Improving Access to Youth-Friendly Health Services in a Rural California Community

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Improving Access to Youth-Friendly Health Services in a Rural California Community

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Abstract

Adolescents and young adults experience relatively high rates of preventable morbidity and mortality due to injuries, mental health disorders, suicide, substance use, and reproductive health issues. It is paramount for healthcare providers to address risky behaviors early to thwart future adverse outcomes. Rural communities especially struggle with meeting the healthcare needs of their youth because there are fewer resources specifically dedicated to serving adolescents and young adults. This issue is evident in Grass Valley, California, a rural community in Nevada County, an area located in the foothills of the Sierra Nevada mountains. In response to limited access to youth-friendly healthcare in Grass Valley, this project aimed to research, organize, and develop an adolescent and young adult healthcare program by expanding the scope of services offered to this population at Community Recovery Resources (CoRR) in Grass Valley.

Drawing from the community stakeholder needs assessment interviews, an adolescent focus group, a literature review, and best practice interviews, a youth-friendly healthcare program was designed for implementation at CoRR. In addition, the project was introduced to CoRR staff members at a site-wide, in-service meeting. At this time, a survey was conducted to gauge staff members’ readiness for change related to project implementation. Results from the survey indicated staff members understand the need for expanding adolescent and young adult health services and are supportive of the program, but they also feel more training and resources are required prior to implementation. However, due to licensing and billing issues, the project did not move beyond the research and design phases. Moving forward, the next step is to pilot test the adolescent and young adult healthcare program designed during this project using a plan-do-study-act quality improvement process. The overall goal is to improve the health outcomes of youth living in Nevada County.
Improving Access to Youth-Friendly Health Services in a Rural California Community

**Background and Problem Description**

The proposed program that was designed during this Doctor of Nursing Practice (DNP) project includes adolescents and young adults aged 14 to 25 years as its target population; however, this project write-up will mainly examine the definition of young adulthood and the associated health challenges that persons experience in this transitional stage. The constructs of early and middle adolescence have been explored in-depth elsewhere (Curtis, 2015). A primary focus for this project is to improve health outcomes among young adults through increased primary and secondary prevention efforts during adolescence.

Young adulthood is a unique developmental period that occurs between the ages of 18 and 25 years, during the transition from adolescence to adulthood. This period is characterized by key developmental tasks that allow the young adult to participate in self-exploration to ultimately cultivate a personal identity and belief system while also gaining independence and autonomy. Although most of the 31.2 million persons between the ages of 18 to 24 years living in the U.S. (Federal Interagency Forum on Child and Family Statistics [Child Stats], 2014) are healthy, young adulthood is afflicted with increased rates of preventable morbidity and mortality from motor vehicle accidents, homicide, suicide, mental health disorders, sexually transmitted infections (STIs), and substance use (Institute of Medicine [IOM] & National Research Council [NRC], 2014) when compared to other age groups. Moreover, engagement in risky behaviors and unhealthy lifestyle choices can have lasting consequences for decades to come. The current healthcare delivery system is not meeting the needs of young adults as demonstrated by lower rates of health insurance coverage (Commonwealth Fund, 2016), lower utilization of healthcare services (Lau, Adams, Boscardin, & Irwin, 2014), and poorer health outcomes for this age group when compared to adolescents and middle-aged adults (Child Stats, 2014; IOM & NRC, 2014).
This is especially true for at-risk young adults who live in rural, non-metropolitan areas, as they are presented with further challenges in accessing quality, youth-friendly care. The purpose of this DNP project is to examine the feasibility and development of a culturally congruent and developmentally appropriate program for adolescent and young adult health services at Community Recovery Resources (CoRR) in Grass Valley, California.

To provide further background on the community, Grass Valley, California, is a city located in the Western foothills of the Sierra Nevada mountain range within Nevada County. As of 2014, there were 12,878 residents living in Grass Valley, of which 81.6% identified as White, 12.1% as Hispanic, 1.5% as American Indian, 1% as Asian, and 0.09% as Black (City-Data, 2019a). The median age for residents was 48.2 years and the median household income in 2016 was $36,509 (City-Data, 2019a). In the 2016 presidential election, 47.5% of persons voted for the Democratic party candidate, 42.6% of persons voted for the Republican party candidate, and 9.9% of persons voted for other (City-Data, 2019a). Nearly 77% of residents have health insurance coverage (City-Data, 2019b). The average BMI of residents is 28.3 and 34.8% of residents are obese (City-Data, 2019b). Only 18% of residents report doing vigorous-intensity recreational activities (City-Data, 2019b). In terms of substance use, 79% of residents drink alcohol at least once a month, 47.3% of residents smoke cigarettes, 65.5% of residents have ever used marijuana, and 24% have ever used hard drugs (City-Data, 2019b). On average, people initiated sexual activity at 16.7 years of age (City-Data, 2019b). Overall, the majority of residents living in Grass Valley are White, non-Hispanic adults with a low socioeconomic status. Although many people have health insurance, there are several risk factors within the general population that increase the chances for poor health outcomes.

The Problem: Young Adults’ Unmet Healthcare Needs
Due to the dynamic state of young adulthood, young people in this developmental stage are at an increased risk for poor health outcomes. Risky health behaviors are often first adopted in adolescence but become increasingly more common and escalate in severity during young adulthood (Schwartz et al., 2010). With newfound independence, young adults may engage in heavy alcohol use, illicit drug use, unprotected sexual activity, and driving while under the influence of substances. Often as the direct consequence of risky health behaviors, young adults have the highest rates of morbidity and mortality from motor vehicle accidents, homicides, suicides, mental health disorders, STIs, and substance use when compared to all other age groups (IOM & NRC, 2014). The patterns of behavior and the lifestyle choices established in young adulthood have significant influence over one’s health and wellbeing across his or her lifespan (IOM & NRC, 2014). Additionally, lower rates of healthcare access and utilization among young adults further exacerbate their health issues.

In the following sections, the common health factors affecting the morbidity and mortality of young adults in the general population as well as young adults living in rural communities will be discussed. However, the majority of research pertaining to the health status of those living in rural areas is divided into adolescence (less than 19 years) and early adulthood (19 to 44 years), which masks the unique health issues young adults experience. Despite differences in the health status of adolescents and young adults, the healthcare issues which young adults face are more closely aligned with those of adolescents when compared to those of middle-aged adults. This is because adolescents and young adults both struggle with issues pertaining to self-discovery, identity formation, and autonomy. Because few research articles discuss the health status of young adults (18 to 25 years) living in rural communities, the health status and healthcare needs of adolescents living in rural areas will be included to complement
the limited data that is available pertaining to young adults. It is evident that further research should be conducted to stratify age groups to include young adults living in rural areas so that their health status and healthcare needs can be better understood.

**Injuries.** In this section, motor vehicle crashes (MVC) are reviewed at length; suicides are discussed in subsequent sections, and homicides are not addressed in this paper because the writer has identified this as a low priority in the Grass Valley community. Unintentional injuries (MVCs) and intentional injuries (homicides and suicides) are the highest causes of mortality among young adults, accounting for 76% of all young adult deaths (Child Stats, 2014). Researchers reported that adolescents and young adults are at an increased risk for MVCs due to several risk factors: inexperience, risky driving behaviors, distracted driving (e.g. cell phone use), driving with peer-aged passengers, nighttime and weekend driving, driving while under the influence of substances, non-use of seatbelts, and certain medical conditions, such as attention deficit hyperactivity disorder (Alderman & Johnston, 2018; Shope & Bingham, 2008). Over the last several decades, there have been considerable public health efforts to decrease MVCs, which reduced the rate of MVC fatalities among young adults from 36.1 per 100,000 persons in 1990 to 19.0 per 100,000 persons in 2010 (Child Stats, 2014). Despite the nearly 50% decrease in MVC fatalities, MVCs are still the leading mechanism of injuries that result in fatality for young adults (Child Stats, 2014), and MVCs remain a significant threat to their safety and wellbeing.

In response to this, experts have called upon healthcare providers to increase their role in MVC prevention efforts by screening and counseling their adolescent and young adult patients regarding the risk factors associated with driving (NRC, IOM, & Transportation Research Board, 2007). The American Academy of Pediatrics (AAP) specifically recommends that healthcare providers do the following when talking with patients and their parents about driving: advise
parents to role model safe driving practices; identify adolescent patients who are at increased
driving risk due to medical conditions; familiarize patients with the state’s graduated driver’s
licensing laws; recommend parents practice driving with their adolescent for longer than the
minimum state requirement; and lastly, counsel adolescents on the dangers of distracted driving,
non-use of seatbelts, driving while under the influence of substances, and driving with peer-aged
passengers (Alderman & Johnston, 2018). Furthermore, when adolescents and their parents were
surveyed about their interest level in learning about safe driving practices from their healthcare
providers, 85.6% of adolescents and 81.3% of parents indicated they had either a high or
moderate interest in this topic (Ford et al., 2016). This suggests that both adolescents and their
parents are open and interested in this discussion topic. However, a survey conducted by the
AAP found that though 89% of pediatricians offer some form of counseling about seatbelt use
and driving under the influence, only 13.9% and 6.8% of pediatricians talk about the risks of
driving with peer-aged passengers and nighttime driving, respectively (Weiss, O’Neil, Shope,
O’Connor, & Levin, 2012). Evidently, there are gaps in the information presented by healthcare
providers to adolescent and young adult patients about the risks associated with driving.
Healthcare providers who work with this population should follow the outlined
recommendations more closely.

**Rural populations.** It has been a long-standing trend that MVC fatality rates are higher in
rural areas than in urban areas. In fact, 57% of all MVC fatalities occur in rural areas (National
Highway Traffic Safety Administration, 2017). Researchers extrapolated data from multiple
.crash reporting systems and found that the rural fatal crash incidence density (number of fatal
crashes divided by the number of vehicle miles traveled) for males and females between the ages
of 16 to 24 years was respectively 4.66 and 4.67 times higher than their urban counterparts’
Persons of this age group consistently had the highest fatal crash incidence density when compared to all other age groups, except for elderly drivers (Zwerling et al., 2005). Interestingly, pediatricians who practiced in rural areas (10% of the survey sample) were less likely than their urban counterparts to discuss more than half of the recommended topics related to driving risk factors (Weiss et al., 2012). Given that adolescent and young adult drivers are at significantly greater risk for MVC fatalities, it is prudent that healthcare providers who practice in rural communities educate this population about safe driving practices and the risk factors associated with the increased incidence of MVCs.

**Substance use.** Nationwide, about 25% of males and 17% of females between the ages of 18 to 24 years were diagnosed with a substance use disorder in 2012 (Child Stats, 2014). The prevalence of substance use is higher in young adults compared to substance use rates in adolescents and middle-aged adults (IOM & NRC, 2014; National Institute for Health Care Management [NIHCM], 2006). A comprehensive systematic review concluded that the following characteristics are risk factors for substance use in young adults: male gender, Caucasian ethnicity, family history of substance use, co-occurring mental health disorders, societal non-conformity, childhood abuse/neglect, familial conflict, and low commitment to school (Stone, Becker, Huber, & Catalano, 2012). Furthermore, living outside of the familial home, unemployment, and attending college were predictive factors for substance use in young adults (Stone et al., 2012). High rates of substance use among young adults contribute to injuries, poisonings, and unintended death in this population.

**Rural populations.** It was the long-standing assumption that urban youth participated in more alcohol, tobacco, and drug use than their rural counterparts (Rhew, Hawkins, & Oesterle, 2011). However, more recent data indicate that adolescents and young adults who live in rural
areas have higher rates of substance use than those living in urban areas (Atav & Spencer, 2002; Rhew et al., 2011). This geographical shift in substance use rates has been attributed to limited treatment services, low socioeconomic status, and lack of education in rural areas (Rhew et al., 2011). In 2016, the National Survey on Drug Use and Health found that adolescents aged 12 to 17 years who lived in non-metropolitan areas had higher rates of past-year alcohol use, smokeless tobacco use, cigarette smoking, pain reliever misuse, and opioid misuse than their counterparts living in small metropolitan or large metropolitan areas (Substance Abuse and Mental Health Services Administration, 2017). Additionally, the same survey reported that young adults aged 18 to 25 years who lived in non-metropolitan areas had higher rates of smokeless tobacco use, cigarette smoking, pain reliever misuse, methamphetamine use, opioid misuse, and lower rates of alcohol use, cocaine use, and illicit drug use than their counterparts living in small metropolitan or large metropolitan areas (Substance Abuse and Mental Health Services Administration, 2017). In Nevada County specifically, the rate of opioid overdose deaths for those aged 20 to 24 years was 22.89 per 100,000 residents in 2017 (California Department of Public Health, n.d.). These figures indicate substance use, especially opioid misuse, as a significant issue among rural adolescents and young adults.

**Mental health.** Mental health greatly influences the overall health and wellbeing of adolescents and young adults. One in every five young adults has been diagnosed with a mental health disorder (Stroud, 2014). Additionally, young adults are more likely than adolescents to commit suicide and more likely than middle-aged adults to think about, plan, and attempt suicide (IOM & NRC, 2014). In 2010, the suicide death rate for young adults aged 18 to 24 years was 12.6 per 100,000 persons (Child Stats, 2014). Moreover, young adults may have multiple psychiatric comorbidities, including depression, anxiety, and eating disorders (ED), which often
present during adolescence and young adulthood (Forman, 2017). EDs are later discussed in further detail. Young adulthood is also when symptoms of serious psychological disorders, such as schizophrenia, begin to present (IOM & NRC, 2014). Unfortunately, despite the high prevalence rate of mental health disorders in this age group, many young adults do not receive the care they need. An investigation of young adult health, completed by the IOM, found that of those young adults who were diagnosed with a mental health disorder, only one-fourth actively received treatment or services (IOM & NRC, 2014). Furthermore, young adults are more likely to discontinue mental health treatment when compared to adolescents and middle-aged adults (IOM & NRC, 2014). Mental health disorders among young adults significantly contribute to the disease burden within this age group.

**Rural populations.** Nearly 12% of 11th graders living in rural areas self-rated their emotional health as negative and another 23% self-rated their emotional health as non-expressive, which might be associated with poor psychological functioning (Wang, Hagedorn, McLaughlin, & Bray, 2018). Adolescents who like their community and school were more likely to rate their emotional health as positive, whereas adolescents with friends who drank alcohol were more likely to rate their emotional health as negative (Wang et al., 2018). Additionally, Young and Lo Chau (2017) found that many rural adolescents reported multiple exposures to traumatic events, and those with the highest number of stressors also experienced higher rates of depressive symptoms. More specifically, in Californian rural communities, 26.5% of adolescents self-reported experiencing depressive symptoms at least one day in the week prior to being surveyed and 17.5% of adolescents self-reported the need for mental health services (Curtis, Waters, & Brindis, 2011). Providing mental health services for adolescents and young adults in
rural communities is of the utmost importance as these youths continue to struggle to cope with trauma, depression, and other psychological disorders.

**Reproductive health.** Sexual activity rates are higher among young adults than adolescents (NIHCM, 2006). However, condom use remains low. About one-third of young adults use condoms as their only current method of contraception, and another 11.9% of young adults use condoms in addition to another form of hormonal birth control (Child Stats, 2014). This low percentage of condom usage contributes to an estimated 10 million new cases of STIs every year among adolescents and young adults aged 15 to 24 years (Centers for Disease Control and Prevention [CDC], 2013). Among those aged 15 to 19 years and 20 to 24 years, the rates of chlamydia, gonorrhea, and syphilis have steadily and significantly increased over the last several years (CDC, 2018). Notably, young adults have the highest rates of STIs compared to any other age group (IOM & NRC, 2014). Moreover, the birth rates for unmarried women 18 to 19 years of age and 20 to 24 years of age remain high at 45.8 per 1000 and 64.7 per 1000, respectively (Child Stats, 2014). Additionally, young adult females have the highest rates of abortions compared to other age groups (NIHCM, 2006). Young adults are especially at-risk for poor reproductive health outcomes due to concern regarding confidentiality, multiple sexual partners, and lack of access to healthcare services (CDC, 2013).

**Rural populations.** Over the last two decades, several studies have found that rural adolescents engage in riskier sexual behaviors than urban adolescents (Atav & Spencer, 2002; Thompson et al., 2018). Higher rates of rural adolescents reported having sex (Atav & Spencer, 2002; Thompson et al., 2018), having multiple sexual partners, and having sex without a condom, but more recent research does not show a statistically significant difference between rural and urban adolescents’ risky sexual behavior (Thompson et., 2018). The only significant
difference between adolescents living in rural and urban areas was that rural adolescents were more likely to have sex without a condom in the future (Thompson et al., 2018). In Californian rural areas, about one third of older adolescents (aged 16 to 17 years) reported having initiated sexual activity, and of those who were sexually active, almost 35% reported sexual activity with more than one partner (Curtis et al., 2011). Notably, only 15.2% of females took birth control pills as a form of contraception, and 30.5% of sexually active adolescents had ever been tested for STIs (Curtis et al., 2011). More specifically, in Nevada County, California, the teen birth rate among those aged 15 to 19 years is 10.2 live births per 1000 persons, which is lower than the state average of 17.6 live births per 1000 persons (California Department of Public Health, 2018). Overall, these data indicate that rural adolescents need increased access to reproductive health care, especially considering the increased rates of STIs among youth nationwide.

**Nutritional status.** Nearly 40% of those aged 18 to 25 years who live in the United States are considered obese (Stroud, 2014). Obesity contributes to increased rates of heart disease, diabetes, stroke, arthritis, depression, gallbladder disease, pain, and sleep apnea (CDC, 2015). Not only to do these sequelae lead to a decreased quality of life, but they also translate to higher rates of early morbidity and mortality (CDC, 2015). Notably, physical inactivity and unhealthy eating habits that are established in young adulthood often carry over into middle-aged and older adulthood, causing increased vulnerability to poor health outcomes for the duration of one’s life (IOM & NRC, 2014).

Conversely, adolescents and young adults may also struggle with EDs, such as anorexia nervosa (AN) and bulimia nervosa (BN). The peak age of onset for EDs is between 15 and 19 years, with females being at significantly greater risk than males (Martin & Golden, 2014). A nationally representative survey of adolescents 13 to 18 years determined that the lifetime
prevalence rates of AN and BN are 0.3% and 0.9%, respectively (Swanson, Crow, Le Grange, Swendsen, & Merikangas, 2011). Despite relatively low rates of persons with EDs, a significant number do not seek or engage in treatment. One systematic review estimated that less than 25% of persons diagnosed with an ED sought and received treatment (Hart, Granillo, Jorm, & Paxton, 2011). Adolescents and young adults with EDs have high rates of suicidal ideation, increased fracture risk due to low bone mineral density, and electrolyte abnormalities, which lead to poor health outcomes and an increased healthcare burden (Martin & Golden, 2014; Swanson et al., 2011). It is imperative for healthcare providers to emphasize healthy lifestyle choices for adolescents and young adults in order to decrease rates of both obesity and EDs.

Rural populations. In rural Californian communities, roughly 90% of adolescents reported their overall health status as positive, even though almost 30% of the adolescents self-reported that they were overweight or obese (Curtis et al., 2011). Generally, adolescents ate one to two servings of fruits and/or vegetables each day and drank one sugary beverage per day (Curtis et al., 2011), which do not align with current nutritional guidelines. Specifically, in Nevada County, California, less than 25% of children and adolescents participated in regular exercise during the last week, and over 25% of children and adolescents ate fast food more than two times in the previous week (UCLA Center for Health Policy Research, 2012). With the rising obesity epidemic, it is essential to educate adolescents about making healthy lifestyle choices before the transition into young adulthood occurs.

When searching the literature for information regarding ED rates among adolescents and young adults living in either metropolitan or rural communities, very little data were found. In fact, Dimitropoulos and colleagues (2015) identified this as an area of research that is lacking information. In the one article that used area of residence as a sociodemographic correlate related
to ED prevalence among adolescents, no statistically significant differences were found for either AN or BN diagnoses between those living in metropolitan and rural communities (Swanson et al., 2011). Furthermore, the authors of this study reported that only 27.5% of adolescents diagnosed with AN and 21.5% of adolescents diagnosed with BN received specific treatment for eating or weight problems. However, these treatment rates were not further stratified to compare metropolitan and rural communities. Due to the general knowledge that those living in rural communities have limited access to specialized healthcare resources, it may be assumed that adolescents and young adults living in rural communities have inequitable access to ED-specific services, thus their ability to seek and receive appropriate treatment might be decreased. More research should be conducted to examine this issue further.

**Healthcare access and utilization rates.** Despite the fact that young adults have high rates of preventable causes of morbidity and mortality, healthcare access and utilization rates have remained inadequate. In 2009, prior to the implementation of the Affordable Care Act (ACA), almost 15 million young adults (19-29 years of age) did not have health insurance coverage (English & Park, 2012). This directly impacted healthcare service utilization rates, as 45% of young adults reported they delayed seeking healthcare services due to fear of associated costs (English & Park, 2012). Moreover, young adults, when compared to adolescents, had lower rates of healthcare utilization but higher rates of per capita expenditure (Lau et al., 2014). Minority populations experienced even further inequities. Young adults of ethnic minorities were less likely to utilize any form of healthcare, and young adults with a low socioeconomic status had significantly higher rates of healthcare expenditures as well as utilization of emergency care services (Lau et al., 2014). In fact, 58% of uninsured young adults reported they were struggling
to pay for their incurred healthcare bills (English & Park, 2012). These figures indicated there was much margin for improvement with the implementation of the ACA in 2010.

From 2010 to 2016, after the full rollout of the ACA, 6.1 million additional young adults enrolled for health insurance coverage, bringing the total of uninsured young adults down from 26% to 13.9% (Uberoi, Finegold, & Gee, 2016). Even with the enactment of the ACA, young adults still have the highest rates of uninsurance compared to all other age groups (Commonwealth Fund, 2016). According to a Commonwealth Fund (2016) analysis, uninsured rates remain higher than anticipated due to undocumented immigrants who are ineligible for Medicaid benefits, continued state restrictions on Medicaid eligibility, lack of consumer awareness, and concerns about affordability. With this information, it becomes increasingly clear that healthcare providers must identify innovative ways to provide affordable healthcare services to this vulnerable population.

**Rural populations.** It is well established that there are healthcare provider shortages in rural areas. Estimates suggest that only 11% of all U.S. physicians provide healthcare services in rural communities (National Conference of State Legislatures, n.d.). Furthermore, almost 40% of rural adults aged 18 to 35 years were uninsured prior to the implementation of the ACA (Ziller, Lenardson, & Coburn, 2012). Chavez, Kelleher, Matson, Wickizer, and Chisolm (2018) found that as of 2014, after the implementation of the ACA, young adults (18 to 25 years) living in rural communities still had significantly lower rates of health insurance coverage than those living in urban areas.

Specifically, in Nevada County, California, 11.3% of all adults older than 18 years of age had no usual source of healthcare, and 28.7% of all adults older than 18 years of age delayed buying prescription medication or seeking necessary medical care (UCLA Center for Health
Policy Research, n.d.). There is no information pertaining to the healthcare access or utilization rates of young adults in Nevada County, California.

Available Knowledge: Methods of Healthcare Delivery for Adolescents and Young Adults

Within the current healthcare system, care is generally provided to children and adolescents by pediatric or family practice providers and to adults by family practice, internal medicine, or specialty providers. Due to the dichotomy of the system, as adolescents and young adults age, they must make the transition from seeing their childhood provider to seeing a new adult healthcare provider. During this transitional stage, many young adults are lost to follow up and stop seeking healthcare services. Lau et al. (2014) found that 28% of young adults do not access healthcare services, which is a higher percentage than that of children (12%) and adolescents (17%). Even for adolescents and young adults who receive pediatric healthcare services from a family practice provider and plan to continue with the same provider into adulthood, a transition into an adult model of care still needs to occur (AAP, 2011). There has been much work on a national level to improve the transition of care, but research has found that most young adults, especially those with chronic or special healthcare needs, are not adequately prepared to make the transition into receiving adult healthcare services (McManus et al., 2013). Different models of care have been suggested to improve access rates and utilization of healthcare services among adolescents and young adults. The purpose of this literature review is to evaluate if youth-friendly methods of care delivery effectively improve access to sensitive services and decrease unmet healthcare needs among at-risk adolescents and young adults living in rural communities.

School-Based Health Centers
One model of care implemented to help bridge the gap and effectively provide healthcare services to transitional-phase adolescents and young adults is the provision of care in school-based health centers (SBHC) on high school campuses. Utilization rates of SBHCs are high; in one study, about 85% of middle and high school students with access to an SBHC were enrolled to receive healthcare services from there (Albright et al., 2016). Other studies found that adolescents who had access to SBHCs at their high schools were more likely to have been screened for STIs, use hormonal contraceptives during their last sexual encounter, have annual comprehensive health exams, and receive mental health and substance use services when compared to their counterparts who did not have access to SBHCs (Ethier, Dittus, DeRosa, Chung, Martinez, & Kerndt, 2011; Kaplan, Calonge, Guernsey, & Hanrahan, 1998). Additionally, adolescents and parents alike indicated that SBHCs were accessible and convenient, provided comprehensive services, and allowed for continuity of care (Albright et al., 2016). These studies identified that SBHCs improve access to preventive health services as well as meet the needs of students and parents.

Despite the success of some SBHCs, other studies found mixed results when examining differing aspects of SBHCs’ effectiveness. One study reported that a newly opened SBHC had no significant impact on adolescents’ engagement in risk-taking behaviors (Runton & Hudak, 2016). Instead, age was a significant risk factor, as older high school students were likely to have been involved in a physical fight, more likely to have carried a weapon, and more likely to have tried cigarettes, marijuana, and alcohol (Runton & Hudak, 2016). However, it is unknown if the newly implemented SBHC in the study was actively providing preventive programming to students (Runton & Hudak, 2016). Another study examined emergency room (ER) visit rates before and after the openings of SBHCs in 12 local school districts located in rural communities...
(Schwartz et al., 2016). The incident density rate of ER visits among children and adolescents who had access to SBHCs was higher after the opening of SBHCs, yet this same trend was also seen in the comparison group of students who did not have access to SBHCs (Schwartz et al., 2016). Notably, over the course of the study, there were significant changes in the reason for ER visits. Prior to the opening of SBHCs, injuries and poisonings were the most common reasons for visits; whereas after the opening of SBHCs, mental health issues were one of the most common reasons for visits (Schwartz et al., 2016). Although SBHCs can be successful at increasing rates of preventive services provided to students, it is unclear what benefit they have on reducing students’ engagement in risk-taking behaviors or the effect that SBHCs have on the healthcare system at large by reducing ER visits. Furthermore, lack of funding places established SBHCs at risk for closure and prevents new SBHCs from opening (Kaplan et al., 1998). Therefore, other interventions might be more sustainable.

**Patient Centered Medical Homes**

More recent efforts have focused on incorporating adolescent and young adult care into the medical home model. The medical home model places the patient at the center of care as interdisciplinary teams offer comprehensive mental and physical health services that are easily accessible, coordinated, and high-quality (Agency for Healthcare Research and Quality, n.d.). Brindis and colleagues (2017) determined multiple states had implemented such measures and were successful at improving health outcomes, increasing rates of preventive care services, and decreasing healthcare costs among the adolescent and young adult populations. Specifically, adolescents and young adults who received care from medical homes had higher rates of preventive care visits, recommended vaccinations, STI screenings, contraception prescriptions, long-acting reversible contraception prescriptions, and cervical cancer screenings (Garcia-
Huidobro, Shippee, Joseph-DiCaprio, O’Brien, & Svetaz, 2016). In order to deliver high-quality care, Jack and Piotrowski (2017) recommended the following methods when providing youth-friendly services within a medical home model: uphold and emphasize confidentiality, offer same-day appointments, demonstrate respect, initiate discussions regarding sensitive topics, provide reproductive services, and screen for mental health issues, including depression and anxiety. Additionally, providers should have up-to-date knowledge about current recommendations and guidelines regarding adolescent and young adult healthcare (Jack & Piotrowski, 2017). Furthermore, an important component of the medical home model is providing integrated or coordinated behavioral health services (Jack & Piotrowski, 2017). A meta-analysis of 31 randomized control trials found that adolescents and young adults who received integrated or collaborative medical-behavioral care had better outcomes for treatment of depression, anxiety, and behavioral disorders (Asarnow, Rozenman, Wiblin, & Zeltzer, 2015). Overall, the provision of youth-friendly services within the medical home model can ease the transition into adult care and improve health outcomes.

Given that adolescents and young adults experience higher rates of morbidity and mortality from preventable causes of harm, access to preventive healthcare services is of the utmost importance for this population. Adams, Park, Twietmeyer, Brindis, and Irwin (2018) reported that adolescents and young adults who had past-year preventive care visits (e.g. wellness exams) were more likely to receive the recommended physical preventive services when compared to adolescents and young adults who had any past-year healthcare visit (e.g. sick visit). Additionally, adolescents who had a past-year preventive visit had higher rates of anticipatory guidance and time alone with the provider when compared to adolescents who did not have a preventive care visit (Adams et al., 2018). Curtis et al. (2011) highlighted a particular
need for preventive healthcare services for adolescents living in rural areas due to the unique healthcare challenges they face. As discussed, the medical home model is an important approach to solving the problem of limited access to preventive healthcare services.

However, Dixon, Hoopes, Benkeser, Grigg, and Grow (2016) identified that adolescents living in rural areas report that the core components of a medical home are often missing from the care they receive. In this study, over 215 high schoolers (13 to 19 years of age) from general and alternative schools in rural areas of Washington state were sampled regarding their experiences with medical homes. Despite adolescents reporting high rates of routine annual physical exams, only 55% of adolescent respondents identified having a “personal provider” (Dixon et al., 2016). And though almost 80% of adolescents felt welcome in their clinic, 50% of adolescents also felt the staff members were not as helpful as they could have been (Dixon et al., 2016). Additionally, only 56% of adolescents were offered the opportunity to speak privately with their healthcare provider (Dixon et al., 2016), which is an extremely important component of the visit in order for the provider to help identify risky behaviors. Lastly, and most notably, less than 40% of adolescents could identify places where they could receive confidential care for sensitive services (Dixon et al., 2016). These findings emphasize that adolescents living in rural communities are still lacking access to continuous, confidential, and patient-centered care.

**Mobile Health Clinics**

Mobile health clinics (MHC) are another innovative approach to improving healthcare access for adolescents and young adults. In total, there are an estimated 2,000 MHCs nationwide that each serve about 3,100 children and adults annually (Hill, Powers, Jain, Bennet, Vavasis, & Oriol, 2014). These clinics-on-wheels provide various healthcare services to vulnerable populations by traveling to communities of low socioeconomic status. Of the MHCs that
participate in the aggregate reporting database, 57% of patient visits were with uninsured persons, and another 35% of patient visits were with publicly insured persons (Hill et al., 2014). Although most MHCs serve urban areas, 14% of MHCs serve rural areas, and another 44% serve both rural and urban areas (Hill et al., 2014). MHCs not only emphasize preventive services but also provide primary care services, specialty screenings, and dental care to a wide variety of patient populations. Most notably, 42% of patient visits were with children and adolescents under the age of 18 years (Hill et al., 2014). In fact, some MHCs are specifically youth-centered and only serve adolescents and young adults. One study that piloted the implementation of sexual and reproductive healthcare services in a youth-centered MHC found that 92% of adolescent and young adult patients would recommend MHCs to their friends, especially for sexual and reproductive healthcare needs (Stefansson, Webb, Masinter, & Gilliam, 2018). Additionally, of the adolescents and young adults served at the MHC for all visit types, 54.4% reported they were likely to seek contraceptive methods from this healthcare setting (Stefansson et al., 2018). This pilot study was able to overcome the barrier of privacy concerns that is often present with the utilization of MHCs and successfully offer sensitive services to at-risk adolescents and young adults.

Overall, a literature review of 51 articles found that MHCs benefit the healthcare system by increasing healthcare access for vulnerable populations; improving health outcomes by providing preventive care, offering screenings, and managing chronic diseases; addressing social determinants of health; and lastly, reducing healthcare expenditures by decreasing ER visits and hospital readmission rates (Yu, Hill, Ricks, Bennet, & Oriol, 2017). Despite only a small quantity of published articles on MHCs, especially youth-centered MHCs, this appears to be a
promising and innovative method by which to increase access and improve outcomes for at-risk patients. See Appendix C for an evidence evaluation table.

Rationale

The lifecourse health development (LCHD) model is the theoretical framework chosen for this project. The LCHD framework was formed on the basis of numerous interrelated biological, medical, neurodevelopmental, biopsychosocial, sociological, and psychological theories (Halfon, Larson, Lu, Tullis, & Russ, 2014). See Appendix D for an illustration of the relationships between the various theories that bore the LCHD model (Figure 1). There are six main concepts on which the foundation of the LCHD model is built: (1) Health is a complex set of developmental functions that allows for one to successfully navigate the intricacies of his or her environment; (2) Health is ever-evolving over the course of the life continuum, which is divided into the four distinct phases of generativity (infancy), acquisition of capacity (childhood through early adulthood), maintenance of function (middle age), and managing decline (old age); (3) Health development is a dynamic, multifaceted process that occurs in various phases and across multiple dimensions; (4) Health development is readily influenced by the timing of social and environmental circumstances; (5) Health is a malleable state that is affected by one’s resiliency, adaptability, and plasticity in the context of environmental changes; and (6) Health development is susceptible to the timing of various interactions between molecular, psychological, behavioral, social, and cultural phenomena (Halfon et al., 2014). Ultimately, the LCHD model postulates that health is the sum of various individual, social, physical, and environmental determinants and that exposures to risk factors during critical periods in development influence the trajectory of one’s health for his or her remaining life span (Halfon & Hochstein, 2002; Halfon et al., 2014). This directly relates to adolescents and young adults, who
experience key developmental tasks as they transition into adulthood. The choices made during this critical time frame have lasting consequences, which emphasizes the need for primary and preventive healthcare services.

**Project Purpose**

CoRR in Grass Valley was selected as the project site because the organization strives as a part of its mission to provide wellness-based, whole-person care with an emphasis on prevention, all of which are important components of culturally competent and developmentally appropriate youth-friendly healthcare. Currently, CoRR provides treatment for co-morbid substance use and behavioral health disorders, but it is in the process of increasing the services offered to include primary care. Due to the already established interdisciplinary care teams comprising of medical, behavioral health, and social services for adult patients, CoRR is well positioned to expand its scope to include preventive healthcare for at-risk adolescents and young adults.

As previously stated, the program is designed to meet the needs of high school-aged adolescents (14 through 18 years) and young adults (18 through 25 years), although this project write-up mainly focused on describing the health needs of young adults. Adolescence, in short, is defined as the biological and cultural transition that commences with puberty and concludes with the attainment of independence in adulthood (Curtis, 2015). It is important to note that because adolescents are minors, there are several different licensing, legal, billing, and logistical issues that exist when compared to working with young adults over the age of 18 years. In California, adolescents aged 12 through 17 years can receive sensitive services (sexual and reproductive health, mental health, and substance use treatment) without parental consent under the stipulations outlined in California Minor Consent and Confidentiality Laws. Because of the
Minor Consent and Confidentiality Laws, the program will limit the scope of services offered to minor high school-aged adolescents to only include sensitive services.

This DNP project intended to examine the feasibility and development of youth-friendly health services program at CoRR with the long-term goal of increasing access to sensitive services for minor adolescents aged 14 to 17 years, as well as expanding access to health services for young adults. Current literature, models of care, operations, and financials were examined to determine evidence-based best practices for the design of youth-friendly services. Additionally, community stakeholder interviews and a teen focus group were conducted to determine the specific needs of adolescents and young adults living in Grass Valley.

**Aim Statement**

The overarching aim of this project is to improve the health outcomes of adolescents and young adults in Nevada County aged 14 to 25 years through the design and delivery of youth-friendly healthcare services at Community Recovery Resources in Grass Valley, California.

**Goals**

The goals for this project are as follows:

1. Research and design a program for the delivery of adolescent and young adult health services at Community Recovery Resources based on the available evidence regarding best practices in adolescent and young adult healthcare.

2. Plan for a future pilot test of adolescent and young adult healthcare services at Community Recovery Resources.

**Objectives**

The objectives for this project include:
1. Interview at least three community stakeholders within Grass Valley, California, to identify the perceived healthcare delivery needs of adolescents and young adults by November 2018. The key local stakeholders include a school health nurse, a health technician, a pediatrician, and a member of the public health department.

2. Analyze at least three different models of adolescent and young adult healthcare delivery systems by November 2018.

3. Design and disseminate a survey for Community Recovery Resources staff members by January 2019 in order to assess the organization’s readiness for the implementation of adolescent and young adult healthcare services.

4. Present findings of the feasibility analysis to the Board of Directors at Community Recovery Resources by January 2019. The feasibility analysis will consist of a one- or two-page executive summary that includes an evaluation of healthcare delivery best practices, results from the stakeholder interviews and teen focus group, a proposed timeline, a strategic alignment with the mission of CoRR, recommended services, and estimated financials.

See Appendix E for a gap analysis related to the aforementioned objectives.

Methods

Context

Several aspects of CoRR’s environment were considered prior to the commencement of the project. Aside from the DNP student, the key members of this project included the chief executive officer (CEO), medical director, staff nurse practitioner (NP), and outpatient program manager. After several discussions, members of the project team recognized the need for improving access to youth-friendly health services within the community and were supportive of
the project. A thorough SWOT analysis was completed to better understand the context of the
environment for the project.

**Strengths.** There are many internal factors that have the potential to make this project a
success. First and foremost, the leadership at CoRR is engaged and supportive of expanding
services to include adolescent and young adult healthcare. Additionally, there are current CoRR
providers who are specialized in adolescent medicine, so there is no need to hire additional
providers at this time. There is also space available in the current offices to provide adolescent
health services. Moreover, CoRR has several adolescent and young adult substance use disorder
treatment/behavioral health service programs that were established prior to the start of this
project. These services will allow for integrated and collaborative medical-behavioral healthcare.
Lastly, due to the services currently provided at CoRR, staff members are familiar with sensitive
services while emphasizing whole-person care.

**Weaknesses.** In addition to the internal strengths, there are also several internal
weaknesses that place the project at risk for failure. There is limited time to engage with the
community, advertise, and pilot test care delivery. Additionally, due to the rapid expansion of
services at CoRR, there are other co-occurring projects and competing priorities. This can lead to
staff members feeling overwhelmed due to limited time and resources. Additionally, some staff
members might begin to resist change. Lastly, staff members who have had limited exposure to
working with adolescent and young adults will need additional training about communication
techniques, health issues pertaining to this population, and recommended guidelines.

**Opportunities.** There are no current adolescent medicine specialists in the surrounding
area; this fact, suggests great opportunity for this project to fulfill unmet needs. With CoRR
conveniently located between the local community college and high school, the organization is
geographically poised to attract new adolescent and young adult patients. This creates the opportunity to increase the number of adolescents and young adults who gain access to and receive healthcare services. Ultimately, there is the chance to improve the health outcomes for adolescents and young adults who live in the community.

**Threats.** Several external factors threaten the success of this project. Notably, Grass Valley is a conservative community where a previous school-based adolescent clinic was met with resistance. The previous school-based adolescent clinic eventually had to close due to a loss of funding secondary to political controversy and unpopularity. It will be vital to address this potential issue from the beginning. Additionally, because CoRR is newly expanding its services to include primary and adolescent care, members of the community might be unaware of these changes. This could lead to open appointment slots and unproductive time for staff. Another concern includes appointment costs, which could deter some potential adolescent and young adult patients who have limited financial resources. Lastly, adolescents and young adults might worry about confidentiality issues in a small town because CoRR is known to provide primarily addiction services. These significant issues can be addressed through marketing campaigns and community outreach. See Appendix F for a SWOT analysis.

**Formative Research Activities**

After several conversations among the project team members, it was decided the DNP student would complete various methods of formative research prior to launching a trial of adolescent and young adult health services at CoRR. The DNP student was responsible for interviewing community stakeholders, facilitating an adolescent focus group, conducting a literature review related to models of healthcare delivery for adolescents and young adults, interviewing staff members at existing youth health centers to learn best practices, providing an
in-service for CoRR staff members, and surveying staff members to evaluate their readiness for this program. Based on findings from the above tasks, the DNP student wrote a summary feasibility analysis and recommendations for program implementation. Originally, the DNP student and CoRR project team had also planned to pilot the delivery of adolescent and young adult health services from March to May 2019. However, due to licensing issues, billing limitations, and competing priorities, the trial period did not occur. The DNP student instead planned the various next steps CoRR should take to prepare for piloting the program. Additionally, the CoRR executive management team has contracted with a lawyer to investigate solutions to the licensing issues and also intends to hire personnel to assist with medical coding and billing practices. See Appendix G for a Work Breakdown Structure and Appendix H for a Communication and Responsibility Matrix.

The first action comprised of collecting qualitative data on the needs of the community. This task was completed through a series of needs assessment interviews with key stakeholders. The purpose of the interviews was to learn about the perceived health concerns and healthcare service delivery needs for youth in the community. The CEO and staff NP helped to connect the DNP student with key stakeholders in the community. Introductions were made via email and all interviewees agreed to participate voluntarily. The stakeholders were selected for the interviews because they have a vested interest in youth and work closely with adolescents and young adults in the community. The DNP student created a standardized questionnaire that was used to guide each of the interviews. See Appendix I for a copy of the questionnaire. In total, four stakeholders where interviewed: one school nurse from Nevada Union High School, one health technician from Sierra College Health Center (Grass Valley campus), one local pediatrician, and a group of five staff members from Nevada County Public Health Department. The interviews with the
school nurse, health technician, and pediatrician each took place in-person at his or her respective place of employment and lasted about one hour in length. The interview with the Nevada County Public Health Department was conducted via email.

The second step included facilitating an adolescent focus group led by the DNP student. The purpose of the focus group was to learn the healthcare needs and concerns of youth in the community, as well as gather input about starting an adolescent and young adult health services program at CoRR. The group of adolescents was comprised of six Nevada Union High School students (three males and three females) who ranged in age from 14 to 17 years. The adolescents were recruited by the CoRR CEO via email. The email asked for focus group volunteers and was sent to a student-led club at the high school. All adolescents participated voluntarily, and snacks were provided as a sign of appreciation for their time. The adolescents were asked the same set of questions as the key community stakeholders in order to maintain consistency in discussion topics. The focus group was held in a conference room at CoRR and lasted about 40 minutes. Due to the limited timeframe, questions two, five, six, and seven were not asked to the focus group participants.

Third, the DNP student conducted a literature review to determine evidence-based best practices regarding models of healthcare delivery for adolescents and young adults, especially those who are at-risk and/or living in rural communities. This was an important and necessary step to ensure the program recommendations were evidence-based and supported by published findings. PubMed, CINAHL Complete, and Fusion were searched using the following key terms: healthcare delivery, models of care, school-based health centers, SBHC, patient centered medical homes, medical homes, integrated care, mobile health units, mobile vans, mobile clinics, adolescents, and young adults. Additionally, the reference lists of pertinent articles were
reviewed to identify further articles that might have been of significance. Article titles and abstracts were read for relevancy. The Johns Hopkins Nursing Evidence-Based Practice Research Evidence Appraisal and Johns Hopkins Nursing Evidence-Based Practice Non-Research Evidence Appraisal tools were used to grade the quality of research. Articles were selected for inclusion based on the strength of their evidence. A narrative summary of findings along with an evaluation table were written and discussed earlier in this project write-up.

Next, the DNP student interviewed staff members at established youth health centers located in the San Francisco Bay Area. The purpose of these interviews was to ask questions regarding day-to-day operations, learn best-practices, and seek advice. This was not originally listed as an objective for this project, but the DNP student felt it necessary because there is limited published literature on opening and operating youth clinics. The Director of Health Services at Huckleberry Youth Health Center, a nurse practitioner at Daly City Youth Health Center, and the Director of Adolescent and School Based Programs at Dream Youth Clinic were contacted to schedule interviews. The DNP student was able to interview staff members from Huckleberry Youth Health Center and Daly City Youth Health Center as well as tour each of the facilities. Each of the interviews occurred at the respective facility and lasted about one hour. A standardized question guide was written and used during the interviews to maintain consistency of discussion topics. See Appendix J for a sample of the interview question guide.

Lastly, the DNP student created an hour long in-service for staff members at CoRR. The presentation topics included the following: findings from the community needs assessment and adolescent focus group, results from the literature review, an introduction of the proposed program, an overview of the major health concerns for adolescents and young adults, recommendations and guidelines for health promotion among adolescents and young adults,
confidentiality, mandated reporting, minor consent laws in California, confidential billing practices, and communication tips for those who work with adolescents and young adults. Poll Everywhere questions were intermixed throughout the presentation to gather staff members’ baseline knowledge and collect feedback for the program. The CEO and staff NP approved the presentation prior to the in-service. See Appendix K for the PowerPoint presentation slides. After the presentation, a staff readiness survey was distributed among all in-service attendees. See Appendix L for a sample of the staff readiness survey. The purpose of the survey was to gauge staff members’ willingness for change along with their readiness to begin implementation of the program. All staff members participated in the survey voluntarily and were provided snacks as a gesture of appreciation for their time.

**Timeline**

The DNP student interviewed four community stakeholders and held an adolescent focus group consisting of six participants between September and December 2018. Then, the DNP student, CoRR CEO, and medical director met to discuss next steps and expected deliverables for the project. During December 2018 and January 2019, a literature review was conducted to determine best practices regarding models of care delivery for adolescent and young adult health services. Additionally, staff members from Huckleberry Youth Health Center and Daly City Youth Health Center were interviewed in February and March 2019. Using qualitative data collected from the interviews and focus group, along with the best practices identified from the literature review, an in-service was created and presented to the CoRR staff in March 2019. At the presentation, a readiness survey was distributed to all those in attendance. Results from the surveys were analyzed in March 2019. Aggregate quantitative and qualitative data along with findings from the literature review were used by the DNP student to write a summary feasibility
analysis, recommendations, and next steps. This document was provided to the rest of the project team in April 2019. See Appendix M for a detailed Gantt chart.

**Cost Summary and Cost-Benefit Analysis**

Because the period for trialing adolescent and young adult health services at CoRR was postponed, the following financials are estimates of a projected budget. The operational expenses of CoRR’s adolescent and young adult health services program will include employee salaries (0.4 FTE), employee benefits, clinic supplies, contracted services (e.g. outsourced laboratory services and commercial custodial services), professional liability insurance, maintenance fees, and miscellaneous fees (Waxman, 2015). In the first fiscal year, the operating expenses total $115,443.57, with salaries and benefits accounting for 82% of the operating budget. In addition to the operating expenses, investments in fixed assets will be required. Examples include furniture and equipment such as additional laptops, exam tables, a vaccine storage unit, and vital sign machines. It is projected that these expenditures will total a sum of $19,709.02 for the first fiscal year. The cost deficit for the first fiscal year is estimated to total $752.99. CoRR will be funding the associated start-up costs related to opening the adolescent and young adult health services program. In the second fiscal year, it is projected that CoRR’s adolescent and young adult health services division will produce a net revenue of at least $17,555.60. Sustainable revenue will be generated through medical insurance reimbursement (Medi-Cal or private insurance), Family PACT reimbursement, and patient pay. See Appendix N for a budget proposal and Appendix O for a detailed cost-benefit analysis.

**Return on Investment (ROI)**

Once the adolescent and young adult health services program has been fully established within CoRR and preliminary financials are available, an ROI will be calculated using a standard
formula: the net projected benefit, divided by the total program cost, and multiplied by 100. The net projected benefit calculation will include an estimate of societal dollars saved due to decreased poor health outcomes secondary to prevention efforts. For example, the teen birth rate among adolescents aged 15 to 19 years living in Nevada County is 10.2 live births per 1000 persons (California Department of Public Health, 2018). It is estimated that each teen birth amounts to an average of $16,000 in economic and medical costs to support the adolescent through her pregnancy and the infant in his or her first year of life (National Conference of State Legislatures, 2018). This does not begin to estimate the significant societal burden incurred after the infant’s first year of life as the children of teen mothers are more likely to have medical problems, drop out of high school, become incarcerated or pregnant as adolescents, and struggle with unemployment as young adults (CDC, 2019). On average, it costs $239 to provide publicly funded contraception to one female on an annual basis (Power to Decide, 2019). For each $1 spent on contraceptive services, it is projected to yield a savings of $6 in medical costs (Power to Decide, 2019). Therefore, one year of contraception for one female amounts to a total cost savings of over $1,400 in medical expenses. If one teen pregnancy in Nevada County was avoided due to the implementation of adolescent and young adult health services at CoRR, the ROI would far surpass any associated program costs. The net projected benefit should also include avoided drug use in young adults secondary to prevention efforts in adolescents, as drug use significantly contributes to societal costs (National Institute on Drug Abuse, n.d.).

**Study of the Methods**

The principle aim of this project is to better the health outcomes of adolescents and young adults in Nevada County through improved access to youth-friendly health services offered at CoRR. However, this is a long-term consequence of the project and cannot be
measured at this point in time. Instead, the selected goals were intended to fulfill short-term outcomes. The goal of the project was to research and design an adolescent and young adult health services program using recommendations from stakeholders, evidence-based interventions from literature, and best practices from other established youth health centers. CoRR staff members were presented an in-service, which served as an introduction to the program and related concepts. A staff readiness survey was selected as a method of data collection to track staff and organizational readiness for the implementation of adolescent and young adult health services. Using the information gathered during the project, a summary feasibility analysis, recommendations, and next steps were outlined to plan for future program implementation.

Measures

The community stakeholder needs assessment interviews and adolescent focus group were conducted using the same set of questions to provide consistency in discussion topics. Additionally, a standardized interview question guide was written to maintain consistency in discussion topics during the best-practice interviews with staff members from existing youth health centers. The questions were written based on information the project team sought to learn and better understand.

To measure CoRR staff members’ readiness for program implementation, a post-presentation readiness survey was distributed to staff at a site-wide meeting. Survey respondents were not required to put their name on the survey. The survey included 12 questions with a 5-point Likert scale response and two open-ended questions to collect qualitative data. For the Likert scale response questions, each participant was instructed to select a number from one to five, if one meant strongly disagree, two meant disagree, three meant unsure, four meant agree, and five meant strongly agree. The questions were adapted from Sample Organizational
Readiness Survey Questions by the Ohio Department of Administrative Services (2017). This tool was selected because the questions were most applicable to this project and the tool was available without charge. This was the first time the survey was distributed among staff members and was utilized to collect baseline data. The survey is intended to be distributed among staff members at regular intervals to track readiness progress. Qualitative data were collected through the two open-ended questions in the survey along with three open-ended Poll Everywhere questions embedded in the presentation. These questions provided staff members the opportunity to provide feedback on the proposed program. When staff members are given the opportunity to share their input during the design and preparation phase of a project, there is often a greater likelihood of buy-in during the implementation phase.

Analysis

The staff readiness surveys were distributed on paper to staff members and then collected by the DNP student. Raw data was manually entered in Microsoft Excel and analyzed using the descriptive statistics formula functions. Mean scores and standard deviations were calculated for each of the twelve 5-point Likert scale questions. As for the two open-ended questions on the survey, written answers were manually transcribed; responses from the Poll Everywhere questions were electronically recorded. Each of the recommendations was noted and ranked according to popularity.

Additional qualitative data were collected from the community stakeholder needs assessment interviews, the adolescent focus group, and the best-practice interviews with staff members from existing youth health centers. Notes were taken by the DNP student in real time during the interviews. Shorthand paraphrasing or direct quotes were typed out in Microsoft Word. Responses were reviewed and evaluated by the DNP student for common themes.
Ethical Considerations

The aim of the project is not to test an intervention or gather data for research but instead to improve service delivery using evidence-based practices. Therefore, this project was approved by the University of San Francisco (USF) School of Nursing and Health Professions (SONHP) DNP committee as a quality improvement project and did not require IRB approval. All participants agreed to partake voluntarily. Confidentiality was maintained among interviewees through the use of aggregate data. Additionally, it was not required for staff members to write their names on the readiness surveys. Staff members’ survey responses or nonparticipation in the survey were not communicated to the organization leadership or used in any job performance evaluation.

Additionally, the target population for this project includes at-risk adolescents and young adults who have various stressors in their lives. It is paramount for those involved with this project to be aware of these stressors while building rapport with vulnerable patients.

Furthermore, the Jesuit values and the American Nurses Association Code of Ethics were considered during the design of this project. The principles are evident throughout this project, as it strives to improve current practice, recognizes the unique needs of the individual person, advocates for the wellbeing of an at-risk population, and provides care for the whole person, mind, body, and heart.

Results

Qualitative Findings

Qualitative data were collected through various methods. Results from the community stakeholder needs assessment interviews, the adolescent focus group, best-practice interviews
with staff members from existing youth health centers, and open-ended staff questions will be presented in this section.

**Community stakeholder needs assessment.** Four separate interviews were conducted between the months of September and December 2018. The community stakeholder interviewees included one school nurse from Nevada Union High School, one health technician from Sierra College Health Center in Grass Valley, one local pediatrician, and a group of five staff members from Nevada County Public Health Department. Stakeholders identified that drug use/substance use is the most concerning health issue among adolescent and young adults. Some noted they were specifically concerned about vaping, cannabis/marijuana, and opioids. Mental health issues such as anxiety and depression were also commonly identified as issues among adolescents and young adults in the community.

Stakeholders listed several currently available resources for adolescents and young adults but emphasized that there are limited options for confidential and youth-friendly services. Moreover, there are many barriers to accessing said available resources. These barriers include fragmented services, limited access (days, hours, and number of providers), long wait times for appointments, lack of understanding about minor consent laws among providers, inadequate transportation, and limited knowledge of available resources among adolescents and young adults.

When discussing the community, respondents commonly described Grass Valley/Nevada County as supportive, close, and tight knit. Because it is a smaller community, members are willing and able to take care of one another. One person felt there is also virtually unlimited access to nature and the outdoors, which promotes confidence among youth. Furthermore, when discussing some of the risk factors within the community, respondents noted widespread
exposure to drug use, cultural norms surrounding the acceptance of drug use, multigenerational drug use in families, limited opportunities, “inbreeding of ideas,” and low socioeconomic status among much of the population.

Overwhelmingly, the stakeholders felt additional youth health services are needed in Grass Valley and are supportive of expanding services at CoRR. Several respondents remarked there will need to be a clear distinction between the youth wellness services and adult substance use treatment services that CoRR offers. Overcoming this obstacle will be a key step when engaging with youth in the community. Other recommendations from stakeholders included being sincere, open-minded, and nonjudgmental; holding drop-in hours (especially during school hours to allow for confidential sign-outs); creating a one-stop for multiple resources; providing warm hand-offs between services; and maintaining confidentiality.

**Adolescent focus group.** The adolescent focus group was a forty-minute session held in December 2018. The focus group consisted of three males and three females, who ranged in age from 14 to 17 years. The adolescents all attended Nevada Union High School. Due to limited time, several questions were not asked during the focus group.

The adolescents named drug use/substance use as the number one issue among youth in Grass Valley. Other common concerns were anxiety, stress, depression, and social isolation. One adolescent commented that drug use problems and mental health issues are often related to one another. When discussing the risk factors within the community, the adolescents identified that there is a limited worldview and few opportunities, there are many young persons from lower socioeconomic backgrounds, and there is a lack of repercussions and consequences for youth who make poor or bad decisions. The strengths of the community were not discussed due to time limitations.
Few of the adolescents were able to name currently available resources. They reached consensus that there is currently no safe space to turn to for help and adults do not know where to refer youth who are asking for help. When prompted to discuss the barriers related to accessing currently available resources, the adolescents commented that it is difficult to make appointments and the organizations are inconveniently located, which causes further issues when teens have limited transportation.

Furthermore, the adolescents identified that youth perceive CoRR as the place one is required to go when one gets “in trouble” for using drugs. Due to this, they acknowledged there will be stigma to overcome when implementing youth health services at CoRR, but it will not be impossible to do so. Their recommendations to help overcome this obstacle included clearly separating substance use treatment from youth health services, heavily advertising, providing snacks, integrating into schools by teaching health classes, partnering with teen ambassadors who can provide their peers with information about resources, and using technology to engage with youth.

**Best practice interviews.** One staff member was interviewed from Huckleberry Youth Health Center in San Francisco, California, and one staff member was interviewed from Daly City Youth Health Center in Daly City, California, during the months of February and March 2019. Both health centers provide sensitive services and primary care for adolescents and young adults. The clinic in Huckleberry Youth Health Center is run by the San Francisco Department of Public Health; whereas, Daly City Youth Health Center is a school-linked program that serves as a satellite facility of San Mateo Medical Center. Huckleberry Youth Health Center obtains verbal or written parental consent prior to providing primary care services to minor patients and bills for all medical services through the San Francisco Public Health Department. Daly City Youth
Health Center obtains written parental consent to provide primary care for minor patients and bills for services through Medi-Cal Minor Consent, Family PACT, and Medi-Cal. The clinic also receives funding through the county and associated school district. Both health centers use eClinicalWorks as the electronic medical record, which provides minimal space for documenting confidentially. As a workaround, Daly City Youth Health Center providers will write in bold at the top of a note that it contains confidential information. If a parent requests medical records, those notes will be redacted from the record copies. However, this method does allow for human error.

After discussing topics related to the day-to-day operations, interviewees were then asked about recommendations, lessons learned, and best practices. As for methods to engage with youth, the experts recommended partnering with high schools, providing outreach at community events, and strategically choosing the new clinic location to be centrally located. Additionally, the staff member from Huckleberry Youth Health Center suggested being thoughtful and intentional about creating a welcoming and safe space for youth. This can be achieved by having diverse posters, pamphlets, and informational material in the clinic; providing snacks in the waiting room; remaining nonjudgmental; and hiring staff who are passionate about working with youth. Furthermore, the experts made the following best-practice recommendations based on their lessons learned: Remain flexible by offering both appointments and drop-in services, create a safe learning environment for youth to make mistakes, allow youth to take ownership of their health and give them choices regarding their health, provide multiple services in a co-located space, and take the time to listen.

Staff feedback. Subjective feedback was collected from CoRR staff members during and after the DNP student led in-service in March 2019. In total, 19 staff members were present for
the in-service. There were three electronic Poll Everywhere questions embedded throughout the presentation and two written questions at the end of the staff readiness survey. There was a greater response rate to the Poll Everywhere questions than the written questions on the survey. The response rate varied for each question, ranging from four to 12 participants.

Staff members were asked about (1) what resources or techniques have proved helpful when working with adolescents and young adults, (2) how they create a welcoming environment for youth, (3) what services they would like to provide youth, (4) how they envision these expanded services, and (5) any additional feedback. Answers overlapped for the first and second questions. The common themes included openly communicating, actively listening, remaining nonjudgmental, upholding confidentiality, and building trust. One respondent also identified motivational interviewing as a helpful technique when working with youth. For question number two, other common themes were creating a safe space and providing snacks. For questions three and four, the most overwhelmingly prevalent answer was opening residential services/transitional housing. Other common answers included holding weekly group meetings for youth, opening a teen center, increasing access to mental health and reproductive health services, improving transportation, and hosting teen/peer trainings. Lastly, a few staff members provided additional feedback. Several participants noted new staff members should be hired to increase the organization’s capacity for expanding its services, and three participants reported the presentation was “great!”

**Quantitative Findings**

A staff readiness survey was distributed to all attendees of the site-wide staff meeting at CoRR in Grass Valley on March 15, 2019. In total, 19 staff members attended the in-service and 18 staff members completed surveys (n=18). The response rate for the survey was 94%. One
participant marked none applicable for questions 8 through 11, and another participant marked none applicable for question 11 only. Questions 8 through 10 each had 17 total responses, and question 11 had 16 total responses. All the other 5-Point Likert scale questions were completed by 18 respondents.

Findings suggest that although CoRR staff members support the need for increased adolescent and young adult health services, they are currently concerned about having sufficient training and resources to ensure program success. In total, nine of the twelve 5-Point Likert scale questions yielded a positive response. Participants responded most positively to the statement, “I understand the need for the development of an adolescent and young adult program;” 100% of respondents agreed or strongly agreed (M = 4.83; SD = 0.38) with the statement. Respondents also strongly agreed that they were supportive of expanding the adolescent and young adult program to include confidential services (M = 4.78; SD = 0.55), they believed the expanded program would benefit the organization (M = 4.72; SD = 0.57), they believed the expanded program would be advantageous for the youth within the community (M = 4.72; SD = 0.46), and they felt expanding the program is appropriate and achievable (M = 4.50; SD = 0.62).

Conversely, most respondents were either unsure or did not agree that they had the necessary resources to work with adolescents and young adults (M = 2.88; SD = 0.81). Many respondents were also unsure or did not agree that they had adequate training to work with adolescents and young adults (M = 3.71; SD = 1.45); however, there was great variability among the responses. Lastly, there was one statement written on the negative scale: “I think the organization is taking on too many changes at one time.” Most of the participants responded that they were unsure, agreed, or strongly agreed with this statement (M = 3.22; SD = 1.22). Again, there was a high amount of variability among the responses. Two staff members commented on
this question stating there are not enough staff or clinical resources available. See Appendix P (Table 1) for a graph of the mean response for each question on the survey.

**Unexpected Finding**

The adolescent focus group participants suggested that CoRR engage youth by teaching sexual education and other health classes at high schools in the local community. They also suggested that the facilitators of these classes use this as an avenue to promote the newly expanded youth-friendly health services at CoRR and connect with potential patients. After hearing this recommendation during the in-service, CoRR’s program manager announced Nevada Union High School is requiring health class for all freshman students beginning in the 2019-2020 school year. Nevada Union High School reached out to CoRR and asked them to partner on this project by teaching several lessons in the health class. This opportunity should be explored further as a means for CoRR to make inroads within the community on additional health issues relating to youth, such as sexual health and/or mental health.

**Discussion**

**Summary**

Overall, the first goal of this project was achieved by meeting objectives one through three. By interviewing community stakeholders, holding an adolescent focus group, researching models of care delivery, conducting best-practice interviews with experts in the field, and surveying CoRR staff members on their readiness for program implementation, the DNP student was able to research and design an adolescent and young adult health services program for CoRR. Regarding the second goal, the DNP student successfully planned for a future pilot test of the youth-friendly health services program at CoRR. This was done by meeting objective four. A document including a feasibility analysis summary, recommendations, and next steps for
implementation was sent to the executive management team and project team in April 2019. The DNP student did not have the opportunity to present the analysis findings and program recommendations to the Board of Directors. The CEO will decide when to move forward with the program and then bring the findings to the Board of Directors. See Appendices Q, R, and S for materials the DNP student created to assist with program implementation in the future. These materials were not used during this project.

In the feasibility analysis summary, recommendations were drawn from recurring themes evident throughout the qualitative data and literature review findings. First and foremost, it is prudent to offer integrated medical and behavioral health services (Jack & Piotrowski, 2017). Having an integrated medical-behavioral model improves outcomes when treating depression, anxiety, and behavioral disorders in adolescents (Asarnow et al., 2015). CoRR can offer an integrated medical-behavioral model of care delivery through warm hand-offs between staff who are co-located in the same facility. Additionally, recurrent suggestions from those interviewed and published evidence-based interventions identified the importance of emphasizing confidentiality, offering same-day appointments or walk-in services, demonstrating respect through active listening and open communication, providing snacks to help create a welcoming environment, and engaging youth through partnering with local schools in the community. See Appendix T for a copy of the summary feasibility analysis and recommendations given to the executive management and project team at CoRR.

In a broader context, this project has several implications for advanced practice nurses. The target population for the project is at-risk adolescents and young adults who have unmet healthcare needs. Fortunately, NPs are trained to work with vulnerable populations in a primary care setting and have been doing so for decades (Van Zandt, Sloand, & Wilkins, 2008).
60% of NPs are trained in the area of family care (American Association of Nurse Practitioners [AANP], 2018), meaning they specialize in providing healthcare throughout the life continuum. As a result, they are uniquely positioned to bridge the transition from adolescence into young adulthood and beyond. With a foundation rooted in nursing principles, the NP values caring for the whole person and delivering patient-centered care by prioritizing screenings, counseling, and health promotion/disease prevention education (AANP, 2015). With their armamentarium, NPs are well equipped to deliver high-quality, evidence-based, patient-centered care to adolescents and young adults in Grass Valley, California.

**Interpretation**

This project draws from the core concepts of the LCHD model by recognizing that one’s health is the result of various individual, social, physical, and environmental influences that occur during key developmental time periods throughout his or her life. In working with at-risk adolescents, there is the opportunity to prevent unhealthy behaviors from taking hold as the patient ages into young adulthood. Offering wrap-around services helps to address the multiple facets that can complicate the health trajectory for a young person. The LCHD model was used to guide the design and recommendations for the adolescent and young adult health services program at CoRR.

In reviewing the findings from the community needs assessment and adolescent focus group, it is evident that improving access to youth-friendly health services in Grass Valley, California, is greatly needed and wanted by the stakeholders who will be most affected by this program. During the project, the DNP student was able to lay the groundwork for a successful future program implementation by thoughtfully designing a program based on recommendations from the stakeholders, evidenced-based interventions, and best-practice advice from experts in
the field. Another important success was the connections created with community members who are supportive of the program and will be able to refer patients to the program once it is implemented. Additionally, the CoRR staff members understand the need for expanding adolescent and young adult health services, are supportive of the program, and feel it will be beneficial for the organization and the community. However, many staff identified that they needed additional training and resources related to providing adolescent and young adult health services. This should be addressed prior to implementation of the program.

A future DNP student can carry on the project by pilot testing adolescent and young adult health services at CoRR. This student can begin by determining what training and resources are needed by staff members to move them towards readiness for program implementation. The staff readiness survey can be distributed at regular intervals to track progress. Additionally, a second focus group comprised of adolescent and young adult participants should be held to determine which models of healthcare service delivery are preferable among youth in the community. Once the CoRR and its staff are ready, the program trial period can begin. Due to the licensing issues, it was suggested that the trial of expanded health services be limited to adolescents and young adults who are already engaged with and receive treatment at CoRR for substance use disorders. This convenience sample will allow for plan-do-study-act cycles that will ultimately help reconcile any issues prior to rolling out the program for the entire community. Furthermore, adolescents in the focus group suggested a teen ambassador program for youth during which volunteers will assist their peers by providing basic health information and referrals to available resources. A similar program called Project PLAY at Daly City Youth Health Center has been successful in training youth as peer health mentors. This could be another doctoral project opportunity for a DNP student to explore adapting the program in Grass Valley, California.
Overall, the continuation of this project will help strengthen the relationship between the USF SONHP and CoRR.

**Limitations**

There are several significant limitations to this project. First, the DNP student did not have any prior history with CoRR. When outsiders try to implement change-of-practice projects, there can be resistance from staff members who feel they are burdened by an increase in their workload. Additionally, staff members often feel the outsider is out of touch with the culture of the organization and is unaware of the organization’s policies, procedures, and workflow. In an attempt to combat this issue, the DNP student visited CoRR at regular intervals to meet with staff and the project team.

Additionally, the data collection was limited in several ways. The key stakeholders and adolescents interviewed throughout the course of the project represented a convenience sample, which may have imparted bias in the findings. Their support of increased access to youth-friendly health services may reflect their own personal opinions as they all have special interest in the health and wellbeing of adolescents and young adults in the community. Moreover, the sample size was small and may not be representative of the entire Grass Valley community. Regarding the staff readiness survey, only one set of data were collected due to the time constraints of the project. Again, the sample size was small (n =18) and did not include some of the key project team members due to conflicting schedules. The data that were obtained from the survey can be used as a baseline measurement to compare against future data points.

Third, the DNP student did not have the opportunity to ask the adolescent focus group their perceptions and preferences regarding the three healthcare service delivery models that were identified in the literature review. It is valuable to know which of these models and their
individual components should be incorporated into the program to best meet the needs of adolescents and young adults in Grass Valley. The subsequent DNP student who assumes responsibility of this project should conduct a second focus group to gather this information. The adolescents’ feedback will help to inform how youth-friendly healthcare services are delivered to the community.

Lastly, this project originally intended to trial the delivery of healthcare services to adolescents and young adults but was significantly limited in its timeframe to do so because of the DNP student’s expected graduation date. Due to regulatory and licensing issues outside of the DNP student’s control, there was a delay in the timeline and the trial did not occur. The plan is for a subsequent DNP student to assume the proposed project and begin the trial of adolescent and young adult patient healthcare services at CoRR.

Conclusions

Adolescents and young adults have high rates of morbidity and mortality from preventable causes of harm. Through the provision of youth-friendly health services, young people can have a safe and confidential space to receive care for their reproductive and sexual health issues, mental health concerns, and substance misuse. NPs and other healthcare providers have an opportunity to impact the health trajectory of youth by screening for risk factors, providing counseling, and educating patients on disease prevention/health promotion behaviors.

Currently in Grass Valley, California, there are limited healthcare resources that specialize in serving adolescents and young adults. This project was successful in identifying that community stakeholders, youth, and CoRR staff members feel there is a need for additional youth-friendly health services and are supportive of CoRR expanding the adolescent and young adult health program to meet this need. CoRR is an ideal organization for this project because it
already has medical, behavioral health, and social services in place. When multiple resources are co-located in the same facility, there is an increased likelihood of successful health outcomes. A youth-friendly program was designed for future implementation based on recommendations from community stakeholders, an adolescent focus group, CoRR staff members, experts in the field, and findings from published literature. Staff members identified they would like additional training and resources prior to working with adolescents and young adults. Ideally, a subsequent DNP student will resume work on this project and effect change regarding health outcomes for youth in the local community. The continued partnership between USF SONHP and CoRR strengthens communal ties, allows for additional student clinical sites, and improves practice outcomes.

Disclosures

There are no external funding sources or conflicts of interest to disclose for this project.
References


https://doi.org/10.1016/j.jadohealth.2018.03.013


doi:10.1542/peds.2018-2163


Appendix A

DNP Statement of Non-Research Determination Form

Student Name: Elena Higley

<table>
<thead>
<tr>
<th>Title of Project:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improving Access to Youth-Friendly Health Services in a Rural California Community</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Brief Description of Project:</th>
</tr>
</thead>
<tbody>
<tr>
<td>A) <strong>Aim Statement:</strong> The overarching aim of this project is to improve the health outcomes of adolescents and young adults in Nevada County aged 14-25 years through the design and delivery of youth-friendly healthcare services at Community Recovery Resources in Grass Valley, California.</td>
</tr>
</tbody>
</table>

| B) **Description of Intervention:** The proposed project will examine the feasibility of implementing an adolescent and young adult primary care health services division at Community Recovery Resources (CoRR). Current literature, models of care, operations, and financials will be examined to determine evidence-based best practices. Once approved by CoRR’s Board of Directors (BOD), a two-month trial period of providing patient services will also occur. Findings from this trial will be presented to CoRR’s BOD. |

| C) **How will this intervention change practice?** Currently, there are limited healthcare providers in the local community who specialize in adolescent medicine while providing convenient and confidential services. CoRR is well positioned to expand its existing mental health and addition recovery services to include primary care services, especially for at-risk adolescents and young adults. |
The integration of primary healthcare services and mental health services will allow for better outcomes.

**D) Outcome measurements:**

1. Interview at least three community stakeholders within Grass Valley, California by November 2018.

2. Analyze at least three different models of adolescent and young adult healthcare delivery systems by November 2018.

3. Design and disseminate a survey for staff members in order to assess the organization’s readiness for the implementation of adolescent and young adult healthcare services by January 2019.

4. Present findings of feasibility analysis to the Board of Directors at Community Recovery Resources by January 2019.

5. Begin pilot test of providing healthcare services to adolescent and young adult patients at Community Recovery Resources by March 2019.


To qualify as an Evidence-based Change in Practice Project, rather than a Research Project, the criteria outlined in federal guidelines will be used: (http://answers.hhs.gov/ohrp/categories/1569)

\[\checkmark\] This project meets the guidelines for an Evidence-based Change in Practice Project as outlined in the Project Checklist (attached). Student may proceed with implementation.

\[\square\] This project involves research with human subjects and must be submitted for IRB approval before project activity can commence.

Comments:
**EVIDENCE-BASED CHANGE OF PRACTICE PROJECT CHECKLIST** *

**Instructions:** Answer YES or NO to each of the following statements:

<table>
<thead>
<tr>
<th>Project Title: Bringing Adolescent and Young Adult Health Services to a Rural California Community</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>The aim of the project is to improve the process or delivery of care with established/accepted standards, or to implement evidence-based change. There is no intention of using the data for research purposes.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>The specific aim is to improve performance on a specific service or program and is a part of usual care. ALL participants will receive standard of care.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>The project is NOT designed to follow a research design, e.g., hypothesis testing or group comparison, randomization, control groups, prospective comparison groups, cross-sectional, case control). The project does NOT follow a protocol that overrides clinical decision-making.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>The project involves implementation of established and tested quality standards and/or systematic monitoring, assessment or evaluation of the organization to ensure that existing quality standards are being met. The project does NOT develop paradigms or untested methods or new untested standards.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>The project involves implementation of care practices and interventions that are consensus-based or evidence-based. The project does NOT seek to test an intervention that is beyond current science and experience.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>The project is conducted by staff where the project will take place and involves staff who are working at an agency that has an agreement with USF SONHP.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>The project has NO funding from federal agencies or research-focused organizations and is not receiving funding for implementation research.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>The agency or clinical practice unit agrees that this is a project that will be implemented to improve the process or delivery of care, i.e., not a personal research project that is dependent upon the voluntary participation of colleagues, students and/or patients.</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

If there is an intent to, or possibility of publishing your work, you and supervising faculty and the agency oversight committee are comfortable with the following statement in your methods section: "This project was undertaken as an Evidence-based change of practice project at X hospital or agency and as such was not formally supervised by the Institutional Review Board."

**ANSWER KEY:** If the answer to ALL of these items is yes, the project can be considered an Evidence-based activity that does NOT meet the definition of research. **IRB review is not required. Keep a copy of this checklist in your files.** If the answer to ANY of these questions is NO, you must submit for IRB approval.
YOUTH-FRIENDLY HEALTH SERVICES

*Adapted with permission of Elizabeth L. Hohmann, MD, Director and Chair, Partners Human Research Committee, Partners Health System, Boston, MA.

STUDENT NAME (Please print):

Elena Higley

Signature of Student:

DATE 09/24/18

SUPERVISING FACULTY MEMBER (CHAIR) NAME (Please print):

Alexa Colgrove Curtis, PhD, MPH, FNP-BC

Signature of Supervising Faculty Member (Chair):

DATE
Appendix B
Letter of Support

Community Recovery Resources
A Wellness-Focused Recovery Organization

March 27, 2019

To Whom It May Concern:

This letter of support signifies that Elena Higley is authorized to complete her Doctor of Nursing Practice project at Community Recovery Resources in Grass Valley, California. The executive management team grants her permission to pursue her work here and use the name of Community Recovery Resources in her final manuscript and faculty presentation.

Sincerely,

Ariel King Lovett, MNA
Chief Executive Officer
Community Recovery Resources
### Evidence Evaluation Table

<table>
<thead>
<tr>
<th>Citation</th>
<th>Design/Method</th>
<th>Sample/Setting</th>
<th>Variables Studied</th>
<th>Data Analysis</th>
<th>Findings</th>
<th>Limitations</th>
<th>Appraisal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adams, S. H., Park, J. M., Brindis, C. D., &amp; Irwin, C. E. (2018). Increasing delivery of preventive services to adolescents and young adults: Does the preventive visit help? <em>Journal of Adolescent Health</em>, 63, 166-171. <a href="https://doi.org/10.1016/j.jadohealth.2018.03.013">https://doi.org/10.1016/j.jadohealth.2018.03.013</a></td>
<td>Retrospective cohort study Data were extracted from the nationwide Medical Expenditure Panel Survey regarding health status, insurance coverage, and healthcare utilization/expenditure.</td>
<td>Sample included participants from the 2013 to 2015 surveys who were aged 10 to 17 years and 18 to 25 years. Adolescents: N=12,832 Young adults: N=11,055</td>
<td>Independent variable: received past-year preventive healthcare visit Dependent variables: For adolescents: receipt of past year preventive services- blood pressure (BP) screen, height and weight measurements, time alone with the provider, and anticipatory guidance regarding</td>
<td>Bivariable logistical regressions and multivariate analyses were conducted using SAS and SUDAAN software.</td>
<td>Of adolescents and young adults with full year health insurance coverage, 69% and 53% had a preventive visit respectively. Adolescents: those with a preventive visit were more likely to have physical parameters measured and to have received anticipatory guidance (great differences between two</td>
<td>-Parents of adolescents submit the MEPS survey responses which may impact the reporting of anticipatory guidance and confidential services accessed by adolescents. -Participants were excluded if they did not have any healthcare visit within the previous year, which excludes an important subset of the</td>
<td>JHNEBP: III-A</td>
</tr>
<tr>
<td>Asarnow, J. R., Rozenman, M., Wiblin, J., &amp; Zeltzer, L. (2015). Integrated medical-behavioral care compared with usual primary care for child</td>
<td>Meta-analysis</td>
<td>Literature search was completed in MEDLINE, PsychINFO, PubMed, and Cochrane Central Registered of</td>
<td>Total articles reviewed N=5,556</td>
<td>The inclusion criteria required original RCT studies written in English and published in</td>
<td>Independent variables within the articles: Collaborative care models or other models of medical-behavioral interventions</td>
<td>Effect sizes (indexed by Cohen $d$) were calculated by subtracting the comparator group mean from the intervention group mean and dividing</td>
<td>Integrated care models (both collaborative and other models) yielded significant effects compared to the usual care provided.</td>
</tr>
</tbody>
</table>

| Controlled Trials using the keywords: primary care, integrated care, collaborative care, and collocated care in combination with child(ren), adolescent/adolescence, youth(s), pediatric, randomized control trial, intervention, prevention, and treatment. | peer-reviewed journals. The study aims were to focus on integrating medical-behavioral health care interventions for patients between the ages of 1 to 21 years. Final articles selected n=31 (13,129 participants) There was significant heterogeneity among the sample populations. | compared to usual care Outcome variables were identified within each article: mental health (emotional or behavioral problems) and substance use outcomes Effect sizes were calculated separately by the pooled standard deviation. The confidence interval was set at 95%. A summary effect score was also calculated for all included trials. Comprehensive Meta-Analysis software, version 2.2 was used for all calculations. A funnel plot and Egger test were used to determine publication bias. | Treatments that targeted symptoms of emotional and behavioral problems had significant effects. Prevention interventions and interventions that targeted substance use did not have significant effects. Age (children compared to adolescents) was not a significant moderator. Examination of the funnel test and Egger test found weak statistical power due to the small number of articles -There were a wide range of interventions among the selected articles -Effect sizes were varied due to many articles failing to report correlations between baseline and post-treatment outcomes |

| Cross-sectional survey | Convenience sample of high school students aged 13 to 19 years who attended general and alternative public schools in rural communities in Washington state. N= 217 adolescents | Independent variables: age, race/ethnicity, and gender. Dependent variables: the positive components of a medical home among participants. | Descriptive statistics were used to identify components of a medical home among participants. Logistic and linear regression models were used to determine associations between the independent and dependent variables. Stata 10 was used to conduct all analyses. | -Majority of respondents identified as Latino/Hispanic (85%) and were female (64.5%). -80% reported receipt of the recommended preventive services. -55% stated they had a personal provider. -More than 75% received compassionate care. -56% spoke to a provider privately. -39% knew where to get healthcare without their | -There was a lack of a comparison group. -Only participants from one rural town were sampled. -The outcomes were subject to recall bias and self-reporting. -The participants were mostly Hispanic, which limits its generalizability to other populations. | JHNEBP: III-B |
| Garcia-Huidobro, Shippee, Joseph-DiCaprio, O’Brien, & Svetaz. (2016). Effect of patient-centered medical home on preventive services for adolescents and young adults. | Retrospective cohort study. Data were extracted from electronic medical records. Each preventive service was dichotomously coded as either received or not received. | Sample: patients aged 10 to 24 years who received in-person or telephonic healthcare encounters between the years of 2010 and 2014 from Hennepin County Medical Center system in Minnesota. | Independent variable: PCMH enrollment. | Dependent variables: preventive healthcare visits, influenza/ meningococcal/HPV vaccinations, screening for STIs. | Descriptive statistics were calculated for preventive services. 99% confidence intervals were used. To determine if PCMH enrollment status impacted receipt of preventive services. | Patients enrolled in PCMHs had higher odds of receiving each of the preventive services (preventive visit, influenza vaccine, meningococcal vaccine, HPV vaccine, STI testing, contraception). | -There were demographic differences between the two groups. PCMH enrolled patients who were younger, more likely to be Latino or African American, and more likely to have public insurance. |
| Runton, N. G., & Hudak, R. P. (2016). The influence of school-based health centers on adolescents’ Quantitative retrospective longitudinal study | Two urban school systems: School system in Virginia with newly implemented Independent variable: presence of SBHC Dependent variables: unintentional Logistic regression analysis using SPSS was done to predict risk behaviors. Alpha level of 0.05 Key finding: the SBHC in Virginia did not have a significant effect on risk behaviors. -The SBHC had only been open one year and it is unknown if there was any ongoing preventive services | Limited number of patients enrolled in PCMHs. -The PCMHs varied in the degree of youth-friendly services provided to patients which may impact the outcomes of this study. -Confounding variables such as level of education, income, or chronic disease status were not analyzed. | Pediatrics, 137(6). doi: 10.1542/peds.2015-3813 | N= 21,207 (total patients aged 10-24 years) n= 729 (enrolled in PCMH) n= 20,975 (not enrolled in PCMH) prescription for contraception, and screening for cervical cancer in those >21 years services, mix-effect logistic regression models were used. Odds ratios and a confidence interval of 99% were computed for each preventive service. Analyses were done using Stata 14. prescription, and cervical cancer screening in those >21 years than youth who were not enrolled in PCMHs. This remained true after demographic variables were controlled for. |
| Youth risk behaviors. Journal of Pediatric Health Care, 30(3), e1-e9. | each school system were surveyed using the Youth Risk Behavior Survey (YRBS) in 2007. In 2011, a group of high school students from each school system were surveyed using the YRBS. | SBHC (treatment) | injuries and violence, sexual behaviors, alcohol and drug use, tobacco use, diet, and physical activity | Age was a significant covariate. Older students were more likely to have carried a weapon, been in a physical fight, smoked cigarettes, tried marijuana, and drank alcohol. | programming provided by the SBHC in Virginia. -The YRBS was not provided to students in the treatment and comparison groups at the same time in 2011. -The answers on the survey were subject to recall bias. -The survey lacked questions about sexual behavior and diet which limited the availability for investigation into these areas. |
A series of data were collected from ED visits for school aged patients who lived in a zip code associated with either the treatment or control group. The data were analyzed to determine trends in the ED visit density before and after SBHC openings in the local school districts. ED visits were excluded if the
| Data were analyzed from January 1996 to December 2013 regarding ED visits to Bassett Medical Center in Cooperstown, NY. Sample: children and adolescents aged 5-18 years who visited the ED and lived in any one of the 12 school districts where an SBHC had opened (treatment group = 84,261 student-years precondition and 64,277 student-years)  
 | Independent variable: opening of a SBHC in a school district
Dependent variable: ED visit incidence density (total number of ED visits summed across all schools divided by the total student time at risk [total school enrollment expressed in child years] totaled across all schools). This was calculated for both pre and post SBHC opening.
| The distribution of ED visits pre and post SBHC opening was compared using chi-square analysis. Pearson’s correlation coefficient was used to determine each school district’s ED visit incidence density.
 | The incidence density of ED visits was significantly higher after the opening of SBHCs in the 12 school districts: 928 visits vs 809 visits per 10,000 student years. There were significant differences in reasons for ED visits between pre and post SBHCs. Pre-SBHCs, there was a higher percentage of injuries and poisonings; whereas post SBHCs, patients were seen more for mental health issues and
| -There were 6 other EDs and UCs in the area that were not included in the study.  
-Not all students living in a zip code associated with the treatment group were enrolled in the SBHC program their school offers.  
-Some students assigned to the treatment or control based on zip code may not actually attend the school in their district. | **JHNEBP: II-B**
ICD-9 code indicated a serious or acute diagnosis, the patient arrived by ambulance, or the patient was admitted to the hospital.  

Postcondition) or who lived in one of the two school districts without a SBHC (control group).  

Issues not associated with a diagnosis. The control group also had a significant increase in ED visits over the same time period.  


Pilot study  
An existing mobile health unit (MHU) completed a pilot study to expand its current services to include sexual and reproductive health care (SRHC). Key informant interviews were conducted with the MHU providers and the MHU provides healthcare to students aged 14-21 years who attended schools in the western and southern neighborhoods of Chicago, which are traditionally low socioeconomic environments. Key informant interview: N=3  

No independent or dependent variables.  

Intervention variables: implementation of contraceptive methods (emergency contraception, oral contraceptive pills, and injectable depot-medroxyprogesterone acetate [DMPA])  

Descriptive statistics and chi-square tests of association were computed using SPSS Statistics 23. The alpha was established at 0.05.  

*Needs Assessment:* -66% and 61.1% were interested in knowing more about sexual health and birth control, respectively. -54.4% were likely to get birth control from the MHU  

*Adolescent Satisfaction Survey:* -92% of patients would recommend the MHU for -Lack of generalizability due to the sample  

-No comparison group of adolescents who received SRHC from another site -EC was available longer than OCPs and DMPA which may have influenced the patient’s choice of contraception  

**JHNEBP: V-A**
<table>
<thead>
<tr>
<th>Needs assessment survey: N=103</th>
<th>SRHC needs to their friends -89% did not feel coerced in their decision making</th>
<th>Administrative Log: -EC: 7 doses and 9 prescriptions -OCPs: 8 3-month packs supplied and 10 prescriptions -DMPA: 5 injections and 5 prescriptions</th>
<th>Only MHU providers were included in the key informant interviews</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients who received SRHC during pilot: N=123</td>
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<tr>
<td></td>
<td>Through an iterative process, the MHU implemented SRHC. After a period of 3 months, administrative data logs and adolescent satisfaction survey scores were evaluated.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Literature review</td>
<td>Literature search was completed in PubMed using the following terms: mobile health unit, mobile clinic, and mobile health, with and without the additional following terms: evaluation, utilization, and medically underserved area. Data was also included from MobileHealthMap.org</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inclusion criteria required articles to have been published after 1996, reported on mobile health clinics (MHC) in the US, analyzed the outcomes of one or more MHCs, and evaluated the strengths and weaknesses of MHCs. Total Articles: N=51</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No independent or dependent variables.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No statistical analyses were performed</td>
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<td></td>
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</tbody>
</table>
| **Thematic elements of MHCs:**
- Increase access to healthcare by removing barriers and offering convenience
- Build rapport and foster trusting-relationships
- Improve health outcomes by increasing screenings and preventive care, more closely managing chronic diseases, and promoting patient empowerment
- Address social determinants |
| -Information was not specific to adolescent and young adult populations
- There was no limitations section where problems were addressed
- Search method likely not reproducible
- Articles published in the last 20 years (since 1996) were utilized in the review, which could potentially skew the summary findings due to outdated information |
<p>| <strong>JHNEBP: V-A</strong> |</p>
<table>
<thead>
<tr>
<th>of health and inequities among health care</th>
</tr>
</thead>
<tbody>
<tr>
<td>-Reduce healthcare expenditure and decrease ED visits/hospital readmission rates</td>
</tr>
<tr>
<td>Limits of MHCs:</td>
</tr>
<tr>
<td>-Fragmented care</td>
</tr>
<tr>
<td>-Unsustainable funding sources</td>
</tr>
</tbody>
</table>
Appendix D

Figure 1

Originally printed in Halfon et al. (2014).
Appendix E

Gap Analysis

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Improving Access to Youth-Friendly Health Services in a Rural California Community</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
<td>September 2018</td>
</tr>
<tr>
<td>Project Aim</td>
<td>The overarching aim of this project is to improve the health outcomes of adolescents and young adults in Nevada County aged 14-25 years through the design and delivery of youth-friendly healthcare services at Community Recovery Resources in Grass Valley, California.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Project Objectives</th>
<th>Current Resources</th>
<th>Gaps Identified</th>
<th>Implications</th>
<th>Actions to Address Gaps</th>
<th>Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interview at least three community stakeholders within Grass Valley, California, to identify the perceived healthcare delivery needs of adolescents and young adults.</td>
<td>• Established connections with school nurse at local high school, health center staff at local college, and local pediatricians • Standardized questionnaire form created and approved</td>
<td>• No current connections with public health department officials or staff at The Clinic!</td>
<td>• Potential for a limited viewpoint since current stakeholders are all healthcare providers</td>
<td>• Leverage current community connections to request introductions to new contacts at the public health department and NEO Youth Center</td>
<td>Complete by November 2018</td>
</tr>
<tr>
<td>Analyze at least three different models of adolescent and young adult healthcare delivery systems.</td>
<td>• Access to several databases including PubMed, CINAHL, Complete, DynaMed, and UpToDate</td>
<td>• Limited published literature that compares different models of care delivery</td>
<td>• Additional time to review individual articles • Potential for omission error since there is no centralized review of differing care delivery models</td>
<td>• Methodically review literature and create an evidence evaluation table</td>
<td>Complete by November 2018</td>
</tr>
<tr>
<td>Design and disseminate an organization readiness</td>
<td>• Access to Qualtrics through USF • Able to send survey to</td>
<td>• Electronic delivery system requires staff to remember and dedicate time to</td>
<td>• Potential for a limited number of staff members</td>
<td>• Send reminder emails and remind staff members in-</td>
<td>Complete by January 2019</td>
</tr>
</tbody>
</table>
YOUTH-FRIENDLY HEALTH SERVICES

<table>
<thead>
<tr>
<th>Survey for staff members.</th>
<th>Staff members via CoRR’s email list-serve</th>
<th>Complete the survey on their own</th>
<th>Who complete the survey</th>
<th>Person when visiting CoRR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present findings of feasibility analysis to the BOD at CoRR.</td>
<td>• Engaged leadership</td>
<td>• Several internal competing priorities</td>
<td>• Potential for resistance from staff members who feel over-burdened with new projects</td>
<td>• Introduce self at staff meeting</td>
</tr>
<tr>
<td></td>
<td>• Supportive of expanding services to include primary care services to adolescents and young adults</td>
<td>• No established prior history between DNP student and CoRR</td>
<td></td>
<td>• Collect feedback from staff</td>
</tr>
<tr>
<td></td>
<td>• Prior experience presenting to large audiences using PowerPoint</td>
<td></td>
<td></td>
<td>• Offer trainings for staff involved with project</td>
</tr>
</tbody>
</table>
## Appendix F

### SWOT Analysis

<table>
<thead>
<tr>
<th>Internal</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strengths</strong></td>
<td><strong>Weaknesses</strong></td>
</tr>
<tr>
<td>• Engaged and supportive leadership</td>
<td>• Several co-occurring projects to expand services</td>
</tr>
<tr>
<td>• Established adolescent and young adult behavioral health services</td>
<td>• Potential for staff members to resist change</td>
</tr>
<tr>
<td>• Experienced providers specialized in adolescent medicine</td>
<td>• Perception of limited time and resources</td>
</tr>
<tr>
<td>• Emphasis on sensitive services and whole-person care</td>
<td>• Staff members who have limited experience working with adolescents and young adults</td>
</tr>
<tr>
<td>• Pre-existing space available to use during clinic hours</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>External</th>
<th>Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Opportunities</strong></td>
<td><strong>Threats</strong></td>
</tr>
<tr>
<td>• Convenient geographical location between the local community college and high school</td>
<td>• Politically conservative community where previous adolescent clinics have been forced to close due to a loss of funding</td>
</tr>
<tr>
<td>• No current adolescent medicine specialists in the area</td>
<td>• Limited knowledge within the community of newly expanded services at CoRR</td>
</tr>
<tr>
<td>• Increased number of adolescents and young adults receiving healthcare services</td>
<td>• Potential patients’ concern for confidentiality</td>
</tr>
<tr>
<td>• Potential to improve health outcomes for adolescents and young adults in the community</td>
<td>• Potential patients’ concern for cost of services</td>
</tr>
</tbody>
</table>
Appendix G

Work Breakdown Structure

<table>
<thead>
<tr>
<th>Level</th>
<th>WBS</th>
<th>Task Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><strong>Phase I: Data Collection and Evidence Analysis</strong></td>
</tr>
<tr>
<td>1</td>
<td>1.1</td>
<td>Key Community Stakeholder Interviews</td>
</tr>
<tr>
<td>2</td>
<td>1.1.1</td>
<td>Formulate list of stakeholders</td>
</tr>
<tr>
<td>2</td>
<td>1.1.2</td>
<td>Create standardized questionnaire template</td>
</tr>
<tr>
<td>2</td>
<td>1.1.3</td>
<td>Schedule interviews</td>
</tr>
<tr>
<td>2</td>
<td>1.1.4</td>
<td>Conduct interviews</td>
</tr>
<tr>
<td>2</td>
<td>1.1.5</td>
<td>Analyze findings</td>
</tr>
<tr>
<td>1</td>
<td>1.2</td>
<td>Adolescent Focus Group</td>
</tr>
<tr>
<td>2</td>
<td>1.2.1</td>
<td>Recruit participants and schedule focus group</td>
</tr>
<tr>
<td>2</td>
<td>1.2.2</td>
<td>Conduct focus group</td>
</tr>
<tr>
<td>2</td>
<td>1.2.3</td>
<td>Analyze findings</td>
</tr>
<tr>
<td>1</td>
<td>1.3</td>
<td>Interview staff members who work at existing youth health centers</td>
</tr>
<tr>
<td>2</td>
<td>1.3.1</td>
<td>Identify high-functioning youth health centers</td>
</tr>
<tr>
<td>2</td>
<td>1.3.2</td>
<td>Create standardized questionnaire template</td>
</tr>
<tr>
<td>2</td>
<td>1.3.3</td>
<td>Conduct interviews</td>
</tr>
<tr>
<td>2</td>
<td>1.3.4</td>
<td>Analyze findings</td>
</tr>
<tr>
<td>1</td>
<td>1.4</td>
<td>Evidence Analysis</td>
</tr>
<tr>
<td>2</td>
<td>1.4.1</td>
<td>Conduct literature review about current models of care delivery for adolescents and young adults</td>
</tr>
<tr>
<td>2</td>
<td>1.4.2</td>
<td>Create evidence evaluation table</td>
</tr>
<tr>
<td>2</td>
<td>1.4.3</td>
<td>Analyze current models of care delivery</td>
</tr>
<tr>
<td>2</td>
<td>1.4.4</td>
<td>Develop evidence-based interventions for CoRR’s expanded program</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Phase II: Project Approval</strong></td>
</tr>
<tr>
<td>1</td>
<td>2.1</td>
<td>Meet with CEO and medical director for project approval</td>
</tr>
<tr>
<td>2</td>
<td>2.1.1</td>
<td>Revise project as necessary based on feedback</td>
</tr>
<tr>
<td>2</td>
<td>2.1.2</td>
<td>Finalize project</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Phase III: Preparation</strong></td>
</tr>
<tr>
<td>1</td>
<td>3.1</td>
<td>Plan marketing strategy</td>
</tr>
<tr>
<td>2</td>
<td>3.1.1</td>
<td>Create posters, fliers, and memos</td>
</tr>
<tr>
<td>2</td>
<td>3.1.2</td>
<td>Disseminate marketing materials to local schools, clinics, and community centers</td>
</tr>
<tr>
<td>1</td>
<td>3.2</td>
<td>Inform and train staff members</td>
</tr>
<tr>
<td>2</td>
<td>3.2.1</td>
<td>Plan one-hour in-service session</td>
</tr>
<tr>
<td>3</td>
<td>3.2.1.1</td>
<td>Research information about current adolescent and young adult health guidelines and confidentiality</td>
</tr>
<tr>
<td>3</td>
<td>3.2.1.2</td>
<td>Create presentation based on the following topics: proposed project, health recommendations and guidelines for youth, confidentiality, and billing practices</td>
</tr>
<tr>
<td>Tier</td>
<td>Task Description</td>
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</tr>
<tr>
<td>------</td>
<td>------------------</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3.2.1.3 Schedule training</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3.2.1.4 Write staff readiness survey</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>3.2.2 Ensure medical assistants are up-to-date and competent with POCT testing</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>3.3 Hold staff in-service</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>3.3.1 Give presentation to staff members</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>3.3.2 Distribute staff readiness survey to attendees</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3.3.2.1 Analyze survey results</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>3.4 Clinic preparation</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>3.4.1 Ensure supplies are purchased and available for clinic opening</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>3.4.2 Rearrange the space to create inviting patient exam rooms</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3.4.2.1 Purchase necessary exam equipment as required</td>
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</table>

**Phase IV: Evaluation and Wrap-Up**

<table>
<thead>
<tr>
<th>Tier</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>5.1 Analyze data</td>
</tr>
<tr>
<td>1</td>
<td>5.2 Determine which outcomes were fulfilled</td>
</tr>
<tr>
<td>1</td>
<td>5.3 Write final report</td>
</tr>
<tr>
<td>2</td>
<td>5.3.1 Present findings to project team at CoRR</td>
</tr>
<tr>
<td>1</td>
<td>5.4 Transition responsibilities to CoRR staff member</td>
</tr>
</tbody>
</table>
### Appendix H

#### Communication and Responsibility Matrix

<table>
<thead>
<tr>
<th>Tasks</th>
<th>DNP Student</th>
<th>CoRR NP</th>
<th>CoRR Management Team</th>
</tr>
</thead>
<tbody>
<tr>
<td>Write key stakeholder questionnaire</td>
<td>R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Make introductions and schedule interviews with key stakeholders</td>
<td>R</td>
<td>S</td>
<td></td>
</tr>
<tr>
<td>Conduct interviews with key stakeholders</td>
<td>R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Facilitate adolescent focus group</td>
<td>R</td>
<td></td>
<td>S</td>
</tr>
<tr>
<td>Review current literature on models of care delivery</td>
<td>R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Create evidence evaluation tables</td>
<td>R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analyze findings</td>
<td>R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Make introductions and schedule interviews with staff from existing youth health centers</td>
<td>R</td>
<td>S</td>
<td></td>
</tr>
<tr>
<td>Write an interview question guide for staff from existing youth health centers</td>
<td>R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conduct interviews with staff from existing youth health centers</td>
<td>R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Write staff in-service and staff readiness survey</td>
<td>R</td>
<td>S</td>
<td>S</td>
</tr>
<tr>
<td>Present staff in-service and distribute surveys</td>
<td>R</td>
<td></td>
<td>S</td>
</tr>
<tr>
<td>Analyze survey findings</td>
<td>R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Summarize findings and write recommendations</td>
<td>R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provide write-up to project team</td>
<td>R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finalize plan for clinic trial</td>
<td>R</td>
<td>R</td>
<td>S</td>
</tr>
<tr>
<td>Create marketing materials</td>
<td>R</td>
<td></td>
<td>S</td>
</tr>
<tr>
<td>Advertise clinic opening</td>
<td>S</td>
<td></td>
<td>R</td>
</tr>
<tr>
<td>Create staff training sessions</td>
<td>R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Train staff on new workflow, adolescent confidentiality, and adolescent healthcare guidelines/recommendations</td>
<td>R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tasks</td>
<td>DNP Student</td>
<td>CoRR NP</td>
<td>CoRR Management Team</td>
</tr>
<tr>
<td>--------------------------------------------------------</td>
<td>-------------</td>
<td>---------</td>
<td>----------------------</td>
</tr>
<tr>
<td>Ensure medical assistants are up-to-date with POCT</td>
<td></td>
<td></td>
<td>R</td>
</tr>
<tr>
<td>competency check-offs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prepare clinic space and ready exam rooms</td>
<td></td>
<td></td>
<td>R</td>
</tr>
<tr>
<td>Purchase necessary equipment and supplies</td>
<td></td>
<td></td>
<td>R</td>
</tr>
<tr>
<td>Write final report</td>
<td>R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Present findings to CoRR’s BOD</td>
<td></td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>Transition responsibilities to internal staff member</td>
<td>R</td>
<td></td>
<td>S</td>
</tr>
</tbody>
</table>

**Legend**

<table>
<thead>
<tr>
<th>R</th>
<th>= Responsible party</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>= Support party</td>
</tr>
</tbody>
</table>
Appendix I

Needs Assessment Survey for Key Community Stakeholders

1. What are some of the most concerning risk factors for adolescents and young adults in Grass Valley?

2. Are there any additional and/or specific barriers for at-risk adolescents and young adults?

3. What are some of the most concerning health issues for adolescents and young adults in Grass Valley?

4. What resources are currently available to address these issues?

5. Are there barriers to accessing the currently available resources?

6. What are the strengths of adolescents and young adults living in this community?

7. What prevention efforts do you feel work best to reduce the risk factors that adolescents and young adults experience in Grass Valley?

8. What additional resources do you feel would be most beneficial for adolescents and young adults?

9. What advice would you give to someone who is providing health services for adolescents and young adults in this community?

10. Do you think adolescents and young adults will be open to receiving healthcare (for primary care and sensitive services) at CoRR in Grass Valley? Why or why not?
    
    a. For what issues will they most likely be seen?
    b. What would make it more likely for them to utilize these new services at CoRR?
Appendix J

Best Practice Interview Question Guide

1. What services do you offer youth patients?

2. How does the clinic bill for patient visits?

3. What electronic medical record does the clinic use? Is there a function to write confidential notes for minors?

4. Do you have standardized procedures for the APPs who work at the clinic? If so, what resources did you use to create these?

5. How does the clinic manage the issue of parental consent when providing routine or primary care for youth less than 18 years of age?

6. What strategies do you use to engage youth, so they utilize services offered at the clinic?

7. What quality metrics are you tracking?

8. Which community partners do you feel help to make the clinic more successful?

9. What lessons have you learned about operating a clinic for youth services?

10. What advice would you pass along to someone who is working to open a youth clinic?
Appendix K

Adolescent and Young Adult Health: CoRR In-service Presentation

1. **ADOLESCENT & YOUNG ADULT HEALTH**

2. **OBJECTIVES**
   - At the end of this session, attendees will be able to:
     - List three causes of morbidity and mortality among adolescents and young adults
     - Explain the concept of confidentiality
     - Describe minor consent laws in California
     - Recall four ways to improve communication with adolescents and young adults
     - Provide CoRR staff members the opportunity to offer input on the development of adolescent and young adult health services
     - Improve the healthcare experience of adolescents and young adults living in Nevada County

3. **DEFINITIONS**
   - Anticipatory guidance information given by a healthcare provider to parents and patients regarding topics such as growth and development, health safety, and risks associated with certain age groups
   - Services related to sexual and reproductive health issues, mental health issues (depression, anxiety, and self-harm), and substance misuse (alcohol, drugs, and tobacco)
   - Minor adolescents can receive these services confidentially without parental consent
   - Youth refers to adolescents and young adults aged 13 to 24 years

4. **The majority of adolescents living in rural communities can identify where to go to receive sensitive services.**

5. **STATUS OF HEALTH SERVICES FOR ADOLESCENTS**
   - Physicians offer anticipatory guidance counseling to adolescents less than any other age group—lack of confidence and perceived lack of meaning
   - Nationally, only 1% of adolescents with a preventive visit resulted in counseling or all recommended anticipatory guidance topics
   - In California, 11% of adolescents reported that they received their counseling from a healthcare provider
   - In the United States, 50% of adolescents smoke cigarettes
   - Social circumstances can affect health as more than 10% of adolescents have an experience with addiction
   - Sexual activities among adolescents and under the influence of alcohol were 2% in 9% of the time
   - Adolescents report sexual intercourse and drug use at a 15% of the time
   - Teenage pregnancy is a significant issue among adolescents
   - 40% of surveyed adolescents living in rural communities could identify where to receive confidential care for sensitive services

6. **STATUS OF HEALTH SERVICES FOR YOUNG ADULTS**
   - Young adults have the highest rate of unintended births compared to all other age groups
   - Young adults living in rural areas have higher rates of disordered eating compared to urban counterparts
   - 45% of young adults reported that they did not seek necessary healthcare services due to fear of associated costs
   - Young adults were more likely to have received the recommended physical screenings and immunizations compared to young adults without a primary care clinic
   - Study did not investigate whether or not young adults received any counseling related to sexual health and mental health services, yet
YOUTH-FRIENDLY HEALTH SERVICES

COMMUNITY NEEDS ASSESSMENT

Interviewed the following people:
- One school nurse from NJU
- One health technician from Sierra College
- One local probation
- Group of five paid members from the Nevada County Public Health Department
- Group of five NJU high school students

COMMUNITY NEEDS ASSESSMENT FINDINGS

- Limited access to confidential and confidential services
- Barriers to accessing currently available resources (metaphorical services, transportation, long wait times, difficulty making appointments, financial concerns)
- Poor follow up for at-risk adolescents and young adults
- Lack of education about what resources are available and how to navigate the healthcare system
- Concerns identified widespread exposure to high rates of substance use, depression, and isolation (back in 2019, we talk about being in the "storming of 2019")
- Concerns identified access to services, low- or no-cost, strong sense of community supportive role models

PROBLEM SOLVING

- Recommendations from stakeholders:
  - Separate space to maintain confidentiality
  - Ad hoc clinic hours during school and after school: students can do confidential sign-ups for appointments
  - Group services
  - One-stop for multiple resources
  - Acceptance and non-judgmental care
  - More collaboration between medical, behavioral health, and social services
  - Provide outreach
  - Integrate into high school and youth health workshops/sensitization
  - Have peer ambassadors

SOLUTIONS

NU

Community Recovery Resources

SIERRA COLLEGE

YOUTH IN GRASS VALLEY

ADOLESCENT AND YOUNG ADULT HEALTH

CAUSES OF MORTALITY AND MORBIDITY AMONG YOUTH
YOUTH-FRIENDLY HEALTH SERVICES

What is the leading cause of death among adolescents and young adults?

- Drug and alcohol-related
- Violent attacks
- Suicide
- Car accidents
- None of the above

Injuries

- Both intentional and unintentional injuries are the leading cause of death for this population.
- Motor vehicle crashes (MVC) are the leading mechanism of injury that results in death.
- 57% of all MVCs occur in rural areas.
- Persons aged 15 to 24 years living in rural areas were nearly 5 times more likely than their urban counterparts to get in a fatal crash.
- Risk factors include impaired driving behavior, distracted driving, driving with passengers, fatigue, and impaired driving while under the influence of substances and non-use of seatbelts.

Substance Use

- 33% of male and 17% of female aged 18 to 24 years were diagnosed with substance use disorder in 2012.
- National Survey on Drug Use (2011) those aged 12 to 19 years living in non-metropolitan areas had higher rate of opioid misuse when compared to all others in this age group.
- 10% of rural adolescents self-reported some form of substance use.
- 10% were found to have moderate to high rates of substance use.
- Risk factors include gender, ethnicity, family history of substance misuse, etc. other mental health disorders, lack of engagement in school.

Mental Health

- 30% of youth aged 12 diagnosed mental health disorder 9 only 15% received treatment.
- In rural California communities.
- 36.5% of adolescents reported experiencing depressive symptoms last year.
- 17.5% of adolescents reported needing mental health services.
- Living Disorders
- About 20 million Americans (adolescents and adults) suffer from an eating disorder.
- Highest rate between age: 15 to 19 years.
- 3% more common than among adolescents.
- No differences in diagnostic rates between adolescents living in rural and urban areas.

Sexual & Reproductive Health

- 15 million new cases of 15% every year among those aged 15 to 19 years.
- Condom use among young adults.
- 12.4% use condoms only.
- 12.3% use non-condom + hormonal birth control.
- Risk behaviors were more likely among adolescents to report unintended pregnancies without a condom.
- In rural California communities.
- 12% of older adolescents report sexual activity = 21% had sexual activity with more than one partner.
- Only 13.5% of female adolescents used oral contraceptives as a form of birth control.
- Only 15.1% of sexually active adolescents were ever tested for HIV.

Resources to Address Health Issues

- General
- Substance Use
- Mental Health
- Sexual Health
- Reproductive Health
- Violence Prevention
- Suicide Prevention
- Substance Use Prevention
- Centers for Disease Control and Prevention
- National Institutes of Health
- American Academy of Pediatrics
- American Medical Association
- American Public Health Association
What resources or techniques have you used that proved helpful when working with adolescents or young adults?

CONFIDENTIALITY

Limits to Confidentiality
- Mentors, expert witnesses, providers, nurse practitioners, nurses, social workers, etc.
- Inform patient at the beginning of the conversation that there are limits to confidentiality: that limits are in the context of today.
- Assess patient’s understanding of limitations.
- Conditions include:
  - Risk to self or others
  - Consent or informed decision
  - Child or minor sexual abuse
  - Certain age differences between minor patient and sexual partner
  - Reproducible infectious diseases

Can a 15-year-old sexually active female get HIV testing without parental consent?

Yes
No
I am not sure

Can the same 15-year-old sexually active female get an IUD placed without parental consent?

Yes
No
I am not sure

Minor Consent Laws in California
CONFIDENTIAL BILLING PRACTICES
- Make it clear to patients
  - Patients must understand the importance of confidentiality
  - Do not disclose information to anyone without the patient's consent
  - Respect patients' confidentiality

WAYS TO IMPROVE THE HEALTHCARE EXPERIENCE

How do you create a welcoming and respectful environment for youth?

RECOMMENDATIONS FROM THE LITERATURE
- Have regular and detailed discussions about confidentiality with patients
- Create a youth-friendly environment
- Offer same-day appointments or drop-in visits
- Use technology to provide health education and to communicate with patients
- Ensure outcomes of care to build trust
- Uphold confidential documentation and billing practices
- Activity follow-ups with adolescents and young adults

COMMUNICATION TIPS
- Be direct and respectful
- Begin difficult conversations using open-ended questions
- Explain concepts in simple language that is easy to understand
- Convey concern and empathy
- Remain non-judgmental
- Empower adolescents and young adults to take ownership of their health
Appendix L

Sample Staff Readiness Survey

Name (optional): _____________________________________

Position & Department: ________________________________

Date: March 15, 2019

Adolescent and Young Adult Health Presentation: Staff Survey

This survey is intended to gauge your interest and readiness for expanding the care offered at CoRR to include confidential services for adolescents and young adults. As explained in the presentation, these confidential services will include care related to sexual and reproductive health issues, mental health issues (especially depression, anxiety, and self-esteem), and substance misuse (alcohol, tobacco, and drugs) for youth aged 14 to 24 years.

Please select a number from 1 to 5, if 1 means strongly disagree, 2 means disagree, 3 means unsure, 4 means agree, and 5 means strongly agree.

1. I am aware that the organization is considering expanding the care offered to adolescents and young adults to include confidential services.

   1  2  3  4  5

2. I understand the need for the development of an adolescent and young adult program.

   1  2  3  4  5

3. Expanding the services provided to adolescents and young adults is appropriate and achievable.

   1  2  3  4  5

4. I am supportive of expanding the adolescent and young adult program to include confidential services.

   1  2  3  4  5

5. I believe that this expanded program will benefit the organization.

   1  2  3  4  5

6. I think the organization is taking on too many changes at one time.
7. I feel adolescents and young adults are welcomed and respected within the organization.

8. I am adequately trained to work with adolescents and young adults.

9. I am confident in my ability to work with adolescents and young adults.

10. I know what I can do in my role to help make the expanded adolescent and young adult program successful.

11. I have the resources I need to work with adolescents and young adults.

12. Overall, I believe the expanded program for adolescents and young adults will be advantageous for the youth within our community.

13. What additional services, if any, would you like to offer for adolescent and young adult patients?

14. Please provide any additional comments or feedback here.

Thank you for taking the time to support this project by filling out the survey! If you would like to participate in the planning of these services, please email Alexa Curtis.
Appendix M

Gantt Chart

Adolescent and Young Adult Health Services at CoRR

<table>
<thead>
<tr>
<th>Activity</th>
<th>Start Date</th>
<th>Days to Complete</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interview Stakeholders</td>
<td>9/4/18</td>
<td>101</td>
</tr>
<tr>
<td>Research Models of Care</td>
<td>10/24/18</td>
<td>58</td>
</tr>
<tr>
<td>Adolescent Focus Group</td>
<td>12/13/18</td>
<td>5</td>
</tr>
<tr>
<td>Project Planning Meeting</td>
<td>2/1/19</td>
<td>5</td>
</tr>
<tr>
<td>Interview Staff at Existing Youth Health Centers</td>
<td>3/23/19</td>
<td>39</td>
</tr>
<tr>
<td>Develop Staff In-Service</td>
<td>5/12/19</td>
<td></td>
</tr>
<tr>
<td>Present Staff In-service</td>
<td>3/15/19</td>
<td>17</td>
</tr>
<tr>
<td>Synthesize Data</td>
<td>2/25/19</td>
<td></td>
</tr>
<tr>
<td>Summarize Recommendations</td>
<td>2/4/19</td>
<td></td>
</tr>
<tr>
<td>Provide Outcome Findings</td>
<td>12/10/18</td>
<td></td>
</tr>
<tr>
<td>Interview Stakeholders</td>
<td>12/10/18</td>
<td></td>
</tr>
<tr>
<td>Research Models of Care</td>
<td>12/4/18</td>
<td></td>
</tr>
<tr>
<td>Adolescent Focus Group</td>
<td>9/4/18</td>
<td></td>
</tr>
</tbody>
</table>
## Appendix N

### Budget Proposal

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Estimated Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fixed Asset Start-Up Expenses</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical Equipment</td>
<td>Scale, height measurer, wall-mounted vital sign machine with otoscope and ophthalmoscope, exam table with light, and vaccine storage unit</td>
<td>$11,579.37</td>
</tr>
<tr>
<td>Furniture</td>
<td>Chair, desk, and stool</td>
<td>$3,734.68</td>
</tr>
<tr>
<td>Technology</td>
<td>Computer, Square card reader and dock with iPad</td>
<td>$4397.97</td>
</tr>
<tr>
<td>Building</td>
<td></td>
<td>$0</td>
</tr>
<tr>
<td><strong>Operating Expenses</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salaries and Wages</td>
<td>NP salary (0.4 FTE), MA salary (0.4 FTE), and Receptionist/Biller salary (0.4 FTE)</td>
<td>$72,916.80</td>
</tr>
<tr>
<td>Benefits at 30% of employee’s salary</td>
<td>Medical, dental, and vision insurance; PTO, sick time, and 401K contributions</td>
<td>$21,875.04</td>
</tr>
<tr>
<td>Supplies</td>
<td>Gauze, cotton balls, alcohol prep pads, Band-Aids, syringes (3 sizes), needles (3 sizes), butterfly needles, biohazard bags, tourniquets, speculums (2 sizes), lubricating jelly, pap smear specimen containers, cotton-tipped specimen swabs, rapid pregnancy tests, rapid HIV tests, condoms, brown bags, rapid strep tests, otoscope speculums, gloves (3 sizes), thermometer covers, Sani-wipes, table paper, paper gowns, paper drapes, and label sticker rolls</td>
<td>$3,380.54</td>
</tr>
<tr>
<td>EMR (Practice Fusion)</td>
<td></td>
<td>$0</td>
</tr>
<tr>
<td>Provider Credentialing (Health Business Navigators, 2011)</td>
<td>Initial set up of group credentialing, initial NP credentialing, and mapping to NP state application</td>
<td>$495</td>
</tr>
<tr>
<td>FNP Malpractice Insurance (Nursing Service Organization, 2018)</td>
<td>Annual rate for one full-time FNP</td>
<td>$1242</td>
</tr>
<tr>
<td>Contracted Services</td>
<td>Quest Diagnostics and janitorial services (weekly cleaning)</td>
<td>$14,256</td>
</tr>
<tr>
<td>Maintenance Fees (Sferrella, 2012)</td>
<td>Cost of service for maintenance provided by either an insurance company or third-party vendor is between 7.4% to 8.3% of the equipment’s cost</td>
<td>$1,278.19</td>
</tr>
<tr>
<td><strong>Total Budget</strong></td>
<td></td>
<td>$135,152.59</td>
</tr>
</tbody>
</table>
## Cost-Benefit Analysis

<table>
<thead>
<tr>
<th>Costs</th>
<th>FY1</th>
<th>FY2</th>
<th>FY3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fixed Asset Start-Up Expenses</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical Equipment</td>
<td>$11,579.37</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Furniture</td>
<td>$3,734.68</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Technology</td>
<td>$4,397.97</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Building</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Total Fixed Asset Start-Up Expenses</strong></td>
<td>$19,709.02</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Operating Expenses</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salaries and Wages</td>
<td>$72,916.80</td>
<td>$74,375.13</td>
<td>$75,862.63</td>
</tr>
<tr>
<td>Benefits at 30% of employee’s salary</td>
<td>$21,875.04</td>
<td>$22,312.54</td>
<td>$22,758.79</td>
</tr>
<tr>
<td>Supplies</td>
<td>$3,380.54</td>
<td>$3,380.54</td>
<td>$3,380.54</td>
</tr>
<tr>
<td>EMR (Practice Fusion)</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Provider Credentialing (Health Business Navigators, 2011)</td>
<td>$495</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>FNP Malpractice Insurance (Nursing Service Organization, 2018)</td>
<td>$1,242</td>
<td>$1,242</td>
<td>$1,242</td>
</tr>
<tr>
<td>Contracted Services</td>
<td>$14,256</td>
<td>$14,256</td>
<td>$14,256</td>
</tr>
<tr>
<td>Maintenance Fees</td>
<td>$1,278.19</td>
<td>$1,278.19</td>
<td>$1,278.19</td>
</tr>
<tr>
<td><strong>Total Operating Expenses</strong></td>
<td>$115,443.57</td>
<td>$116,844.40</td>
<td>$118,778.15</td>
</tr>
<tr>
<td><strong>Total Costs</strong></td>
<td>$135,152.59</td>
<td>$116,844.40</td>
<td>$118,778.15</td>
</tr>
<tr>
<td><strong>Revenue</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Projected Revenue from billable visits (Buppert, 2010; DeCapua, 2016)</td>
<td>$134,400</td>
<td>$134,400</td>
<td>$134,400</td>
</tr>
<tr>
<td><strong>Total Gross Revenue</strong></td>
<td>$134,400</td>
<td>$134,400</td>
<td>$134,400</td>
</tr>
<tr>
<td><strong>Net Revenue</strong></td>
<td>($752.59)</td>
<td>$17,555.60</td>
<td>$15,621.85</td>
</tr>
</tbody>
</table>
Appendix P

Table 1

Mean Response for Survey Questions
Appendix Q

Sample Youth Patient Satisfaction Survey

Thank you for taking the time to complete this survey. Your feedback will be used to improve our services.

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
<th>Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>It was easy to schedule an appointment that was convenient for my schedule.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The staff were respectful and helpful.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The time spent in the waiting room was a reasonable length.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The forms were easy to understand and complete.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The provider gave me his or her attention.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The provider explained the limits of confidentiality and I am aware of my rights to obtain confidential services.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The provider upheld my confidentiality.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The provider started conversations about sensitive topics.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The provider understood my concerns.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The provider answered my questions clearly.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am satisfied with my visit.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am satisfied with the quality of care I received.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It was easy to schedule a follow-up appointment.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It was easy to reach a staff member on the telephone and my issues were resolved to my satisfaction.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I received the results of lab tests in a timely manner.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I would recommend this clinic to others.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

How did you hear about adolescent health services at CoRR?

What can we do differently in the future to make your experience more positive?
Appendix R

Standardized Procedures and Protocols: Adolescent and Young Adult Healthcare

POLICY

The purpose of this policy is to establish guidelines for the management of health maintenance and disease prevention of the adolescent and young adult patient, aged 14 to 25 years. This policy covers activities that promote the physical, psychosocial, and developmental well-being of adolescents and young adults. This includes health assessment, health promotion, and disease prevention through risk assessment, physical exam, diagnostic testing, health screenings, immunizations, and health education. This model is integrated into healthcare visits for sensitive services and minor consent services, including but not limited to, sexual and reproductive healthcare, substance use (alcohol, tobacco, and drugs) treatment, and mental health treatment. The nurse practitioner and physician assistant, also known as advanced practice providers (APP), are authorized to diagnose and manage conditions outlined above under the following protocols:

PROTOCOLS

I. Data Collection
   a. Subjective data: information relative to current chief complaint, previous medical history, family history, social history, developmental history, health habits, and risk assessment will be collected as appropriate, or at least annually.
   b. Objective data: height, weight, and vital signs will be taken at every visit. Screenings should be completed based on USPSTF and AAP guidelines, as well as appropriate to the patients’ risks. Complete head-to-toe or focused physical examination will be completed as appropriate for the patient’s condition.
   c. Lab work and diagnostic studies ordered are appropriate to the condition being evaluated.

II. Assessment
   a. Subjective and objective data will be assessed to make a diagnosis most consistent with any findings.

III. Plan
   a. Patient education and follow up is given as appropriate
   b. Appropriate therapeutic interventions will be offered based on the condition being treated
   c. Referral to community resources, consultants, specialty services, and medical specialists as indicated

IV. Consultation with Physician
   a. Presence of unexpected or ambiguous historical, physical, or laboratory findings.
   b. Advice or confirmation of plan based on the APP’s clinical judgement.
Minor Procedures for Adolescent and Young Adult Patients

POLICY

The APP may perform the listed procedures under the following protocols:

- Incision and drainage of non-facial abscess less than 5 cm in size.
- Suture of non-facial laceration less than 5 cm in size.
- Toenail removal.
- IUD insertion.
- Nexplanon insertion.

PROTOCOLS

1) The APP has been trained to perform the procedure(s), has been observed satisfactorily performing the procedure(s) by another provider competent in that skill, and continued competency is assessed per written criteria.

2) The APP is following standard medical technique for the procedures as described in the Resources section of this document.

3) Appropriate patient consent is obtained before the procedure.

4) Physician consultation/or presence on site is required for the procedure.

5) All other applicable Standardized Procedures in this document are followed during health care management.
Nurse Practitioner Furnishing of Drugs and Devices

POLICY

The nurse practitioner is authorized to furnish drugs and devices under the following protocols:

PROTOCOLS

1) The nurse practitioner has a current furnishing number.

2) All drugs and devices ordered are limited to the formulary.

3) The drugs and devices ordered are consistent with the nurse practitioner’s educational preparation or for which clinical competency has been established and maintained.

4) The drug or device ordered is appropriate to the condition being treated.

5) Patient education is given regarding the drug or device.

6) The name, title, and furnishing number of the nurse practitioner is written on the transmittal order.

7) The Statement of Approval and Agreement signed by the nurse practitioners will act as the record of nurse practitioners authorized to furnish.

8) No single physician will supervise more than four nurse practitioners at any one time.

9) A physician must be available in person or by telephonic contact.

10) All other applicable Standardized Procedures in this document are followed during health care management.
Resources

A. Formulary for Adolescent and Young Adult Healthcare

*Contraceptives*

1. Oral combined estrogen (usually ethinylestradiol) and progestin hormonal contraceptive pills
2. Progestin only contraceptive pills
3. Vaginal ring (etonogestrel/ethinyl estradiol)
4. Transdermal patch (norelgestromin and ethinyl estradiol)
5. Injectable medroxyprogesterone acetate (Depo-Provera)
6. Implanted etonogestrel (Nexplanon)
7. Hormonal (levonorgestrel) intrauterine devices
   a. Mirena
   b. Liletta
   c. Skyla
   d. Kyleena
8. Non-hormonal intrauterine devices
   a. ParaGard
9. Emergency contraception
   a. Ella (ulipristal acetate)
   b. Plan B One-Step (levonorgestrel 1.5mg)
10. Male condoms

B. Approved references

*Procedures*


- Incision and drainage of abscess: page 92
- Suture of non-facial laceration: page 351 (simple interrupted suture)
- Toenail removal: page 534
- IUD insertion: page 631
- Nexplanon insertion: page 667

*Pharmacology*

Epocrates, epocrates.com

*Medical Diagnosis and Treatment*

UpToDate, uptodate.com
Current Medical Diagnosis and Treatment, Lange Series
Statement of Approval and Agreement

This document was jointly developed and approved by the Executive Director, Medical Director and staff nurse practitioners for Community Recovery Resources in accordance with the codes regulating nursing practice, on (date) ________________.

Signature on this statement implies:
Approval of the Standardized Procedures and all the policies and protocols contained in this document.
Agreement to maintain a collaborative and collegial relationship.
Agreement to abide by the Standardized Procedures in theory and practice.

Name/Title ________________________________ Date

Name/Title ________________________________ Date

Name/Title ________________________________ Date

Name/Title ________________________________ Date

Name/Title ________________________________ Date

Name/Title ________________________________ Date
Appendix S

Marketing Materials

Community Recovery Resources

NOW OFFERING

ADOLESCENT & YOUNG ADULT HEALTH SERVICES

Confidential healthcare to support & empower youth

TUESDAYS
11:00 AM TO 5:00 PM
BY APPOINTMENT OR WALK-IN

Consult with experts in adolescent and young adult health about questions concerning your sexual health, personal feelings, or drugs and alcohol use. Relax and grab a snack while you wait!
CONFIDENTIAL ADOLESCENT AND YOUNG ADULT HEALTH SERVICES

1. PREGNANCY TESTING
2. TESTING FOR SEXUALLY TRANSMITTED INFECTIONS
3. DIFFERENT BIRTH CONTROL METHODS
4. QUESTIONS ABOUT WAYS TO STOP ALCOHOL OR DRUG USE
5. HELP TO STOP VAPING OR SMOKING

Confidential health services means that anyone who is older than 12 years of age has the right to see a healthcare provider about these issues without parental permission or notification. If you have questions, ask a staff member!

6. CONCERNS ABOUT BODY IMAGE
7. COUNSELING FOR FEELINGS OF ANXIETY OR DEPRESSION
8. QUESTIONS ABOUT STRESS MANAGEMENT
Community Recovery Resources is now offering

**ADOLESCENT & YOUNG ADULT HEALTH SERVICES**

In a confidential environment, learn ways to care for your physical and mental health!

**TUESDAYS**
11:00 AM TO 5:00 PM
BY APPOINTMENT OR WALK-IN
Current Status of Healthcare in Grass Valley
The community needs assessment revealed there are limited confidential and youth-friendly healthcare providers in Grass Valley. Of the organizations that do exist, there are several barriers to accessing their services: limited operations (days, hours, and number of providers), long wait times to make appointments, inadequate transportation, confidentiality concerns, and lack of awareness among adolescents and young adults. Additionally, many of the organizations only offer fragmented services, and do not provide assistance aside from one focus area. This makes it so youth must visit multiple organizations to meet their needs. Furthermore, the adolescent focus group highlighted there is “no safe place to go” for help, especially regarding sexual and reproductive health. They also noted it is difficult to make appointments, the organizations are inconveniently located, and there is a lack of transportation.

Expanding Healthcare Services at CoRR to Meet the Needs of Adolescents and Young Adults
Both the community stakeholders and adolescents agreed there is a need for increased youth-friendly healthcare services and are supportive of opening these services at CoRR. The convenient location of CoRR was specifically mentioned as a positive. However, both groups suggested making a clear distinction between substance use disorder (SUD) treatment and youth wellness healthcare services. Several of the adolescents described CoRR as being the “place you [youth] go to when you get in trouble for doing drugs.” Due to this, the adolescents acknowledged there will be stigma to overcome, but do not feel it will be impossible to do so. Their recommendations to help overcome this obstacle included heavily advertising the new youth services, providing snacks in the waiting room, integrating into schools by teaching health classes, and partnering with teen ambassadors who can serve as health mentors to their peers.

Youth-Friendly Healthcare Services at CoRR
Adolescents and young adults have high rates of preventable morbidity and mortality due to injuries, mental health issues, suicide, reproductive health issues, and substance use. Given the minor consent laws in California, CoRR should offer confidential healthcare services related to sexual and reproductive health (birth control, pregnancy testing, and STI testing), counseling related to mental health issues, and treatment for SUDs. Based on literature findings, youth have better outcomes with integrated medical-behavioral healthcare when receiving treatment for mental health issues and the same, if not better results, when receiving treatment for SUDs. The target population for the expanded youth-friendly program is 14 to 25 years. The age minimum was selected based on the average age of students beginning high school. The age maximum was selected based on health insurance eligibility for dependents. Additionally, this is the most widely accepted terminating age of young adulthood.

Funding the Program
CoRR can sustainably and confidentially bill for the healthcare services provided to adolescents and young adults. CoRR can receive reimbursement through Medi-Cal Minor Consent, Family PACT (Title X), or the patient’s insurance directly in accordance with The Confidential Health
Information Act (SB 138). Additionally, CoRR might consider implementing a minimal sliding copay scale to offset costs. Based on estimated financials, the program will be self-sufficient and generate revenue by the second fiscal year. For further information, see provided supplementals.

CoRR Staff Readiness Survey
Results from the staff readiness survey indicate that most staff members understand the need for expanding adolescent and young adult health services, are supportive of the program, and feel it will be beneficial to organization and the community. However, many staff identified they needed additional training and resources prior to implementing the expanded youth-friendly healthcare program. Of note, many staff were either unsure or agreed that CoRR was taking on too many changes at one time. This will be important to consider moving forward. See page 112 for the survey questions and the mean response for each question.

Staff also had the opportunity to provide feedback and make recommendations about which services to include in the expanded program. The most overwhelmingly prevalent suggestion was to open a residential program for youth or provide transitional housing. Other ideas included holding weekly group meetings for youth, opening a teen center, increasing access to mental health and reproductive health services, and hosting teen/peer trainings.

Recommendations
Based on findings from the community needs assessment, adolescent focus group, best practice interviews, and literature findings, the following are recommendations for the program design.

- Hold office hours on Tuesdays and/or Fridays during and after school hours → allows for confidential sign-out for high school students
- Offer same-day appointments or drop-in visits
- Provide integrated medical-behavioral healthcare through wrap-around services and warm-handoffs between interdisciplinary team members
- Uphold confidentiality through separate waiting areas, confidential billing practices, and confidential documentation
- Create a welcoming, respectful, and non-judgmental environment (provide snacks!)
- Initiate difficult conversations using prompting questions
- Empower youth to take ownership of their health by giving them the space to make their own decisions
- Actively follow-up with adolescents and young adults

Next Steps
Drawing from the adolescent focus group, best practice interviews, and conversations with the project management team, the following actions should be considered for future next steps.

- Conduct a second focus group comprising of adolescent and young adult participants to determine which of the healthcare delivery models described in the literature review are most favorable to youth. Use these findings to inform the youth-friendly healthcare program at CoRR.
- Investigate what additional training and resources CoRR staff members need to move towards readiness → two staff members suggested hiring additional personnel
- Distribute the Staff Readiness Survey after each additional intervention to track progress towards readiness
- Until licensing issues are resolved, trial the provision of adolescent and young adult healthcare services among youth who are already engaged for SUD treatment → allows
for PDSA cycles prior to community-wide implementation. Collect patient demographics, appointment metrics, and patient satisfaction scores during the pilot

- Enroll as a Family PACT provider and offer contraception to adult SUD patients
- Partner with Nevada Union High School to develop curriculum for the newly mandated freshman health class starting in the 2019-2020 school year
- Consider adapting Project PLAY from Daly City Youth Health Center as a peer health mentoring program based on a suggestion made during the adolescent focus group

**Supplemental Financial Information**

**Medi-Cal Minor Consent**
- Covered services: pregnancy related services, birth control, emergency contraception, STI testing and treatment, and drug and alcohol treatment/counseling
- Eligibility: 12 to 21 years with any income level
- Patient must enroll in this program individually

**Family PACT (Title X)**
- Covered services: Pregnancy testing, birth control, emergency contraception, STI testing and treatment, and referrals for other services
- Eligibility: females < 55 years and males < 60 years; must be 200% of federal poverty level
- The provider can enroll the patient in this program

**Bill the patient’s insurance directly in accordance with The California Confidential Health Information Act (SB 138)**
- Covered services: any confidential service
- Eligibility: patients (<25 years) who are listed as a dependent on a parent’s health insurance policy
- Patient must request for EOB and all other communications regarding sensitive services be sent to individual rather than policy holder

**Patient Pay**
- Most youth health centers provide sensitive services at free of charge to the patient. However, there are two options presented here as a means to collect additional revenue.
- A sliding fee scale based on the patient’s ability to pay. This is a flat fee that covers all services provided at the time of the visit:
  - $10-$20 = no source of income and/or family income <200% FPL
  - $20-$40 = currently employed and/or family income >200% FPL
- A cash fee-for-service list
Staff Readiness Survey: 5-Point Likert Scale Response Questions

1. I am aware that the organization is considering expanding the care offered to adolescents and young adults to include confidential services.
2. I understand the need for the development of an adolescent and young adult program.
3. Expanding the services provided to adolescents and young adults is appropriate and achievable.
4. I am supportive of expanding the adolescent and young adult program to include confidential services.
5. I believe that this expanded program will benefit the organization.
6. I think the organization is taking on too many changes at one time.
7. I feel adolescents and young adults are welcomed and respected within the organization.
8. I am adequately trained to work with adolescents and young adults.
9. I am confident in my ability to work with adolescents and young adults.
10. I know what I can do in my role to help make the expanded adolescent and young adult program successful.
11. I have the resources I need to work with adolescents and young adults.
12. Overall, I believe the expanded program for adolescents and young adults will be advantageous for the youth within our community.

Table 1

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