**Section E: Attach your structured thesis plan narrative (2-3 pages, single spaced, 11 or 12 point font):**

**Title:** The pattern of risk factors associated with STI testing in local school districts and selected states in the United States

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**Introduction:** Brief background/context for your study, gaps in relevant knowledge, the significance of the proposed research, the study question you hope to answer

Burden of disease

The health of the young American population aged 15 to 24 is facing significant challenges from sexually transmitted infections (STI), which include chlamydia, gonorrhea, genital herpes, human papillomavirus (HPV), syphilis, and HIV, defined by the Centers for Diseases Control and Prevention (CDC). Young people account for at least half of all new sexually transmitted infections (STIs) contracted yearly, and a quarter of sexually active adolescent females have STIs(Shannon & Klausner, 2018). In 2021 alone, there were at least 2.5 million reported cases of chlamydia, gonorrhea, syphilis, and congenital syphilis, according to the CDC. From 2020 to 2021, syphilis cases alone have risen by 26%, and the number of syphilis cases last year was the highest since 1948(Liddon et al., 2022). Some believe that the number of cases is underreported and there are untreated infections, so that these numbers may be higher.

The consequence or harm of STI among teenagers.

Most STDs cause much suffering in the acute phase and, in some cases, can produce long-term damage with severe consequences. STDs may cause various complications, such as miscarriage, infertility, heart and bone, and even brain damage, seriously affecting health(Nicoll & Hamers, 2002). The increase in the incidence of STDs may also bring many serious consequences, such as increased drug resistance to STDs, poor health quality of the next generation, increased social and medical costs, and increased social insecurity(WHO regional office for Europe, 2001).

Considering the severe consequences and disease burden on the population and individual level of adolescent health, multiple organizations and agencies recommend some STI screening for adolescents. In addition, STIs are characterized by un-symptomatic occurrences, which can infect others unknowingly(Samkange-Zeeb et al., 2011).

Different resources of STI testing in different states and local school districts.

According to the National Academies of Sciences, health inequities have become the major challenge for the nation, resulting in health disparities between states and school districts around the United States(Weinstein et al., 2017). In addition, the communities encountered threats from inequalities in health, sociality, ethnicity, economy, employment, and education that can impede the deployment of STI testing to adolescents.

STI testing is an effective way of reducing STIs.

The implementation of STI testing guided by the WHO **A**ffordable, **S**ensitive, **S**pecific, User-friendly, **R**apid and robust, **E**quipment-free, and **D**eliverable criteria become a benchmark for controlling the rapid spreading of STIs globally(Peeling, Holmes et al., 2006). The STI screening provided its value in controlling the spreading of STIs by interrupting the transmission chain between the patients and their sexually active partners(Dewart et al., 2018). Most STIs can be treated with a single dose of antibiotics. Therefore, the early and high prevalence of testing is crucial in controlling the rising STIs among adolescents in the United States(Peeling, Mabey, et al., 2006).

Research gap

Though, the low prevalence of STI testing is threatening the populational health of teenagers(St Lawrence et al., 2002).

Previous studies identified barriers, such as limited access to healthcare, parental pressure, social stigma, and limited knowledge of STIs and their consequences, that prevent adolescents from receiving STI testing(Copen et al., 2015-2016 CDC.)(Bronwen Lichtenstein, 2003).

However, limited studies research the pattern of risk factors associated with STI testing and compare the difference between the pattern of risk factors in different states and local school districts. The association between risk factors and STI testing in local school districts and states has yet to be fully understood.

Significance of study

In this study, we used the complex survey design to improve the precision of the sample estimate for the model. The understanding of risk factor patterns between different states and local school districts is essential in identifying and providing appropriate aid and support precisely for vulnerable populations among adolescents.

Research question

The purpose of this study is to examine the pattern of risk factors associated with STI testing and compare the difference between the pattern of risk factors in different states and local school districts using the data from the Youth Risk Behavior Surveillance System (YRBSS) 2019 database. We examine the association between age, gender, school grade, race, unintentional injuries and violence, tobacco use, alcohol and other drug use, risky sexual behavior, cognitive, and English speaking with STI testing other than HIV.

**Study Aims:** 1‐2 specific study aims/study questions

Investigate the

Aim 1: To identify the risk factors associated with STI testing other than HIV among middle and high school students.

Aim 2: To compare the patterns of risk factors associated with STI testing other than HIV among middle and high school students between selected states and local school districts.

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