morbidity and mortality (Goldenring & Rosen, 2004).

The HEEADSSS mnemonic, or psychosocial review of system, can be utilized to generate a “problem list,” much like a physical review of systems (Goldenring & Rosen, 2004). A plan of action may then be formulated for the identified areas of need. The action plan may include referral to a specialty care setting for further diagnostic workup and treatment as well as follow up visits in primary care (NRC/IOM, 2009). Of equal importance is accentuating the positive aspects of the psychosocial assessment (Goldenring & Rosen, 2004). Encouraging adolescents who have overcome adversities or have made positive health choices can help create protective factors to help the adolescent continue to make healthful choices (Goldenring & Rosen, 2004). Anticipatory guidance factors can be incorporated into each separate aspect of the psychosocial review of systems, as the education may be more relevant when provided in an interactive conversation about a specific topic with the adolescent (Goldenring & Rosen, 2004). A systematic approach to discuss adolescents’ psychosocial health, including risk and protective factors, may be a key factor to improving adolescent friendly healthcare.

Education Gaps of Healthcare Providers

A body of evidence clearly reveals the importance of high quality adolescent healthcare services to reduce morbidity and mortality as well as improve the health and wellbeing of the adolescent population (Duncan & Pirretti, 2009; Meadows-Oliver & Jackson-Allen, 2012; Meschke et al., 2012; NRC/IOM, 2009). Despite the highly preventable causes of morbidity and

mortality among adolescents, healthcare providers are not routinely providing consistent and high quality anticipatory guidance and education to adolescents during a time of such critical growth and development (NRC/IOM, 2009; Secor-Turner et al., 2013). Healthcare providers are highly educated about the physical growth and development occurring during the period of adolescence; however, healthcare providers are generally less comfortable discussing sensitive health and psychosocial issues related to adolescent health (NRC/IOM, 2009). Consequently, healthcare providers may focus on an adolescent's physical needs rather than needs of social or behavioral origin, and as a result many of the factors causing the highest rates of adolescent morbidity and mortality may not be discussed causing devastating missed opportunities with the traditional adolescent history and physical examination (NRC/IOM, 2009).

Decreasing the development of preventable chronic illness may begin in adolescence when lifelong habits are being formed. When healthcare providers interact with the adolescent population, the leading causes of adolescent morbidity and mortality may be addressed through a comprehensive psychosocial assessment incorporating health promotion, disease prevention, and appropriate referrals when necessary (Goldenring & Rosen, 2004; NRC/IOM, 2009).

Anticipatory guidance is crucial to every adolescent healthcare visit, as anticipatory guidance gives the adolescent a chance to ask questions and discuss issues with which they are concerned (Schwartz, 2010). Adolescents may not report every risky behavior they participate in, so anticipatory guidance also gives the healthcare provider a chance to educate adolescents about typical risky behaviors for the population (Schwartz, 2010). Furthermore, healthcare providers must educate adolescents about how risky choices made now have the potential to negatively affect their adult life (Schwartz, 2010).

Motivational interviewing can be helpful to enhance adolescents' motivation to change risky behaviors and continue positive behaviors (Schwartz, 2010). Motivational interviewing has been shown to have positive effects on adolescents regarding a number of topics including anorexia nervosa and substance abuse behaviors (Gowers & Smyth, 2004; Jensen et al., 2011). Motivational interviewing is empathetic, nonjudgmental, supportive, and nonconfrontational (Schwartz, 2010). Through motivational interviewing, the adolescent will see that their own goals and values are the reasons for changing negative behaviors and continuing positive behaviors (Schwartz, 2010). The key components of motivational interviewing – ask open-ended questions, affirm what your patient says, use reflective listening, elicit self-motivational statements, and summarize – creates the OARES mnemonic (Miller & Rollnick, 2002). The OARES mnemonic can be useful when delivering anticipatory guidance to the adolescent population (Table 5).

With the rapid but unique transitions that occur during the period of adolescence, healthcare providers have a wealth of factors to consider and cannot educate and care for the adolescence based solely on chronological age. Anticipatory guidance and education need to be directed towards the individual's stage of physical, cognitive, and psychosocial development (Katzman & Neinstein, 2012). Missed educational opportunities with adolescent individuals are critical to the future of healthcare, as lifelong health habits are developed during adolescence (Katzman & Neinstein, 2012). For example, the future status of chronic illness including obesity and the surrounding endemic can be impacted by health promotion education relayed to adolescents including healthy diet and physical activity.

Table 5

OARES Mnemonic

Mnemonic	Description
Ask open-ended questions	Elicits answers that use the patient’s own words, and cannot be answered by a simple “yes” or “no.” Instead of asking, “Are you feeling OK?” rephrase the question as, “Help me understand how you feel.”
Affirm what your patient says	Statements that recognize your patient’s strengths and efforts, such as “You are really connected to your family and friends.”
Use reflective listening	Allows you to clarify the meaning and feeling of what the patient says, for example “It sounds like you are not happy in the relationships with your boyfriend” or “you feel like nobody understands you.”
Elicit self-motivational statements or “change talk”	To start affirming the individual’s belief that they can make the change, elicit “change talk” by asking the patient about their level of importance or confidence in making a behavior change.
Summarize	Summarize your conversation and decisions to link together and reinforce what your patient has stated.

(Miller & Rollnick, 2002)

Barriers to Adolescent Education in Healthcare Setting

With increasing shortages of healthcare providers and higher numbers of insured citizens, the busy and short-staffed clinical setting is here to stay. Many high quality resources are available in regard to adolescent health education including the Guidelines for Adolescent Preventive Services by the American Medical Association, Health Supervision III by the American Academy of Pediatrics, and Bright Futures by the Maternal and Child Health Bureau, Health Resources and Services Administration of the United States Department of Health and Human Services (Goldenring & Rosen, 2004). The resources are many times very cumbersome for the busy healthcare provider to quickly adapt into practice. Bright Futures is a collection of guidelines and expert recommendations that provide recommendations for clinic encounters

across childhood and adolescence (Duncan & Pirretti, 2009). Bright Futures is highly detailed and contains forms, practice management resources, recommendations and tools for screening, and guidelines to build community referrals (Duncan & Pirretti, 2009). The detail is necessary, but also may be confusing and time consuming for healthcare providers to implement into practice. A streamlined set of recommendations including a comprehensive psychosocial history is necessary to improve adolescent education in the healthcare setting.

As previously discussed, pediatric and adult healthcare delivery models do not adequately address the unique needs of adolescents. The health concerns and problems of adolescents may have social and behavioral origins, which is different than the physical origin that many healthcare providers are comfortable with (NRC/IOM, 2009). Additionally, many healthcare providers do not receive education about the specific skills and approaches that are necessary to provide adolescent friendly healthcare (NRC/IOM, 2009). High quality healthcare education programs may still lack consistent and sufficient adolescent health content and competencies (NRC/IOM, 2009). Incorporating adolescent health education into primary healthcare provider education has the potential to positively impact the availability of adolescent friendly healthcare services. With a growing adolescent population, increased adolescent morbidity and mortality, and expanding knowledge about the population's development, the subspecialty of adolescent medicine has been created within the past century (NRC/IOM, 2009). Adolescent medicine specialists receive intensive training specifically about the health conditions and concerns of adolescents (NRC/IOM, 2009). The adolescent medicine specialists have helped to identify the importance of adolescent health promotion and problem prevention (NRC/IOM, 2009).

Adolescents receive healthcare from a variety of healthcare professionals – which poses both opportunity and challenge (NRC/IOM, 2009). Adolescents many times receive healthcare

from pediatric and family practice providers who may not have had opportunities to be educated specifically about providing healthcare to adolescents (Duncan & Pirretti, 2009; NRC/IOM, 2009). The care provided by pediatric and family practice providers may not be provided in acceptable settings for adolescents (NRC/IOM, 2009). For example, physical environments and settings with cartoons geared toward toddlers, or with health promotion information geared toward breast-feeding for young adult mothers is not the most appropriate or acceptable environment to provide adolescent friendly healthcare. Appropriate adolescent friendly healthcare would ideally be delivered in a setting focusing on health promotion and disease prevention tailored to the population. Physical settings appropriate to adolescents may include educational material related to diet and exercise, substance use, driving, and sexual behavior (NRC/IOM, 2009). More specifically, education through forms of media including television, computers, or tablets may be more eye-catching to the adolescent population. By incorporating adolescent health promotion, disease prevention, and anticipatory guidance into pediatrics and family practice care, adolescents would potentially have increased access to adolescent friendly healthcare services (Duncan & Pirretti, 2009).

Barriers to Adolescent Friendly Health Services for Rural Adolescents

Effective health education is necessary for the general adolescent population, but there are many factors preventing adolescents' access to quality education. The adolescent population may face specific barriers to accessing healthcare due to their lack of legal, social and financial autonomy (Curtis et al., 2011). Adolescents may be dependent on adults in many ways – including financial and emotional dependence on parents or guardians (Curtis et al., 2011). Despite this dependence, adolescents strive for physical and social autonomy, which may lead to

involvement in risky behaviors without high quality protective and preventative health services available to the population (Curtis et al., 2011).

In particular, adolescents living in rural settings face a unique set of barriers to accessing adolescent friendly healthcare services. About 16% of the nation's population lives in rural communities, and about 50% of North Dakota's population lives in rural communities (United States Department of Agriculture [USDA], 2013). Rural adolescents tend to have lower levels of education and experience greater poverty than adolescents living in urban communities (Curtis et al., 2011). Nationwide, about 17% of rural residents have not completed high school compared to about 14% of people living in urban communities (USDA, 2013). Additionally, about 30% of urban residents have completed college compared to about 18% of rural residents (USDA, 2013). In North Dakota, the education statistics are quite similar with over 12% of rural residents not completing high school compared to 7% of urban residents, and over 20% of rural residents completing college compared to over 33% of urban residents (USDA, 2013). In 2011, the United States' per capita income for rural residents was about \$10,000 less than urban residents (\$33,247 versus \$43,191) (USDA, 2013). In North Dakota, the per capita income for rural residents was actually greater than urban residents (\$50,860 versus \$43,345); however the poverty rate in rural areas of the state was higher than urban areas (12.2% versus 11.7%) (USDA, 2013). This may be related to a greater range of incomes likely related to large successful agricultural businesses in rural North Dakota.

As a result of the small population size of rural areas, adolescents may have a high chance of receiving healthcare from healthcare providers they know on a personal basis, or healthcare providers who are friends of the adolescents' family or parents. The small community setting may lead to concern among adolescents due to a perceived risk for a breach of

confidentiality (Curtis et al., 2011). Adolescent patients may perceive actual and potential confidentiality issues during nearly every step of their healthcare encounter (Anoshiravani et al., 2012). Adolescents may not feel as comfortable disclosing private psychosocial information as the adolescent may fear that their parents or guardians will find out the information. Also, adolescents may choose not to go to healthcare providers, or preventative service appointments as they may be uneasy about who else from the community they will see while going to and from their appointment. These concerns unique to rural populations may create barriers preventing adolescents from receiving comprehensive healthcare services, especially education and counseling regarding sensitive topics including alcohol, drugs, and sexual behaviors.

In addition, rural communities may be more politically and socially conservative than urban settings (Curtis et al., 2011). The conservative views may be demonstrated through social norms related to traditional values, gender roles, sexual behaviors, and interpersonal relationships (Curtis et al., 2011). Providing education to rural adolescents about sensitive topics involves particular challenges including potential for greater religiosity in rural communities, and closer physical proximity and emotional closeness between the educator and adolescent (Blinn-Pike, 2008). Adolescents may not share in the conservative beliefs of previous rural generations, causing difficulty when seeking healthcare services for sensitive issues. Conservative views may cause rural communities to “look away” from the realities of adolescent health behaviors, and fail to provide necessary preventative adolescent services (Curtis et al., 2011). In addition to conservative views of rural communities, adolescents experience a vast geographical distance from adolescent healthcare specialist services offered when compared to more urban settings (i.e. family planning, sexually transmitted infection clinics) (Curtis et al., 2011).

Gaps in Literature

Adolescents are generally a physically healthy population with more challenges in psychosocial, emotional, and social behaviors and development. As a result of psychosocial development and exploration, high-risk behaviors are normative to the adolescent population. The high-risk behaviors can lead to preventable causes adolescent morbidity and mortality as well as negative health consequences in adolescents' adult lives. Despite the importance of comprehensive healthcare for adolescents, healthcare providers more often practice with a physiologic orientation, and may not address important psychosocial developments and challenges of adolescents. Complex and specific guidelines have been developed in regard to providing adolescent friendly healthcare, however these are many times difficult to incorporate into a busy clinic setting. Comprehensive and user-friendly resources may not be available to help healthcare providers easily incorporate a comprehensive adolescent psychosocial history into practice.

At routine adolescent health maintenance visits a review of systems is regularly performed in regard to physical health, even though adolescents are often physically healthy. Inquiring about psychosocial challenges or needs may be an afterthought at adolescent visits, despite the psychosocial development and challenges experienced by adolescents. A streamlined process to incorporate a thorough adolescent psychosocial history into practice may improve adolescent friendly healthcare services and reduce preventable causes of adolescent morbidity and mortality. Healthcare providers need to consider spending time alone with adolescents at least beginning at the time of early physical and psychological changes associated with puberty to discuss private psychosocial challenges and protective factors (Goldenring & Rosen, 2004). Healthcare providers may be uncomfortable talking to adolescent aged patients, creating another

barrier to providing high quality adolescent friendly healthcare services (Hargreaves, Sizmur, & Viner, 2012).

Theoretical Framework

The Social Marketing Model, more informally known as the “4 P’s,” was used to develop and implement the online continuing education module to improve adolescent friendly health services (Kolter & Roberto, 1989). The Social Marketing Model is a set of principles that are used to plan, implement, and evaluate a program (Morris & Clarkson, 2009). The “Four P’s” model is applicable to improving adolescent health services because the approach extends beyond education to change the behavior of a target audience and ultimately improve health (Pender, Murdaugh, & Parsons, 2011). The model works to increase the attractiveness of the intervention so participants are more inclined to participate and develop improved healthcare behaviors as a result of the intervention (Pender et al., 2011). The model also promotes immediate effects as “immediate reinforcement has a greater potential to shape behavioral change” (Pender et al., 2011, p 79). The Social Marketing Model is helpful because the model focuses on developing programs aimed to a specific target population (Hodges & Videto, 2005). When programs are directed toward specific target populations, they may have higher potential to be successful (Hodges & Videto, 2005).

Specifically, the Social Marketing Model consists of Product, Price, Place and Promotion. Product refers to the desired health behavior change for the target population to adopt (Pender et al., 2011). Price involves the cost to implement the intervention including monetary, emotional, social, and energy costs (Pender et al., 2011). Place is the location the intervention is conducted, taking into consideration the most appropriate physical setting for convenience of the target population (Hodges & Videto, 2005). Higher response rates to the

intervention are expected when the location is more convenient for the participants (Pender et al., 2011). Promotion is the final “P” (Pender et al., 2011). Promotion includes all of the channels used to attract and support the behavioral change intervention (Pender et al., 2011).

Improving primary care nurse practitioners’ knowledge about conducting comprehensive psychosocial adolescent healthcare services through the development of a continuing educational module was the identified Product. Specifically, the continuing educational module provided nurse practitioners with information about adolescent health, morbidity, mortality, and how to potentially decrease preventable causes of adolescent morbidity and mortality through a comprehensive psychosocial history. The broad population receiving the Product was nurse practitioners in the United States, however the more specific target population was nurse practitioners working in primary care in frontier counties of North Dakota. Recent data from rural adolescents in North Dakota have revealed that the healthcare services they receive are neither age appropriate or effective (Secor-Turner et al., 2013). The continuing education module offered 1.25 contact hours of continuing education for nurse practitioners in hopes that the module would strike the healthcare providers interest.

The overall Price of the intervention was minimal to the primary healthcare providers. The participating healthcare providers spent approximately an hour of time to complete the module, and they earned continuing education credits in return for their time. Furthermore, implementing the strategies into practice is low cost to the healthcare provider, and the healthcare provider would more effectively utilize resources already available to them. The Price for the investigator included a significant amount of time in planning, researching, preparing, and creating the continuing education module. No monetary costs were incurred, as the American Association of Nurse Practitioners allows students to post continuing education

modules free of charge. Other costs for the investigator included psychological stress of meeting deadlines for the intervention and also emotional satisfaction of working to improve adolescent friendly healthcare services. Overall, the Price of the intervention was relatively low for all parties involved, and the benefits of the intervention have the potential to far outweigh any costs involved, which is a characteristic that helped make the intervention more successful.

The Place of intervention involved delivering the intervention to the right place at the right time (Maibach, Rothschild, & Novelli, 2002). The Product should always be accessible and convenient to the consumer, as a more convenient location typically results in higher participation rates (Maibach et al., 2002; Pender et al., 2011). In consideration of making the Product accessible and convenient to the consumer, the continuing education module was available to the healthcare provider as an online medium. Furthermore, the continuing education module was thoughtfully constructed so the healthcare provider was able to easily implement the information into practice. More detailed information was available through attachments for the healthcare provider to refer back to at their convenience.

To promote the outcome of improving adolescent healthcare services by implementing comprehensive psychosocial histories into practice, the continuing education module was user friendly, easy to follow, and offered contact hour credits. To specifically promote the intervention to nurse practitioners working in primary care in the frontier counties of North Dakota, a post card with a web link to the continuing education module was mailed to the healthcare providers' place of work. Information about the online continuing education module was distributed to nurse practitioner students enrolled at North Dakota State University, University of North Dakota, and University of Mary. The continuing education module was also promoted through a poster presentation at the 5th annual North Dakota Nurse Practitioner

Association Pharmacology Conference in Bismarck, North Dakota on September 26, 2013. In addition to the continuing education module, a pamphlet overview involving key points to help healthcare providers improve adolescent healthcare services was provided for healthcare providers to have in their office or exam room to refer back to as needed. Additionally, a follow-up evaluation provided an opportunity to further promote the educational materials in the continuing education module.

Conclusion

In conclusion, clear evidence has explicitly described the top causes of morbidity and mortality among adolescents as preventable in origin. Furthermore, adolescents in rural North Dakota are seeing healthcare providers on a regular basis, but the healthcare services are not always adolescent friendly. Adolescents are not always being counseled about high-risk behaviors, nor are adolescents consistently receiving the necessary anticipatory guidance and protective skills to avoid high-risk behaviors. The discrepancy results in critical missed opportunities for providing high quality adolescent friendly healthcare and potentially preventing adolescent morbidity and mortality.

CHAPTER THREE. PROJECT DESCRIPTION

Project Implementation

The focus of this practice improvement project was an evidence-based intervention and evaluation in response to baseline data from the Rural Adolescent Health Survey (Secor-Turner et al., 2013). In addition to the baseline survey data, an extensive literature review reinforced the need for improved adolescent friendly healthcare services. In the spring of 2012, 322 adolescents 14 through 19 years of age living in four North Dakota frontier counties completed the 95 question Rural Adolescent Health Behavior Survey (Secor-Turner et al., 2013). The surveyed counties were classified as frontier counties with less than seven persons per square mile (Center for Rural Health, 2011; Secor-Turner et al., 2013). The Rural Adolescent Health Behavior Survey was developed to assess “rural adolescents’ access to preventative health services, health promoting information, health and risk behaviors, and various risk and protective factors related to adolescent health” (Secor-Turner et al., 2013, p. S98). Findings from the Rural Adolescent Health Survey revealed that rural adolescents in North Dakota report high access to healthcare services, as 94% (n = 303) reported seeing a primary care provider in the last 12 months (Secor-Turner et al., 2013). Furthermore, the adolescents reported a high level of acceptability by their healthcare providers feeling that the healthcare provider listened carefully to them (80%), and showed respect to what they had to say (85%) (Secor-Turner et al., 2013). However, participants reported healthcare services that were not congruent with national adolescent health recommendations such as the Bright Futures that include health promotion and anticipatory guidance information (Secor-Turner et al., 2013). Healthcare providers of adolescents overall infrequently discussed topics related to psychosocial health screening and health promotion. For example, the most frequently discussed topic was physical activity or

exercise (50%), followed by smoking and alcohol use (45%), and other less frequently discussed topics included condom use (32%), birth control (24%), suicide (22%), and gun and weapon safety weapons (7%), despite participant reports of engaging in these risky behaviors (Secor-Turner et al., 2013).

Findings from the Rural Adolescent Health Survey are similar to previous findings among adolescents in the upper Midwest reflecting high access to healthcare services. However, the data suggest that rural healthcare providers may not be implementing comprehensive psychosocial histories and developmentally appropriate anticipatory guidance to direct care provided to adolescents (Secor-Turner et al., 2013). In response to the need for improved adolescent friendly health services identified in the Rural Adolescent Health Survey, an online continuing education module was created in conjunction with the American Association of Nurse Practitioners to educate nurse practitioners about adolescent morbidity and mortality as well as the importance of and instruction to implement a comprehensive psychosocial history into adolescent healthcare visits (Appendix A).

The continuing education module was created for the target audience of nurse practitioners who care for adolescent patients in any capacity. The module includes segments of PowerPoint presentation (Appendix B) with a voice-over of lecture about the material. In addition, mock psychosocial interviews between the author playing the role of a nurse practitioner and two adolescent volunteer actors were included in the module to exemplify how to conduct a psychosocial interview with adolescent patients (Appendix C). An extensive literature review guided the creation of the script accompanying the PowerPoint. The mock interview scripts were drafted using the HEEADSSS mnemonic, as well as feedback from adolescents, as a guide.

The two adolescent volunteer actors provided feedback about the scripts and acted as participants in the mock interviews. One adolescent was male, one was female, and their ages were 15 and 17. The adolescents were both children of faculty members at North Dakota State University and recruited to participate through established connections. The adolescents' parents gave permission for their children to participate in the development of the continuing education module, and provided contact information for their children. With the parent's permission, the adolescents were contacted via telephone to inquire about their interest in helping create the continuing education module. Both adolescents agreed to participate by both providing feedback on the scripts and acting as a model for the mock psychosocial interviews. After verbal consent was received from both the parents and adolescents, the adolescents' parent signed a minor media release form. Prior to recording the mock interviews, each adolescent provided verbal feedback in person about the scripts, and about how they would like healthcare providers to discuss health issues and ask questions. The adolescent volunteers were given \$25 gift certificates as a thank you for their expertise and time.

After finalizing the scripts, the online continuing education module was recorded in two stages with the help of Information Technology Services at North Dakota State University. Several meetings were arranged prior to the two recording periods to inquire about specific available technology and to set up the recording set as well as time slots. The voice over lecture to complement the PowerPoint was recorded in the first recording session. The second session involved recording the mock interviews with the adolescent volunteers. After the recordings, Information Technology Services assisted with editing the video clips and creating one streamlined video that could be submitted to the American Association of Nurse Practitioners.

In addition to the video component of the online continuing education module, a summary pamphlet was created for the participating nurse practitioners to print and refer to at their leisure (Appendix D). Additionally, pretest, posttest, and evaluation questions, which will be further discussed in the following evaluation section, were created to accompany the module with the goal of measuring the participants' learning in relation to the predetermined objectives. The continuing education module video file and application material were submitted to the Continuing Education Center of the American Association of Nurse Practitioners and accepted in a timely fashion requiring no changes or revisions.

The continuing education module was made available online on August 29, 2013 to all members of the American Association of Nurse Practitioners in the United States. A postcard including data from the Rural Adolescent Health Survey and information about how to access the online continuing education module was mailed on September 3, 2013 to target the primary care nurse practitioners practicing in the 37 frontier counties in North Dakota (Center for Rural Health, 2011) (Appendix E & Appendix F). Nurse practitioners practicing in the 37 frontier counties were identified by first utilizing the North Dakota Department of Health's list of rural health clinics. Internet searches of the clinics websites helped identify family practice healthcare providers at these sites. Secondly, a systematic search of the Internet for medical facilities in every city of North Dakota's frontier counties starting with the largest population and ending with the smallest population was completed. Lastly, every identified medical facility in North Dakota's frontier counties was called to verify the nurse practitioners listed online were accurate. While calling the facilities, the staff was asked about neighboring healthcare facilities to ensure no clinics or facilities in the area were overlooked. If a nurse practitioner was noted to work at multiple rural clinics, the practitioners name was only included at the site they practice at most

often. A postcard with a link to the continuing education module was mailed to the 51 identified nurse practitioners practicing in the frontier counties of North Dakota.

Information about the online continuing education module was also distributed to nurse practitioner students enrolled at North Dakota State University, University of North Dakota, and University of Mary. Additionally, the continuing education module was promoted through a poster presentation at the 5th annual North Dakota Nurse Practitioner Association Pharmacology Conference in Bismarck, North Dakota on September 26, 2013. A table accompanied the poster display with handouts including the informational postcard, summary pamphlet, and a display of the continuing education video.

Continuing education materials are widely used to educate healthcare providers. The number of continuing education modules offered online as well as the number of healthcare providers participating in the online continuing education is increasing (Casebeer et al., 2010). Online continuing education has been shown to improve healthcare providers' knowledge, skills, and practice decisions at rates comparable with traditional continuing education activities (Casebeer et al., 2010). Most healthcare providers who participate in online continuing education believe the medium is an effective education source and are satisfied with the learning experience (Cobb, 2004). Providing effective education to healthcare providers is difficult, and even the most effective techniques provide a moderate change at best (Townbridge & Weingarten, 2001).

Behavior change is a slow and stepwise process. According to the Transtheoretical Model, health-related behavior change often happens as a result of five stages (Table 6) (Pender et al., 2011). The targeted healthcare providers will likely be in the precontemplation stage in regard to implementing adolescent friendly guidelines into practice. When an individual is not

yet considering a specific behavior change, raising consciousness about the topic is a good first step to initiate behavior change (Pender et al., 2011). Materials to raise consciousness should include the benefits of the behavior in an eye-catching format as well as resources for the individual to actively gather additional information (Pender et al., 2011). The continuing education module was utilized as a tool to raise healthcare providers' awareness of the importance of high quality and comprehensive adolescent psychosocial histories, which may reduce preventable causes of morbidity and mortality. The continuing education module strives to bring the healthcare provider into the contemplation stage of behavioral change, and possibly the planning stage if the healthcare provider utilizes even a small piece of information from the module in their practice (Pender et al., 2011). By initiating the behavior change steps, the healthcare provider may be more likely to make sustainable changes in their practices as they read about adolescent friendly healthcare services in the future.

Table 6

Transtheoretical Model Steps of Behavior Change

Step	Description
1. Precontemplation	No intention to take action
2. Contemplation	Intends to change
3. Planning or Preparation	Making small or sporadic changes
4. Action	Actively engaged in behavior change
5. Maintenance	Sustaining the change over time

(Pender et al., 2011)

Institutional Review Board Approval

This project was declared exempt by the North Dakota State University on May 21, 2013 (Appendix G). The online continuing education module involved minimal risk to the participants, and the pretest, posttest, and demographic data were confidential and anonymous. The data were provided by the AANP CE Center in aggregate form only, limiting the potential for identifiable data. The online continuing education module was also created in accordance with the AANP CE standards and policies and the AANP commercial support standard.

Data Collection

The data collection was hosted by the AANP CE Center. Pretest and posttest questions were included before and after the module, as well as evaluation questions following completion of the module (Appendix H & Appendix I). The data from these questions were compiled into aggregate form by the AANP CE Center and provided to myself in aggregate form only on a monthly basis. The first set of data from August 29th, 2013 to October 8th, 2013 was provided on October 15th, 2013. The second set of data from October 9th, 2013 to October 31st, 2013 was provided on November 15th, 2013.

CHAPTER FOUR. EVALUATION

Evaluation Methods

The continuing education module was evaluated through five pretest and posttest questions related to the content of the module, and two pretest and posttest questions related to behavior change. The evaluation questions were completed online through the AANP CE Center. The pretest and posttest questions correlated with the learning objectives of the continuing education module (Appendix H). In addition to the pretest and posttest questions, evaluation questions and demographic information were collected from the participants after completing the module (Appendix I). Evaluation questions were created to evaluate each of the four objectives. In addition to the evaluation questions related to each objective, which are discussed below, the objectives were also more broadly evaluated through an overarching question stating: “After completing this activity I will be able to achieve the following objectives,” with each of the four objectives listed. For each objective, participants’ responses included: completely, quite a bit, somewhat, and not at all.

The first objective was to identify and discuss the current causes of preventable adolescent morbidity and mortality. The module contained approximately 11 minutes of information regarding the leading causes of adolescent morbidity and mortality as well as discussion about the risk factors related to the major causes of adolescent morbidity and mortality. The first objective was taught through the lecture and PowerPoint presentation, and was evaluated through two pretest and posttest items: 1) The leading causes of adolescent morbidity and mortality are largely preventable, with response options true and false; and 2) What are the top three leading causes of adolescent morbidity and mortality, with multiple

choice options: Suicide, cancer, heart disease; Accidents/unintentional injury, homicide, suicide; Accidents/unintentional injury, suicide, cancer; and Suicide, homicide, heart disease. (Table 7).

The second objective was to increase healthcare providers' awareness about the importance of completing a comprehensive psychosocial history with adolescent patients. Approximately 17 minutes of lecture and PowerPoint presentation were included to address adolescent development and normative risky behaviors as well as information about how psychosocial interviews have the potential to improve health and reduce morbidity and mortality of adolescents. One item assessed the second objective: "In your current practice, how often do you use comprehensive psychosocial assessments with your adolescent patients". Response options included: I hardly ever do and currently don't have plans to change my practice; I am thinking more about starting to; I am taking steps to incorporate this into my practice; I recently started to do this; and I have done this for a long time (Table 7). These five responses were written to mirror the five steps of the Transtheoretical Model steps of behavior change (Table 6) (Pender et al., 2011).

The third objective was to identify one comprehensive mnemonic for use in conducting a psychosocial history with adolescent patients. The third objective was addressed in approximately 19 minutes of lecture, PowerPoint presentation, and demonstration through mock adolescent psychosocial interviews with adolescent actors. The meaning of each letter of the HEEADSSS mnemonic was described and information about important aspects of each component of the HEEADSSS psychosocial interview were discussed. The third objective was assessed using a multiple-choice question that asked: "Which of the following mnemonics may help with completing a comprehensive adolescent psychosocial assessment." Response options included: HERO; HEEADSSS; ABCDE; and CAGE (Table 7).

The fourth objective was to increase healthcare providers' comfort related to conducting comprehensive adolescent psychosocial histories. The final objective was taught through approximately 29 minutes of lecture with PowerPoint presentation, as well as demonstration through mock adolescent psychosocial interviews. Information about providing confidential care and communicating effectively with adolescents was taught, as well as demonstration of each aspect of an adolescent psychosocial interview through video clips. The fourth objective was evaluated through one pretest and posttest question asking: "How much do you agree with the following statement?: I feel more comfortable conducting comprehensive psychosocial interviews with adolescent patients after completing this continuing education module," with the following response choices: strongly agree; somewhat agree; indifferent; somewhat disagree; and strongly disagree (Table 7).

In addition to the specific evaluation components related to the four objectives, some more general evaluation data were collected along with general demographic information. Demographic information was collected in regard to the participants' gender, number of years in practice as a nurse practitioner or advanced practice registered nurse, practice in rural or urban setting, and which AANP designated region they practice in. As a general evaluation question, the participants were asked: "As a result of this educational activity: I will modify my practice; I will seek more information before modifying my practice; or I see no need to modify my practice." The participants were asked: "How likely would you be to recommend this program to your colleagues?" and "To what degree did the speaker demonstrate expertise and effectiveness in this topic?" both with the response choices of: completely; quite a bit; somewhat; and not at all. The participants were also given an opportunity to offer written comments or suggestions related to the continuing education module.

Table 7

Objectives and Assessment Questions

Question	Response Options	Method of Instruction	Length of Instruction
Objective 1: Identify and discuss the current causes of preventable adolescent morbidity and mortality			
The leading causes of adolescent morbidity and mortality are largely preventable.	-True -False	Lecture and PowerPoint presentation	~ 11 minutes
What are the top 3 leading causes of adolescent morbidity and mortality?	-Suicide, cancer, heart disease -Accidents/unintentional injury, homicide, suicide -Accents/unintentional injury, suicide, cancer -Suicide, homicide, heart disease		
Objective 2: Increase healthcare providers' awareness about the importance of completing a comprehensive psychosocial history with adolescent patients			
In your current practice, how often do you use comprehensive psychosocial assessments with your adolescent patients?	-I hardly ever do and currently don't have plans to change my practice -I am thinking more about starting to -I am taking steps to incorporate this into my practice -I recently started to do this -I have done this for a long time	Lecture and PowerPoint presentation	~ 17 minutes
Objective 3: Identify one comprehensive mnemonic for conducting comprehensive psychosocial histories with adolescent patients			
Which of the following mnemonics may help with completing a comprehensive adolescent psychosocial assessment?	-HERO -HEEADSSS -ABCDE -CAGE	Lecture, PowerPoint presentation, and demonstration	~ 19 minutes

Table 7. Objectives and Assessment Questions (continued)

Question	Response Options	Method of Instruction	Length of Instruction
Objective 4: Increase healthcare providers' comfort related to conducting comprehensive adolescent psychosocial histories			
How much do you agree with the following statement?: I feel more comfortable conducting comprehensive psychosocial interviews with adolescent patients after completing this continuing education module.	<ul style="list-style-type: none"> -Strongly agree -Somewhat agree -Indifferent -Somewhat disagree -Strongly disagree 	Lecture, PowerPoint presentation, and demonstration	~ 29 minutes
General Evaluation Questions and Demographic Data			
Question	Response Options		
What is one stage of psychosocial crisis that adolescents go through?	<ul style="list-style-type: none"> -Intimacy versus isolation - Trust versus mistrust -Identity versus role confusion -Autonomy versus shame and doubt 		
Which of the following is not a common component of motivational interviewing?	<ul style="list-style-type: none"> -Affirming what the patient says -Using reflective listening -Educating the patient about their behaviors -Getting the patient to talk about change 		
As a result of this educational activity:	<ul style="list-style-type: none"> -I will modify my practice -I will seek more information before modifying my practice -I see no need to modify my practice 		
How likely would you be to recommend this program to your colleagues?	<ul style="list-style-type: none"> -Completely -Quite a bit -Somewhat -Not at all 		
To what degree did the speaker demonstrate expertise and effectiveness in the topic?	<ul style="list-style-type: none"> -Completely -Quite a bit -Somewhat -Not at all 		

Table 7. *Objectives and Assessment Questions (continued)*

Question	Response Options
What is your gender?	-Male -Female -Other
Do you primarily practice in a rural or urban setting?	-Rural -Urban
How many years have you been in practice as a nurse practitioner or advanced practice registered nurse?	-0-2 -3-5 -5-10 -10-15 ->15
In what area of the country do you primarily practice?	-List of AANP Regions 1 – 11

CHAPTER FIVE. RESULTS

Presentation of Findings

The data were provided by the AANP CE Center in aggregate form on approximately a monthly basis. The first set of data from August 29th, 2013 to October 8th, 2013 was received on October 15th, 2013, and the second set of data from October 9th, 2013 to November 13th, 2013 was received on November 15th, 2013. The first set of data included 200 participants and the second set of data included 128 participants who completed the module, pretest, posttest, and evaluation questions. The new modules on the AANP CE Center are advertised on the top of the list of continuing education modules with an asterisk by the title. One could speculate the higher response rates in the first month may be related to this additional attention brought to the module on the AANP CE Center. Approximately two months of data were analyzed together with a total of 328 participants (N = 328). A majority of the data collected were in quantitative form, with one final question being in qualitative form.

Approximately 86% (n = 283) of the participants were female, and approximately 58% (n = 191) practiced primarily in an urban versus rural setting. A majority of the participants (n = 206) have been practicing as a nurse practitioner or advanced practice registered nurse for less than five years. The participants were from a variety of AANP regions, as shown in Table 8.

Over half of the participants (52.4%; n = 172), indicated that they would modify their practice as a result of the educational activity. About one third of participants (36.6%; n = 120) will seek more information before modifying their practice and about one tenth (11.0%; n = 36) reported they saw no need to modify their practice as a result of the module. The participants reported a high level of acceptance to the continuing education module.

Table 8

Participant Demographics

Demographic	(%)	(n)
Male	11.0	36
Female	86.3	283
0 - 2 Years of Practice	35.4	116
3 - 5 Years of Practice	27.4	90
5 - 10 Years of Practice	17.7	58
10 - 15 Years of Practice	11.6	38
>15 Years of Practice	5.2	17
Practice in Rural Setting	36.9	121
Practice in Urban Setting	58.2	191
AANP Region 1: (Connecticut, Massachusetts, Maine, New Hampshire, Rhode Island & Vermont)	2.7	9
AANP Region 2: (New Jersey, New York & Puerto Rico)	7.0	23
AANP Region 3: (District of Columbia, Delaware, Maryland, Pennsylvania, Virginia & West Virginia)	9.5	31
AANP Region 4: (Kentucky, North Carolina, South Carolina & Tennessee)	21.3	70
AANP Region 5: (Illinois, Indiana, Michigan, Minnesota, Ohio & Wisconsin)	16.5	54
AANP Region 6: (Arkansas, Louisiana, New Mexico, Oklahoma & Texas)	11.6	38
AANP Region 7: (Iowa, Kansas, Missouri & Nebraska)	6.1	20
AANP Region 8: (Colorado, Montana, North Dakota, South Dakota, Utah & Wyoming)	3.7	12
AANP Region 9: (Arizona, California, Hawaii, Nevada, Pacific U.S. Territories)	5.5	18
AANP Region 10: (Alaska, Idaho, Oregon & Washington)	2.7	9
AANP Region 11: (Alabama, Florida, Georgia, Mississippi, Caribbean U.S. Territories)	8.5	28

Nearly all of the participants (91.8%; n = 301) felt that the level of the content was “just right” for nurse practitioners. A majority of the participants reported that they would recommend the program to their colleagues, with 53.4% (n = 175) reporting that they completely agreed and 39.0% (n = 128) reporting that they agreed quite a bit. Additionally, a majority of the participants reported that the author demonstrated expertise and effectiveness as the speaker for the module, with 58.5% (n = 192) completely agreeing and 36.6% (n = 120) agreeing quite a bit.

Two of the five content-related pretest and posttest questions did not specifically relate to an objective, but rather strived to measure learning from the module. The first question: “What is one stage of psychosocial crisis that adolescents go through,” was answered correctly by approximately two thirds of the participants (66.7%; n = 219) before completing the module. After the module, 86.7% (n = 284) of the participants answered the question correctly. The second content question was: “Which of the following is not a common component of motivational interviewing.” Prior to the module about half (52.5%; n = 172) of the participants answered this question correctly, and after the module the correct responses increased to 70.9% (n = 233).

Objective 1

Over half of the participants completely agreed (60.4%; n = 198), and over one third agreed quite a bit (35.7%; n = 117) that the program allowed them to meet the first objective of identifying the current leading causes of adolescent morbidity and mortality. Prior to the completing the module, most of the participants (98.6%; n = 323) answered the true or false question “the leading causes of adolescent morbidity and mortality are largely preventable” correctly with the response of “true.” After the module, the percentage of participants who answered this question correctly remained approximately the same (98.3%; n = 322). The true or

false question allowed us to see that most of the participants had a good understanding that the leading causes of adolescent morbidity and mortality is largely preventable prior to completing the module.

Before completing the module, about three quarters (73.6%; n = 241) of the participants answered the question: “What are the top three leading causes of adolescent morbidity and mortality” correctly with the response: “accidents/unintentional injury, homicide, suicide.” After completing the module, an increased number of participants were able to identify the leading causes of adolescent morbidity and mortality correctly. The percentage of participants who identified the correct causes of adolescent morbidity and mortality increased to 89.8% (n = 294).

Objective 2

Over half of the participants completely agreed (58.8%; n = 193), and approximately one third agreed quite a bit (37.5%; n = 123) that the program allowed them to meet the second objective of increasing healthcare providers’ awareness about the importance of completing a comprehensive psychosocial history with adolescent patients. The second objective was measured by the question: “In your current practice, how often did you/do you (prior to/after completing the module) plan to use comprehensive psychosocial assessments with your adolescent patients?” with the responses: I hardly ever do and currently don’t have plans to change my practice; I am thinking more about starting to; I am taking steps to incorporate this into my practice; I recently started to do this; and I have done this for a long time. The percentage of participants that reported they don’t currently have plans to change their practice decreased from 8.6% (n = 28) to 7.7% (n = 25). The percentage of participants that reported they recently started to do this increased from 6.4% (n = 21) to 7.4% (n = 24). The percentages for

the rest of the responses stayed approximately the same prior to and following completion of the module (Figure 1).

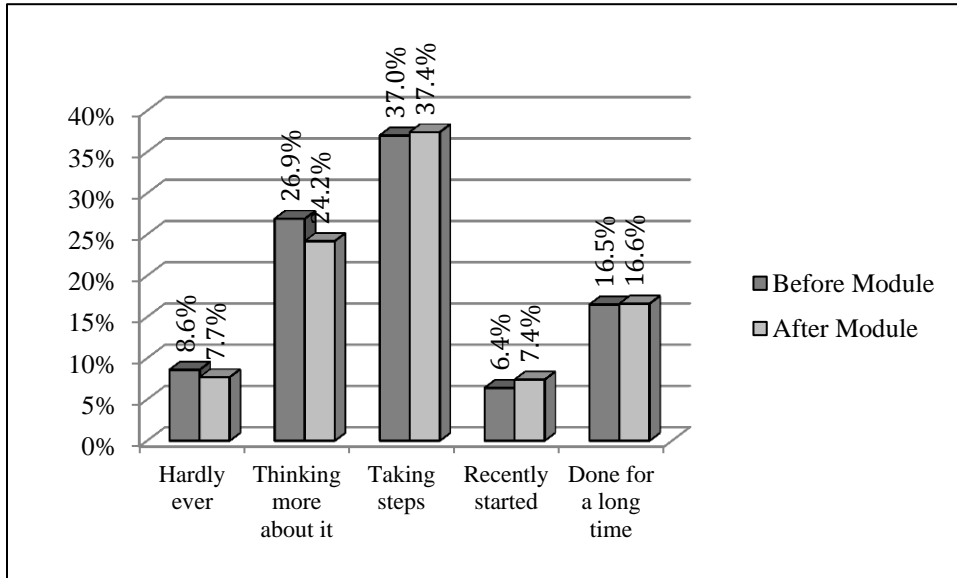


Figure 1. Participants reported behavior change before and after completing module.

Objective 3

Approximately two thirds of the participants completely agreed (62.2%; n = 204), and approximately one third agreed quite a bit (32.9%; n = 108) that the program allowed them to meet the third objective of identifying one comprehensive mnemonic for use in conducting a psychosocial history with adolescent patients. A little over one third (33.6%; n = 110) of the participants answered the question: “Which of the following mnemonics may help with completing a comprehensive adolescent psychosocial assessment?” correctly before completing the module with the response “HEEADSSS.” After the module nearly four fifths of the participants (77.5%; n = 254) answered the question correctly. As a result of the module, many more participants became aware of the HEEADSSS mnemonic to help conduct comprehensive psychosocial assessments with adolescent patients.

Objective 4

Over half of the participants completely agreed (53.7%; n = 176), and over one third of the participants agreed quite a bit (39.9%; n = 131) that the program allowed them to meet the fourth objective of increasing healthcare providers comfort related to conducting comprehensive adolescent psychosocial histories. A majority of the participants agreed to some level that they feel more comfortable conducting comprehensive psychosocial interviews with adolescent patients after completing the module, with 37.3% (n = 122) strongly agreeing and 48.0% (n = 158) somewhat agreeing with the statement (Figure 2).

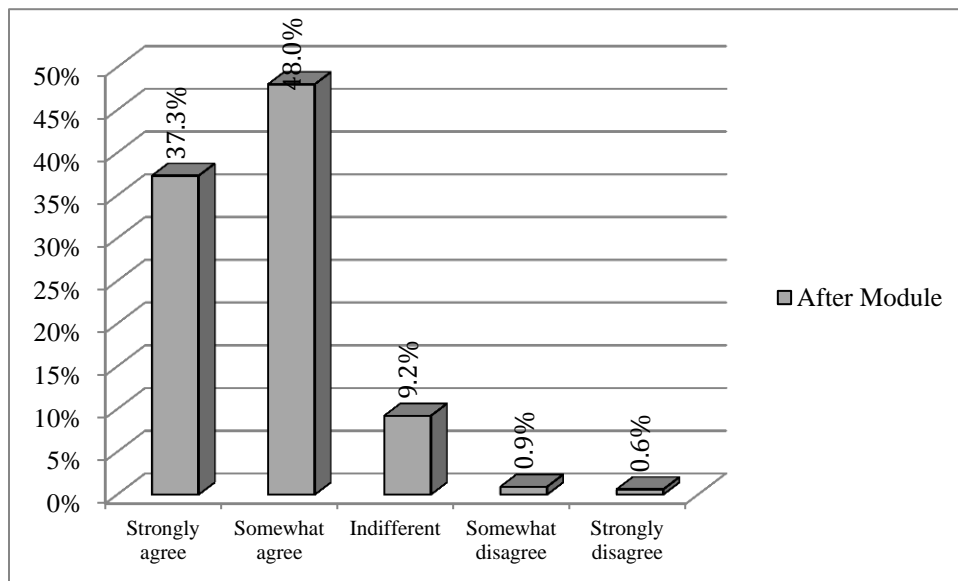


Figure 2. Participants reported comfort level after completing module.

Qualitative Data

The written qualitative responses carried a variety of information, of which most were positive. Of the 328 participants, 59 individuals left written responses as comments about the module. Forty-three participants commented about the module being good, helpful or

informative. Some of these responses included: “Very informative, have printed out handout to refer to. Possible confidentiality breach areas were so many... had no idea these could be seen as invasive to their privacy... will work on this in the future”; “This is a great topic and one that an(y) provider, no matter what specialty, should participate in”; and “This was a much-needed topic, as the adolescent population is highly overlooked...”. Five comments were suggestions for future continuing education topics for the AANP to cover. Another five participants commented about having technical difficulties with the module. Two participants left suggestions for improving the module including: “Add rational(e)s after each question”; and “It would be nice to have an interactive segment of program (i.e. Case study)”. There was one written response about each of the following topics: expressing appreciation for creating the module; suggesting to decrease the amount of statistics included in the module; stating the module was too basic; and responding about the large number of topics to cover with adolescents.

CHAPTER SIX. DISCUSSION AND RECOMMENDATIONS

Interpretation of Results

The participants reported a high level of acceptance to the continuing education module. A majority of the participants (94.9%; n = 311) reported that the format of the continuing education module was “completely” or “quite a bit” appropriate to promote learning. As detailed in the previous chapter, many of the participants reported they would modify their practice as a result of the module, and most of the participants reported they were likely to recommend the program to their colleagues. A majority of the participants also felt the speaker demonstrated expertise and effectiveness in the topic.

The results reveal that learning occurred as a result of the continuing education module. As described in detail in the previous chapter, the percentages of correct answers increased greatly in four of the five content related pretest and posttest questions. In regards to the one question in which the percentages of correct answers didn't increase, a majority (98.6%; n = 323) of the participants answered the question correctly prior to completing the module. In addition to the content-related questions, the participants showed a high level of acceptance of the module through the write-in qualitative data. Most of the written responses reported that the module was good, helpful or informative. Overall, the results were positive, and demonstrated that the participants experienced learning.

Limitations

One limitation of the study was the inability to break down the demographic location information by state. Instead, the AANP CE Center only allowed the demographic location information to be categorized by the 11 AANP regions instead of state by state. As postcards were sent only to the primary care nurse practitioners in the frontier counties of North Dakota,

looking at the number of participants from North Dakota alone instead of the region including North Dakota would have been helpful. Almost four percent (3.7%; n = 12) of the participants were from Region 8, which includes North Dakota. With Region 8 likely having a lower overall population than some of the other regions, it is difficult to identify whether the proportion of nurse practitioners and advanced practice registered nurses who completed the module was higher in Region 8 compared to the other eleven regions.

One could consider the data being provided only in aggregate form as a limitation to the study. For confidentiality and ease of statistical analysis, the AANP CE Center only provides data to the continuing education module authors in aggregate form. From the data, the author was able to provide a comprehensive analysis of the study's results, however one may feel that a more specific statistical analysis could be created if more detailed data were offered by the AANP CE Center. For example, the author was not able to distinguish the percentage of rural versus urban participants per each region. With the aggregate data, the author cannot distinguish whether the participants in Region 8, which includes North Dakota, are from an urban or rural setting. Additionally, one cannot determine if the participants in Region 8 were students or practicing healthcare providers, so the author cannot determine if the population of healthcare providers in the frontier counties of North Dakota was specifically reached. The primary care nurse practitioners in the frontier counties of North Dakota received an informational postcard advertising the module as well. These individuals may have experienced some behavioral change due to the postcard alone without completing the module, but this change cannot be measured.

Additionally, five written responses identified that a small number of participants had difficulty opening the video included in the continuing education module. With the MP4 video

being slightly over one gigabyte in size, the video did take some time to download depending upon the participant's Internet speed and computer specifications. With 328 total participants, and only five responses indicating they had technical difficulties with the module, this is quite a small limitation and the pros of using a video and Internet based continuing education module outweighed the limitations.

Recommendations

Based on the positive results from the continuing education module's evaluation, it is reasonable to recommend that any healthcare provider who cares for adolescents seek out continuing education related to the population. As a start to this recommendation, the author presented information about adolescent health and promoted the continuing education module at the North Dakota Nurse Practitioner Association's 5th Annual Pharmacology Conference on September 26th, 2013 in Bismarck, North Dakota through a poster presentation. Additionally, the positive feedback reinforces the importance of the topic. Education about adolescent health, including completing psychosocial assessments with adolescent patients, should be included in curricula for family nurse practitioners. The continuing education module on the AANP CE Center is free for both AANP members and non-members, thus graduate schools could easily advise their students to complete the module. Nurse practitioner students at North Dakota State University, University of North Dakota, and University of Mary have all been given the opportunity to complete the continuing education module via email communication.

The AANP CE Center was very interested in the topic related to adolescent health from the first time the author contacted the AANP CE Center through the implementation of the module. Per the author's recommendations, the data collection phase of the continuing education module has been stopped by the AANP CE Center; however, the module will still be

available for two years in total. The AANP CE Center reported that they have had requests for more continuing education about adolescent health, and it is reasonable to recommend the AANP CE Center place a call to the AANP members for creation of adolescent health continuing education modules.

Implications for Practice

In the primary care setting, healthcare providers see a wide range of diagnoses in individuals from birth to death. With such a vast range of different patient populations, it is imperative that healthcare providers stay as up to date as possible with each population and complaint they see. Information about caring for the adolescent population is not always included in educational programs for primary healthcare providers. Adolescents have a unique set of needs, and healthcare providers may be able to better care for the population after gaining education specific to the population. Improved education and comfort with conducting psychosocial interviews with adolescent patients provide the potential to improve adolescent healthcare and work to reduce the preventable causes of adolescent morbidity and mortality.

The continuing education module hosted by the AANP CE Center impacted a large number of nurse practitioners' practices with a total of 328 participants. The author disseminated and promoted the adolescent health module through sending advertising postcards to the rural nurse practitioners working in primary care in North Dakota, providing a poster presentation at the 5th Annual North Dakota Nurse Practitioner Association Pharmacology Conference, and sharing access to the continuing education module via email communication with the nurse practitioner students at North Dakota at North Dakota State University, University of North Dakota, and University of Mary. An executive summary of the practice improvement project can be found as Appendix J.

Implications for Future Research

Based on the survey findings from this study, the need for education related to the adolescent population was further confirmed. Future research looking at facilitators and barriers of implementing the HEEADSSS mnemonic into a single practice may be helpful. Additionally, continuing education modules could theoretically be created, delving into more detail regarding each aspect of the HEEADSSS psychosocial history. One participant suggested that the author “elaborate on all topics, this would be a great longer session.” Although a complete psychosocial interview is quite important with adolescent patients, future research could assess which components of the HEEADSSS mnemonic might be “most important” to cover when time is a limitation.

Application to Other Nurse Practitioner Roles

Nurse Practitioners in the primary healthcare setting care for adolescents in many capacities, whether it’s for an annual physical, sports physical, or an episodic complaint. Nurse Practitioners in a wide range of roles may interact with adolescents in a variety of settings. Understanding the changes and development, which occur during adolescence, as well as the populations’ challenges and needs, may allow nurse practitioners to provide high quality and holistic care to the adolescent population. Identifying and counseling at-risk adolescents as well as encouraging the positive decisions adolescents are making has the potential to make a positive impact on the adolescent and reduce preventable causes of morbidity and mortality.

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APPENDIX A. AANP APPROVAL LETTER



The Voice of the Nurse Practitioner®

August 22, 2013

Melinda Anderson
100 7th St. NE, Apt #1
Perham, MN 56573

Dear Melinda Anderson,

The continuing education activity *Improving Adolescent Friendly Healthcare Services: Implementing Comprehensive Psychosocial Histories into Practice* sponsored by Melinda Anderson, (program date September, 2013) is approved for continuing education by the American Association of Nurse Practitioners. The appropriate wording for this is:

“This program is approved for 1.25 contact hours of continuing education by the American Association of Nurse Practitioners. Program ID 1308312”

In addition, the following statement should accompany all AANP-approved activities: “This program was planned in accordance with AANP CE Standards and Policies and AANP Commercial Support Standards.”

ID number 1308312 has been assigned to this application. Please refer to this number with all communication pertaining to this application including the required post-program reports. This program has been approved for 2 years (through August 31, 2015), provided no changes are made. Attendance sheets and evaluation summaries are due in this office one month after the program’s initial presentation (no later October 31, 2013).

Thank you,

A handwritten signature in black ink that reads "Stormy Causey". The signature is written in a cursive, flowing style.

Stormy Causey
CE Coordinator

Administration: PO Box 42836 • Austin, TX 78711 • 512-442-4263 • Email: admin@aanp.org • Website: www.aanp.org
Office of Health Policy: 225 Reinekers Lane, Suite 525 • Alexandria, VA 22304 • 703-740-2529 • Email: federalpolicy@aanp.org

APPENDIX B. CONTINUING EDUCATION MODULE HANDOUT

Improving Adolescent Friendly Healthcare Services: Implementing Comprehensive Psychosocial Histories into Practice

Melinda K. Anderson, BSN-RN, DNP-5
North Dakota State University

Details

- This educational module will take you approximately 60 minutes to complete.
- There are a few pretest and posttest questions related to the module as well as a short posttest evaluation.
- The module is intended for any healthcare provider who interacts with adolescents.
- Need for education about implementing adolescent psychosocial histories into practice.

9/24/2024, 1:08

Disclosures

- I have no disclosures.
- This continuing education module is part of a Practice Improvement Project as part of a Doctor of Nursing Practice program.
- No grant funding was received to create this continuing education module.

Accreditation Statement

- This program was submitted to the American Association of Nurse Practitioners (AANP). This program was planned in accordance with the AANP CE Standards and Policies and AANP Commercial Support Standard.

Learning Objectives

1. Identify the current leading causes of adolescent morbidity and mortality.
2. Increase healthcare providers awareness about the importance of completing a comprehensive psychosocial history with adolescent patients.
3. Identify one comprehensive mnemonic for use in conducting a psychosocial history with adolescent patients.
4. Increase healthcare providers comfort related to conducting comprehensive adolescent psychosocial histories.

Adolescence

- Unique period of development with rapid physical and psychosocial growth and development.
- Typically a physically healthy population.
- Experimentation with risky behaviors is normative for population.
- Biological, cognitive, and social growth and development occur independent of each other.

(Dooling & Ryan, 2004; Moulton, 2002; & Barlow, 2000; 131-132; 130M, 100; White, 2018)

Adolescent Stages Based on Psychosocial Crisis

- Erik Erickson defined 8 critical stages of life based on psychosocial crisis:
- Ages 6-12:
 - Industry versus inferiority
- Ages 12-20:
 - Identity versus role confusion

ORIG: 1984, 1999, Miller & Egan, 2010

Adolescent Development

- Similar anatomical development across cultures and nationalities.
- Frontal lobe function:
 - Decision making, controls impulses, motivation, planning for the future.
- Flux and development of frontal lobe.
- Challenging rules and experimentation with risky behavior is normative for adolescents.

Dr. McManis & Arnold, 2013, White, 2010

Adolescent Morbidity and Mortality

- Physically healthy population with low incidence of acute and chronic illness.
- Leading causes of adolescent health include accidents and unintentional injury, homicide, and suicide.
- Male risky behaviors:
 - Use alcohol, carry a weapon, engage in physical fighting, use marijuana, seriously consider or plan suicide, have sexual intercourse before age 14, and smoke frequently.
- Female risky behaviors:
 - Experience persistent sadness, engage in abnormal weight loss behavior, not exercise consistently, and have unprotected sex.

ORIG: 2010, Dr. McManis & Arnold, 2013, Erickson & Thivierge, 2013, Miller, 2010

Adolescent Morbidity and Mortality: Substance Use and Abuse

- Increased chance of becoming addicted and dependent on nicotine.
- By the time of high school graduation:
 - Nearly 1/3 of all adolescents have tried an illicit drug,
 - About 1/3 have consumed alcohol,
 - About 1/3 have been drunk at least one time.
- Increased risk of addictive disorder later in adult life.
- Potential negative effect on memory and verbal learning

Blanco, Gonzalez, Tapia, & Brown, 2011, Erickson & Thivierge, 2013, White, 2010

Adolescent Morbidity and Mortality: Risky Sexual Behavior

- About 50% of adolescents in grades 9 – 12 reported having vaginal intercourse at least once.
- About 38% of sexually active high school students reported not using a condom when they last had sexual intercourse.
- Portray oral sex as not being as risky.
- About 4 million adolescents acquire a sexually transmitted infection annually.

Orlando & Trivette, 2013, Erickson & Thivierge, 2010

Adolescent Morbidity and Mortality: Mental Health

- Nearly half of lifetime mental health disorders begin by the age of 14; and about three quarters begin by the age of 24.
- Unaddressed mental health needs may lead to advanced illness, disability, poor social skills, reduced productivity, and even suicide.
- For every completed suicide, an estimated 50 to 100 suicide attempts are made.

Quinn-Alton, McMillan, 2011, Knicker et al., 2007, Henggeler, 2000

Adolescent Morbidity and Mortality: Unhealthy Eating and Exercise Habits

- Over one third (38%) of adolescents reported eating vegetables less than one time in the past 7 days.
- Over half of adolescents reported they participated in 60 minutes of physical activity on less than 5 out of the past 7 days.
- Obesity rates among adolescents have more than tripled in the past 30 years.
- In 2010, over 1/3 of children and adolescents were overweight or obese.
- More likely to be overweight or obese adults, and to suffer from decreased self-esteem and depression.

©2010, 10-11, HRD-1004, 1009 Optum, Cleveland, OH, A Page 10-10

Healthy People 2020

- **Overarching Goals:**
 - Attain high-quality, longer lives free of preventable disease, disability, injury, and premature death.
 - Achieve health equity, eliminate disparities, and improve health of all groups.
 - Create social and physical environments that promote good health for all.
 - Promote quality of life, health development, and healthy behaviors across all life stages.
- **Adolescent Objectives:**
 - Increase the proportion of adolescents who have had a wellness check in the past 12 months.
 - Increase the proportion of adolescents who are connected to a parent or other positive adult caregiver.

HealthyPeople.gov/2020

Adolescent Friendly Health Services

- **Transitions:**
 - Childhood → Adolescence
 - Adolescence → Adulthood
- Unaddressed health concerns may progress to preventable illness, reduced quality of life, and mortality.
- Potential to decrease high risk behaviors as well as nurture protective and positive behaviors.

Brack, 1000, Oatis, Myers, & Belski, 1010, Galloway & Ryan, 1006, Moxness-Oliver & Jackson-Allen, 1010, HRD-1004, 1009

Characteristics of Adolescent Friendly Health Services

- Accessible
- Acceptable
- Appropriate
- Effective
- Equitable

HRD-1004, 1009

Providing Healthcare to Adolescents: Confidentiality

- **Potential breach of confidentiality points:**
 - Calling clinic to make an appointment.
 - Posting emails or appointment confirmation.
 - Reviewing and reconciling medication, problem lists, and health-related behaviors.
 - Receiving and filling of new prescription medications.
 - Releasing test results via electronic medium.
 - Posting of bills and discharging after visit summaries.
- **Minor consent laws:**
 - [http://www.ndsa.org/pdf/Minor%20Consent%20to%20Medical%20Treatment%20\(7\).pdf](http://www.ndsa.org/pdf/Minor%20Consent%20to%20Medical%20Treatment%20(7).pdf)
 - http://www.gutmanacher.org/statecenter/sp/01a/sp01b_OMCL.pdf

Andriewski, Oatis, Oatis, Kelly, & Longoria, 1010, Kameoka & Reynolds, 1010, HRD-1004, 1009

Communicating Effectively with Adolescents

- Motivational interviewing techniques can be helpful with communicating with adolescents
- Open ended questions
- Affirm what your patient says
- Reflective listening
- Elicit "change talk"
- Summarize what you talked about

Oliver & Belski, 1004, Jones et al., 1010, Miller & Rollnick, 1005, Johnson, 1010

Psychosocial Assessment: HEEADSSS

- Psychosocial history may improve adolescent friendly healthcare services and reduce preventable causes of adolescent morbidity and mortality.
- Not only to search for problems, but also to find the adolescent's strengths and reinforce protective factors.
- Helps with early detection of problems and opportunity to provide early and effective education about protective factors.

(Glickberg & Ryan, 2006)

Psychosocial Assessment: HEEADSSS

- H → Home & Environment
- E → Education & Employment
- E → Eating
- A → Activities
- D → Drugs
- S → Sexuality
- S → Suicide and Depression
- S → Safety

(Glickberg & Ryan, 2006)

Video Clip 1



H: Home & Environment

- Identify recent changes at home.
- Identify connections to supportive adults.

E: Education & Employment

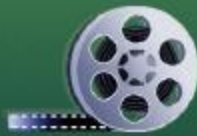
- Ask about grades.
- Discuss summer and part time employment.

E: Eating

- Encourage regular exercise.
- Encourage healthy eating habits.
- Identify and discuss patterns of over and under eating.

(Glickberg & Ryan, 2006; O'Brien, Doran, & Papp, 2011)

Video Clip 2



A: Activities

- Ask about friends and be alerted by high risk behaviors in friends.
- Encourage <2 hours of "screen time" per day.
- Praise children who read outside of school.

D: Drugs

- Discuss the risks of alcohol, tobacco, or illicit drug use.
- Ask about riding with an intoxicated driver, or driving while intoxicated.
- <http://www.cocasa-boston.org/clinicians/crafl.php>

(Glickberg & Ryan, 2006)

Video Clip 3



S: Sexuality

- Provide education about STI, fertility, and contraception.
- Be specific as adolescents may have different definitions of what "sex" is.
- Be patient.

S: Suicide & Depression

- Red flags: boredom, moodiness, irritability
- Other symptoms: Sleep and appetite disturbances, crying, sadness.
- www.teenacron.org or www.physicians.com

S: Safety

- Physical and psychological causes of injury.
- Encourage safety protective factors such as seat belt and helmet use.
- Identify places or situations in which the adolescent has felt unsafe.

©Illustration © Kees, 1996

Video Clip 4



Conclusion

- Ensuring confidentiality
- Effective communication skills.
- Comprehensive psychosocial interview considering the HEEADSSS components.

Credits and Acknowledgments

- Dr. Molly Secon-Turner, RN, PhD, DNP Faculty, Advisor, North Dakota State University
- Stephen Beckerman, Media Technologies Consultant, North Dakota State University
- American Association of Nurse Practitioners Continuing Education Center

References

- Please see attached reference page.

APPENDIX C. ADOLESCENT INTERVIEW SCRIPTS

CLIP 1: (ENSURING CONFIDENAILITY; ASKING PARENT TO STEP OUT)

H (Healthcare provider) – Hi (teen), it’s nice to meet you. My name is Mindy and I will be seeing you today for your healthcare visit.

T (Teen) – Hey, sounds good.

H: Since I have the pleasure of meeting you guys for the first time today, I’m going to ask you to introduce me to who you brought with you today.

R: Oh, this is my mom, (name).

H: It’s nice to meet you (name).

M (mom): It’s nice to meet you too.

(?fade camera in and out)

H: As we move on to talk about some of the other aspects of your health such as your friends, dating, and what you like to do for fun, I want to make sure you know that everything we discuss is confidential, meaning that your parents, teachers, and friends will not know what we talk about today. After my patients become teenagers, I like to ask the parents or adults to step out of the room for a part of the appointment, so you have a chance to ask me any questions you might have with your parents out of the room, and I will ask you about some other information. Are you guys okay with that?

M – Yeah, no problem.

T – Yeah.

H - Before we do that, do either of you have any questions for me, or (mom) do you have anything you’d like to discuss before stepping out of the room? After we are done talking, I will come and get you from the waiting room so you can come back in while we wrap up the visit.

M (mom) – No, I don’t have any concerns, that sounds good – just come get me when you’re ready.

CLIP 2: (HOME AND ENVIRONMENT; EDUCATION AND EMPLOYMENT; EATING)

H – Before moving onto the physical exam where I do things like listening to your heart and lungs, I have a few questions to ask you. As I’m asking you these questions, I want to just remind you again that everything we discuss is confidential. I can’t and won’t tell other people about what we talk about. And also, I want to let you know that I’m open to any questions that you have for me. No question is a “weird” or “dumb” question, and I ask a ton of questions myself, so please feel free to ask questions at any time.

T – Alright sounds good.

H – So where do you live and who do you live with?

T – I live in town here in a house with my mom and step dad.

H – Do you have any siblings?

T – Yeah.

H – Tell me about them.

T – I have a younger sister and a younger half-brother who live in the house with us.

H – Is this the same living situation you've been in for a while?

T – Yeah, since my mom and step dad got married when I was 7.

H – So how do you get along with everyone you live with... your parents and siblings?

T – Well my dad isn't really a part of my life... I haven't seen him since I was really young, but my step dad is pretty cool I guess. He's great to my mom and us kids. Even though he's pretty cool I'm still closer to my mom. My younger siblings get on my nerves sometimes and annoy me, but overall we get along okay.

H – Little siblings can be kind of nosey sometimes. Tell me more about your relationship with your mom?

T – Well, I'm closer with her. We are pretty open and I can talk to her about anything. She's been through a lot herself, and I think she understands where I'm coming from.

H – It sounds like you have a pretty solid relationship with her. That's great. Are there other adults in your life that you look up to?

T – Well I'm pretty close to my friend Steve's dad. Before I got closer to my step dad, he was always around for me. When I was little he was my scout leader, so maybe that's why we got closer. His family would invite me camping and on trips, so I feel pretty close to him and Steve's family.

H – It sounds like you have some good adult role models in your life. Who can you talk to with problems or difficulties you have?

T – Oh for sure my mom. She's always there to listen to me.

H – So tell me about school.

T – I go to the high school in town and am going to be a junior next year.

H – So what do you like most or least about school?

T – Umm, I like the school I go to. I have some pretty close friends that I've gone to school with since I was little. My girlfriend goes to the same school as me too so that's nice.

H – Tell me about your classes and what kind of grades you get in school.

T – My classes have been going well. I'm just taking the normal classes, English, math, science, history... I get pretty good grades in school, like mostly A's and a few B's. Next year I get to take a few advanced placement courses that might be a little tougher.

H – Oh good for you! Advanced placement courses are nice to start earning some college credits. It's still a couple years away, but what are your plans for after high school?

T – I want to go to our state college, I don't really know what I want to go to college for yet, but I'm thinking about engineering. My step-dad is an engineer and he gets to do some pretty cool things at his job so I've been talking to him more about that.

H – Well your good grades and advanced placement courses should be helpful with that. So what are you up to this summer?

T – I work as a lifeguard at the pool, which has been taking up a lot of my time. A few of my friends work there too so it's pretty fun though. My family is going on a vacation next week, and besides that just hanging out with friends.

H – The pool does seem like it would be a fun place to work. How many hours do you work there?

T – I usually work about 3 shifts... so maybe 18 hours or something.

H – Do you work at the outdoor pool that closes in the wintertime?

T – Yeah, I do.

H – So tell me about any work you do during the school year?

T – I don't really work during the school year. I help out my grandparents sometimes with shoveling or yard work and they will give me some money for that which is nice... but that's maybe only a couple times a month.

H – That's okay – that way you get more time to focus on school. We're going to talk some about eating and exercise, so first tell me about what you like and don't like about your body.

T – I guess I don't even really think about that – I'm average sized and don't really have any concerns about that.

H – Tell me about your eating and exercise habits.

T – During the school year I am a lot more active because I'm in theater and track so I'm busy with those activities. During the summer I ride bike to work sometimes because we only have two cars for my and my mom and step dad. I pack sandwiches for lunch at work, and my mom loves to cook so she usually is in charge of making suppers. I think I eat pretty well.

H – That's great that you ride your bike to work sometimes. A goal to work on might be getting at least 1 hour of physical activity daily. You might be pretty close to this, but it would be something to think of.

T – Yeah, I could exercise more.

H – Also, some tips about nutrition are to decrease sugary drinks like soda because we consider these to be “empty calories.” Also, most people need to increase how many fruits and vegetables they eat. When looking at a plate of food at a meal, about half the plate should be covered in fruits and vegetables.

T – Oh wow, that’s a lot, I definitely don’t eat that many.

H – But it’s great that your mom cooks healthy homemade meals, and that you ride your bike and are active in activities during the school year. Keep up the good work.

CLIP 3: (ACTIVITIES; DRUGS)

H (Healthcare Provider) – So what do you like to do for fun?

T (Teen) – Well I’m in theater and track, and really enjoy those activities during the school year. I like to go to movies with my friends. We like to rollerblade or bike too. A lot of times, we just hang out in my basement since my parents said it’s always okay for us to hang out at our house.

H – That’s nice to have a hang out place like that. Tell me more about your friends, have you had the same friends for a long time?

T – I’ve met some new friends in high school though theater and track, but Steve and Dan have been my friends since I was a little kid. They live close to me so we played together a lot growing up, and now we are at the same school, which is nice.

H – It sounds like you have a good group of friends. We ask about screen time, which is the time you spend watching TV, using the computer or other devices with screens. How much screen time do you think you have per day?

T – Well, I don’t have a smart phone, so that probably cuts out a lot. I do use the computer for probably an hour or so per day and also will watch TV or movies with my friends, so maybe 3 hours or so a day.

H – Well that’s not too bad. We like to see the screen time less than 2 hours per day. When people watch more per day, they don’t always get enough exercise or interaction with other people.

T – Yeah, I can see that. I’ll keep that in mind.

H – So going back to your friends, it seems like you have a good group of friends. When you go to parties or hang out with your friends, what kinds of alcohol, tobacco or drugs have you seen?

T – Oh, we don’t usually have any of those! Definitely no drugs. One of the guys on my track team will chew tobacco sometimes, but I don’t like it. There have been a few times that a couple guys brought some cans of those mixed alcohol and energy drinks to parties.

H – So how often do you use tobacco or alcohol?

T – I’ve tried chewing tobacco one time, and it made me sick to my stomach so I haven’t used it since. I’ve drunk some of the drinks people bring to parties, but I don’t very often. I don’t want to get kicked out of theater or track because of it.

H – That is a good point that using those substances can get you in trouble with the school so you can’t be in extracurricular activities. Good thinking. Would you say you use alcohol once a week? Or more or less?

T – Oh definitely less. I’ve only drank like 2 times, and neither time I had very much... only like 1 can.

H – How often have you drove while drinking, or rode with a driver who has been drinking?

T – I never drove after I tried alcohol. My mom came to pick me up. She has told me to always call her for a ride if I need one. My mom and I have talked quite a bit about drinking. Some of my friends have drove after drinking, but I won’t ride with them. I try to tell them how dumb it is.

H – It sounds like you and your mom have a good plan worked out, and you seem to make positive decisions. We talk to you about drugs and alcohol because people who start using these substances when they are younger are more likely to get addicted to the substance or get into trouble because of them. If you ever have concerns about this, or need someone to talk to, please know that I am always here for you.

CLIP 4: (SEXUALITY; SUICIDE AND DEPRESSION; SAFETY)

H (healthcare provider) – Earlier you talked a little bit about your girlfriend, how long have you guys been dating?

T (teen) – We’ve been together for about 6 months.

H – Well that’s exciting! Tell me about the relationship, how have things been going?

T – She’s so awesome. We met each other during rehearsals for the school play last year and hung out with kind of the same group of people. We started after a while, and things have been going well. I was excited to bring her to prom this last year.

H – It’s nice when you guys have a similar group of friends. Adolescence is also a time of sexual exploration, and sexual activity can definitely impact your health. We all have different ideas of what a romantic relationship or sexual activity is. Since this can impact your health, what kinds of romantic or sexual relationships have you been in?

T – Well she is my first serious girlfriend, and I’ve only kissed one girl before her. We’re both kind of cautious about this, I mean we’ve kissed and whatnot, but nothing more than this yet.

H – It seems like you’re pretty happy with this relationship, that’s great. Well many people do not have someone who they are comfortable with or who is knowledgeable to ask questions

about sex. If you ever have questions please feel free to ask me or the other healthcare providers here. What questions do you have for me now?

T – Well, in health class, we learned about sexually transmitted infections, so I think I understand that. I've seen on the news something about a shot that can prevent these... what's that all about?

H – Well yes, there is a vaccination that can help protect against certain strains of human papillomavirus, or HPV if you have heard about that?

T – I've heard something about it...

H – Well, HPV is a virus that can be spread through sexual contact, and there are many different types or strains of the virus. Sometimes our body can get rid of this virus on its own, like we would if we had a viral cough or cold. Other times it can lead to different cancers, like cervical cancer or genital warts. There are vaccines that prevent against the strains of virus that cause a lot of these problems. Both males and females can get the vaccination to protect themselves and their future partners.

T – That's interesting. It seems like a good thing. I know some of my friends have gotten that. Can we talk about it with my mom when she comes back in?

H – Absolutely, I'll jot that down here so we don't forget. What other questions do you have for me?

T – Nothing that I can think of right now.

H – So as we move on, tell me how you would describe your mood?

T – I'm usually in a pretty good mood. I can get upset with my younger siblings sometimes when they get on my nerves and annoy me. Sometimes I get stressed when I have a lot going on in school or get busy with my other activities, but overall things have been going well.

H – How have you been sleeping at night?

T – I stay up kind of late, but I sleep really hard once I go to sleep. I've never had trouble falling or staying asleep.

H – That's great. I ask about your sleep because sometimes people can have a hard time sleeping when their mood is down.

T – Oh, okay.

H – You said sometimes life seems to be a bit more hectic or stressful for you, but overall your mood is good and things seem to be going well... am I understanding that correctly?

T – Yeah, that's right.

H – Good. Well when you have had those times when you're a little more stressed, have you ever felt so bad that you've thought about hurting yourself or other people around you?

T – No, not at all.

H – Well if you ever start to feel more down, which might be like boredom, or more irritable or moody, please let me know. Also, if you ever have thoughts about hurting yourself, I need you to tell your parents or myself about that, would you do that?

T – Yeah, for sure. My mom is always checking to make sure I'm doing okay too.

H – Great. I'm not sure if you're familiar with this information or not, but some of the biggest reasons that adolescents health is impacted negatively or causes death is related to safety and violence, for example things like unintentional injuries, or suicide like we just talked about. How has violence affected your life?

T – Uh... I don't even know. I don't think it has.

H – Well that's good. When have you ever felt unsafe at home, or in school or in other relationships or situations?

T – I really haven't felt unsafe.

H – Again, that's good. And if you ever do feel unsafe, it's important to tell one of the adults that you trust and feel comfortable with. How often do you wear your seat belt or a helmet when on a bike?

T – I wear my seat belt most all of the time... definitely when I am riding in the car with my parents because they won't start driving until our seat belts are on. I try to remember to wear it when I drive, but I forget sometimes. I used to wear a helmet when I was little and rode my bike, but I haven't worn a helmet for quite a few years.

H – Keep thinking about buckling up before you start your car like your parents did. That's a great habit to get into. And bike helmets are really important – some people don't want to wear them because they think the helmet might look funny, but they really do protect you if you fall or were to get in an accident.

T – Yeah, that's a good point. I should get one of those I suppose.

H – Well that's about the end of my questions for you before we go and get your mom from the waiting room, what other questions do you have for me?

T – I think we went over pretty much everything. It's nice to know you are open to answering my questions anytime though.

H – Absolutely. You're overall making great choices as you're growing up, and I just encourage you to continue on with that. Let me go get your mom, and I'll be right back.

T – Sounds good.

APPENDIX D. SUMMARY PAMPHLET

Do You Provide Adolescent Friendly Health Services?

Adolescent Friendly Health Services

Five characteristics have been used to describe adolescent friendly health services:

- Accessible
- Appropriate
- Effective
- Equitable

(NRC/IOIM, 2009)



Why is this important?

- The leading causes of adolescent morbidity and mortality include accidents & unintentional injury, suicide, and homicide.
- Many of the deaths from these causes are considered to be preventable.
- A complete psychosocial interview addressing factors related to adolescent morbidity and mortality may positively impact adolescent's health.

(CDC, 2012)

Effective Communication with Adolescents

Young people don't care how much you know until they know you care – show you respect and care about adolescents.

Motivational Interviewing techniques can be helpful when communicating with adolescents.

- Ask open ended questions
- Affirm what your patient says
- Use reflective listening
- Get the adolescent talking about the change
- Summarize what you talked about

Without a "psychosocial ROS," we have little chance of detecting problems early and providing effective protective factor education to reduce the top preventable causes of adolescent morbidity and mortality (unintentional injury, homicide and suicide).

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NDSU | NURSING

Shhh... Let's keep this

CONFIDENTIAL

Adolescents may not access healthcare due to lack of legal, financial and social autonomy.

Rural adolescents face additional barriers related to confidentiality, whether real or perceived, due to small community settings and increased chance of seeking healthcare from providers they personally know.

Adolescents are more likely to share sensitive and personal information if we tell both the adolescent and their parent/guardian about confidentiality.



Where might adolescents think confidentiality is being breached?

Some potential breach of confidentiality points for adolescents include:

- Providing a reason for the appointment via phone.
- Reviewing/reconciling medications, problem lists, or health related behaviors (i.e. smoking, sexual behaviors) with parent present.
- Filling prescription medications.
- Mailing billing information and after visit summaries to parent or guardians address.

(Anandaraman, Goshik, Kurlitz, & Longhurst, 2012; Curtis, Wilcox, & Brinkley, 2011)

Adolescents are generally a physically healthy population with psychosocial need often outweighing physical concerns.

The traditional history and physical may focus on adolescents' physical health. The HEADSSS assessment addresses the psychosocial changes and needs of adolescents and gives healthcare providers the opportunity to identify risk and discuss protective factors in each of the risk areas.

Let the HEADSSS assessment guide your adolescent psychosocial interview.

H → Home & Environment

"Where do you live and who lives with you there?"

- Identify recent changes at home as this can be a source of stress.
- Identify connections to supportive adults (parent, teacher, coach etc.) as having this connection is highly protective for adolescents.

A → Activities

"What do you like to do with friends or family for fun?"

- Ask about friends – and be alerted by high risk behaviors in friends.
- Encourage < 2 hours of screen time (TV, computer and video games) per day due to increased risk of obesity.
- Praise children who read outside of school as they will likely be more successful in school.

E → Education & Employment

"Tell me about school. – or – What do you like most/least about school?"

- Ask about grades: – Be concerned if there is a recent decrease in performance and praise successes.
- Discuss summer and part time employment – working > 20 hours per week can be associated with negative outcomes.

E → Eating

"Tell me about what you like or don't like about your body."

- Encourage regular exercise.
- Encourage healthy eating habits – diets high in fruits, vegetables, protein, essential vitamins and low in saturated and trans fat and empty calories.
- Identify and discuss patterns of over or under eating.



D → Drugs

"Do any of your friends use drugs/alcohol? – or – What kind of drugs/alcohol do you see at parties?"

- Discuss the risks of alcohol and tobacco use – including driving while intoxicated or riding with an intoxicated driver.
- Be aware of increased abuse of anabolic steroids.

{Use the CRAFFT questions to help determine the severity of substance use}

*More information at:

www.ceasar-boston.org/clinicians/crafft.php

S → Sexuality

"Adolescence is a time of sexual exploration. Tell me about your sexual life."

- Provide education about STI's, fertility and contraception.
- Be specific as adolescents may have many different ideas of what "sex" is.
- Be patient – a full sexual history will not likely be completed during a first physical, but this will help to build rapport with the patient.

S → Suicide & Depression

"Depression is often suspected in the previous areas of psychosocial history."

- **Red flag** for adolescent depression:
 - Boredom
 - Moodiness and irritability
- **Less common** symptoms of adolescent depression:
 - Sleep and appetite disturbances
 - Crying and sadness

{Use the PHQ-9 to help determine the severity of depression}

*More information at: www.phqscreenz.com or www.teenscreen.org

S → Safety

"What do you do to prevent accidents or injuries to happen to you?"

- Identify causes of physical and psychological injury including family violence, bullying and dating violence.
- Encourage safety protective factors such as seat belt use and helmet use.
- Identify places or situations in which the adolescent has felt unsafe.

(Goldman & Rosen, 2004)

APPENDIX E. POSTCARD MAILED TO PRIMARY CARE NURSE PRACTITIONERS IN NORTH DAKOTA'S FRONTIER COUNTIES



Do you provide adolescent friendly healthcare services?

Recent data suggest adolescents in rural North Dakota experience high levels of **access** and **acceptability** of primary healthcare services.

In 2012:

- 94% of adolescents reported seeing a primary care provider (PCP) in the past 12 months
- Most adolescents felt their health care provider listened carefully to them (80%), explained things in a way they could understand (86%), and showed respect to what they had to say (85%).

The same adolescents reported how often they received information about the following topics related to adolescent morbidity and mortality from their healthcare provider:

- Less than half received information about alcohol and smoking (45%)
- About one third were talked to about condom use (32%)
- About 1 in 4 adolescents received education about birth control use (24%) and suicide (22%)
- Less than 1 in 10 were educated about gun and weapon safety (7%)

(Secor-Turner, Randall, Brennan, Anderson, & Gross, 2012)

Want to learn about improving adolescent healthcare through comprehensive psychosocial histories and earn FREE contact hours?

Search for the continuing education module "*Improving Adolescent Friendly Healthcare Services: Implementing Comprehensive Psychosocial Histories into Practice*" at <https://cecenter.aanp.org/Program?area=All> under the area "DNP Student Projects."

This program is approved for 1.25 contact hours of continuing education by the American Association of Nurse Practitioners. Program ID 1308312

The online continuing education module was created as part of a doctor of nursing practice clinical dissertation.

Questions? Please contact:

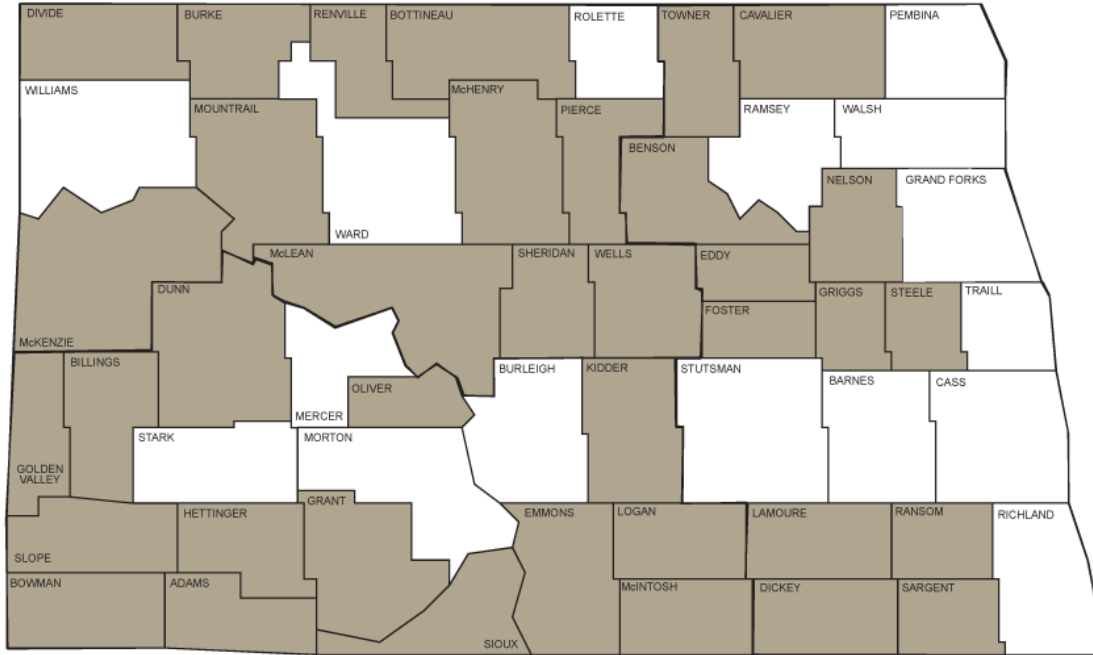
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APPENDIX F. NORTH DAKOTA FRONTIER COUNTIES

North Dakota Frontier Counties



03/11



37 of 53 North Dakota Counties designated as Frontier (less than seven persons per square mile)

Source: U.S. Census Bureau, 2010

(Center for Rural Health, 2011)

APPENDIX G. INSTITUTIONAL REVIEW BOARD APPROVAL LETTER



Tuesday, May 21, 2013

FederalWide Assurance FWA00002439

Molly Secor-Turner
Nursing
Sudro 222J

Re: IRB Certification of Exempt Human Subjects Research:
Protocol #PH13261, "Improving Adolescent Friendly Healthcare Services: Implementing
Comprehensive Psychosocial Histories into Practice"

Co-investigator(s) and research team: **Melinda Anderson, Dean Gross, Tina Lundeen, Daniel Friesner**

Certification Date: 5/21/13 Expiration Date: 5/20/16
Study site(s): **varied**
Funding: **n/a**

The above referenced human subjects research project has been certified as exempt (category # 2) in accordance with federal regulations (Code of Federal Regulations, Title 45, Part 46, *Protection of Human Subjects*). This determination is based on protocol materials (received 5/16/2013).

Please also note the following:

- If you wish to continue the research after the expiration, submit a request for recertification several weeks prior to the expiration.
- Conduct the study as described in the approved protocol. If you wish to make changes, obtain approval from the IRB prior to initiating, unless the changes are necessary to eliminate an immediate hazard to subjects.
- Notify the IRB promptly of any adverse events, complaints, or unanticipated problems involving risks to subjects or others related to this project.
- Report any significant new findings that may affect the risks and benefits to the participants and the IRB.
- Research records may be subject to a random or directed audit at any time to verify compliance with IRB standard operating procedures.

Thank you for your cooperation with NDSU IRB procedures. Best wishes for a successful study.

Sincerely,

A handwritten signature in cursive script that reads "Kristy Shirley".

Kristy Shirley, CIP, Research Compliance Administrator

INSTITUTIONAL REVIEW BOARD

NDSU Dept 4000 | PO Box 6050 | Fargo ND 58108-6050 | 701.231.8995 | Fax 701.231.8098 | nds.u.edu/irb

Shipping address: Research 1, 1735 NDSU Research Park Drive, Fargo, ND 58102

NDSU is an EO/AA university.

APPENDIX H. PRETEST AND POSTTEST QUESTIONS

- 1) The leading causes of adolescent morbidity and mortality are largely preventable:
 True False

- 2) What are the top 3 leading causes of adolescent morbidity and mortality?
 Suicide; cancer; heart disease
 Accidents/unintentional injury; homicide; suicide
 Accidents/unintentional injury; suicide; cancer
 Suicide; homicide; heart disease

- 3) Which of the following mnemonics may help with completing a comprehensive adolescent psychosocial assessment?
 HERO
 HEEADSSS
 ABCDE
 CAGE

- 4) What is one stage of psychosocial crisis that adolescents go through?
 Intimacy versus isolation
 Trust versus mistrust
 Identity versus role confusion
 Autonomy versus shame and doubt

- 5) Which of the following is **not** a common component of motivational interviewing?
 Affirming what the patient says
 Using reflective listening
 Educating the patient about their behaviors
 Getting the patient to talk about change

- 6) In your current practice, how often do you use (**change use to “plan to use” for posttest**) comprehensive psychosocial assessments with your adolescent patients?
 I hardly ever do and currently don't have plans to change my practice.
 I am thinking more about starting to.
 I am taking steps to incorporate this into my practice.
 I recently started to do this.
 I have done this for a long time.

- 7) How much do you agree with the following statement?: I feel more comfortable conducting comprehensive psychosocial interviews with adolescent patients after completing this continuing education module.
 Strongly agree
 Somewhat agree
 Indifferent
 Somewhat disagree
 Strongly disagree

APPENDIX I. AANP CE PROGRAM EVALUATION QUESTIONS

1. What is your gender? Male Female Other _____
2. How many years have you been in practice as a nurse practitioner or advanced practice registered nurse? 0-2 3-5 5-10 10-15 >15
3. Do you primarily practice in a rural or urban setting? Rural Urban
4. In what region do you primarily practice? (Drop down box with 11 AANP regions)

Circle the number that best fits your evaluation of this program:

4=Completely 3=Quite a bit 2=Somewhat 1=Not at all

As a result of completing the CE Activity:

5. After completing this activity, I will be able to achieve the following objectives.
 - a. Identify the current leading causes of adolescent morbidity and mortality.
4 3 2 1
 - b. Increase healthcare providers' awareness about the importance of completing a comprehensive psychosocial history with adolescent patients. 4
3 2 1
 - c. Identify one comprehensive mnemonic for use in conducting a psychosocial history with adolescent patients.
4 3 2 1
 - d. Increase healthcare providers' comfort related to conducting comprehensive adolescent psychosocial histories.
4 3 2 1
6. The teaching methods used were appropriate to the objectives.
4 3 2 1
7. The following speakers demonstrated expertise and effectiveness in the topic.
 - a. Melinda Anderson
4 3 2 1
8. The individual objectives/content topics were cohesive with one another.
4 3 2 1
9. The content was balanced (free of commercial bias).
4 3 2 1
10. The format was conducive to learning.
4 3 2 1
11. I would recommend this program to my colleagues.
4 3 2 1

12. As a result of this educational activity:

- I will modify my practice
- I will seek more information before modifying my practice
- I see no need to modify my practice

13. Was the level of content for NPs: Too Basic? Just Right? Too Advanced?

14. Please post suggestions and/or comments about this CE program and in the comment box provided. Identify any suggestions for further education that would be helpful for providing healthcare to adolescent populations. You may also suggest general topics for future CE activities.

APPENDIX J. EXECUTIVE SUMMARY

Background

Adolescence is a unique period of rapid physical and psychosocial growth and development. Adolescents are most often physically healthy, but as a normal part of adolescent development, the population commonly experiments with risky behaviors, which may lead to the development of unhealthy habits (National Research Council and Institute of Medicine [NRC/IOM], 2009). Additionally, risky behaviors are connected to the top three causes of potentially preventable adolescent death – accidents/unintentional injury, homicide, and suicide (Goldenring & Rosen, 2004; NRC/IOM, 2009).

Primary healthcare providers may have not received specialized training in providing healthcare to the adolescent population, or may feel uncomfortable engaging in communication about psychosocial risk factors with adolescents (NRC/IOM, 2009). One critical gap involves the fragmented healthcare services available to adolescents and the missed opportunities for health promotion and disease prevention when adolescents do seek healthcare. Incorporating comprehensive psychosocial adolescent histories into practice may help facilitate positive changes in adolescent healthcare delivery.

Project Summary

In response to the need for improved adolescent friendly healthcare services, an online continuing education module was created in collaboration with the American Association of Nurse Practitioners Continuing Education Center (AANP CE Center). The module consisted of a PowerPoint presentation with voice over lecture as well as mock interviews between a healthcare provider and adolescent actors. The continued education module focused on conducting psychosocial assessments with adolescent patients utilizing the HEEADSSS

mnemonic (Goldenring & Rosen, 2004). The HEEADSSS mnemonic is a guide to help conduct complete psychosocial histories with adolescent patients including the components: home and environment, education and employment, eating, activities, drugs, sexuality, suicide and depression, and safety (Goldenring & Rosen, 2004). Psychosocial assessments were the module's focus as psychosocial risk factors contribute to the leading causes of adolescent morbidity and mortality (NRC/IOM, 2009). The module was available on the AANP CE Center website to both AANP members and non-members free of charge. The target audience was any nurse practitioner or advanced practice registered nurse who cares for adolescents in their practice in any capacity.

Results

The module was evaluated through pretest, posttest, and evaluation questions. Data were collected for approximately two months, and there were 328 participants. Approximately 86% (n = 283) of the participants were female, and approximately 58% (n = 191) practiced primarily in an urban versus rural setting. A majority of the participants (n = 206) have been practicing as a nurse practitioner or advanced practice registered nurse for less than five years.

Following completion of the module, over half (52.4%; n = 172) of the participants reported they will modify their practice as a result of the educational activity, and nearly all of the participants (91.8%; n = 301) felt that the level of content was "just right" for nurse practitioners. A majority of the participants reported they would recommend the program to their colleagues, with 53.4% (n = 175) reporting that they completely agree and 39.0% (n = 128) reporting that they agreed quite a bit.

Pretest and posttest questions were related to each of the four objectives of the continuing education module, and showed the participants felt the module helped them to achieve all of the

objectives. Five pretest and posttest questions related to the modules content demonstrated increased knowledge as a result of the module. Additionally, there was one written qualitative question asking the participants to leave comments about the module. A majority of the written qualitative responses were in support of or praising the quality of the module. Data revealed the participants reported the module was helpful, and an important piece of education for healthcare providers. Overall, data indicate a positive impact from the continuing education module about conducting comprehensive psychosocial interviews with adolescent patients.

Recommendations

The results reveal that learning occurred as a result of the continuing education module. In the primary care setting, healthcare providers see a wide range of diagnoses in individuals from birth to death. With such a vast range of different patient populations, staying up to date with every population healthcare providers encounter is imperative. Based on the positive results from the continuing education module's evaluation, healthcare providers who care for adolescents are seeking continuing education related to the population. The continuing education module is recommended to be further disseminated to healthcare providers who care for adolescent patients in any capacity.

The feedback also reinforces the importance of the topic. Education about adolescent health, including completing psychosocial assessments with adolescent patients, must be included in curricula for family nurse practitioners. Additionally, with requests for more continuing education specifically related to adolescent health, it is reasonable to recommend that the AANP, or other organizations offering continuing education to nurse practitioners, place a call for creation of additional adolescent health continuing education modules.

Based on the survey findings from this study, the need for education related to the adolescent population was further confirmed. Further research looking at facilitators and barriers of implementing the HEEADSSS mnemonic into a single practice may be helpful. Additionally, adolescent health continuing education modules should be created, delving into more detail regarding each aspect of the HEEADSSS psychosocial history. Identifying and counseling at-risk adolescents, as well as encouraging the positive decisions adolescents are making, has the potential to make a positive impact on the adolescent and reduce preventable causes of morbidity and mortality.