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EVIDENCE-BASED STRATEGIES: HOW ARKANSAS CAN BETTER ADDRESS THE INTERCONNECTED ISSUES OF SYPHILIS, HCV, AND SUBSTANCE USE, IMPROVING HEALTH OUTCOMES FOR INDIVIDUALS AND COMMUNITIES

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ABSTRACT

Arkansas faces persistent public health challenges due to high rates of HIV, hepatitis C virus (HCV), and syphilis. While best practices from the Centers for Disease Control and Prevention (CDC) are widely recognized, their implementation remains inconsistent in the state due to systemic barriers, funding limitations, and healthcare infrastructure gaps. Efforts have been made to expand screening services, particularly in nontraditional settings such as jails and street-based outreach, yet rural areas continue to experience limited access to care. Programs such as pre-exposure prophylaxis (PrEP) and harm reduction strategies remain underutilized due to stigma, inadequate education, and funding constraints. Despite federal funding aimed at improving health outcomes, only 48% of individuals diagnosed with HIV in Arkansas achieve viral suppression, highlighting challenges in linking patients to sustained treatment. This paper explores strategies to enhance healthcare provider training, expand community awareness, and implement integrated care models that address co-occurring substance use and infectious diseases. A comprehensive response, including sustained investment, targeted education, and stigma reduction, is essential to improving public health outcomes in Arkansas.

Keywords: harm reduction, HIV, hepatitis C, syphilis, systemic barriers

INTRODUCTION

Arkansas faces significant challenges with high rates of HIV, hepatitis C virus (HCV), and Syphilis. While best practices from the Centers for Disease Control and Prevention (CDC) are known and promoted, their implementation in Arkansas has been inconsistent, primarily due to systemic barriers, funding limitations, and gaps in healthcare infrastructure. Arkansas has made strides in integrating STI, HCV, and HIV screenings, especially in nontraditional settings such as jails and street-based services. These strides align with the CDC's recommendations for comprehensive testing and diagnosis. However, gaps remain in scaling these efforts, particularly in rural areas, where access to healthcare and specialized services is limited. Arkansas has many rural areas, which further complicates one's ability to receive care (ATTC, 2024).

Programs like PrEP (pre-exposure prophylaxis for HIV) and harm reduction strategies, including syringe exchange programs, are underutilized. For instance, while over 5,000 Arkansans could benefit from PrEP, fewer than 15% are prescribed it. Limited education, stigma, and inadequate funding contribute to this underutilization. Stigma continues to be a barrier to seeking and obtaining treatment (CDC, n.d.). Arkansas has received federal funds to improve outcomes and support initiatives such as telemedicine and rapid response to outbreaks. However, only 48% of individuals diagnosed with HIV in the state achieve viral suppression, indicating challenges in linking patients to sustained care and treatment (CDC, n.d.).

The purpose of our research was to explore efforts made to assist with training healthcare providers and community health workers and increasing community awareness of evidence-based strategies. These included integrated care models that address co-occurring substance use and infections, which are critical given the systemic nature of these illnesses. Addressing these issues requires sustained investment in healthcare infrastructure, targeted education, and policies that reduce stigma and barriers to care. Strengthening partnerships between state health departments, community organizations, and federal agencies is also critical to improving outcomes.

Data from the Centers for Disease Control (CDC) demonstrate Arkansans are at risk for significant increases in viral hepatitis and HIV infections due to injection drug use. Reduction efforts are well documented within HIV prevention. Arkansas residents received services for syringe safety from one of only three poorly funded non-profits, each that experienced profound barriers in service outreach capacity (CDC, 2022). A primary goal of this study was to evaluate the need for adding syringe service programs to existing HIV and HCV virus prevention programs in the state. Existing community healthcare organizations who work in STI prevention are in a unique position to implement such programming. The efficacy of syringe access and other hard reduction treatment services and the best methods to offer them was explored.

HIV Challenges in Arkansas

As of 2021, 6,225 people in Arkansas are living with HIV, with a rate of 246 per 100,000 population (national rate is 384 per 100,000 population). Prevalence data additionally indicates that among those living with HIV in Arkansas, the majority are people aged 55 and older (CDC, 2022). The number of Arkansans diagnosed with HIV by way of transmission via injection drug use is 2.6% for males and 7.6% for females. Nationally, transmission of HIV via injection drug use (IDU) accounts for 19.4% of all females living with HIV and 8.1% of all males (AidsVu, 2024b).

Additionally, 3.7% of males diagnosed with HIV in 2021 in Arkansas contracted HIV via combined male-to-male sexual contact and injection drug use, compared to 7.0% of the national population (AidsVu, 2024a). Arkansas had an incidence rate of 15.5 per 100,000 population in 2022, with a total new number of diagnoses of 400. The total number of diagnoses for the nation during the same period was decreasing. Data shows Arkansas is experiencing an increase in HIV and syphilis cases, raising concerns among public health officials. Arkansas faces significant challenges in addressing the HIV epidemic, including a high increase in HIV cases, disparities in access to healthcare, and the impact of stigma and other social factors.

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HIV Testing and Diagnosis

The CDC has a set of guidelines and best practices for HIV prevention, testing, and treatment. These recommendations assist healthcare providers, program managers, and public health professionals in implementing effective strategies to combat HIV. Routine HIV testing is a cornerstone of HIV prevention and care. The CDC recommends that all individuals aged 15 to 65 undergo HIV screening at least once as part of routine healthcare. For those diagnosed with sexually transmitted infections (STIs), HIV testing should be performed at the time of STI diagnosis and treatment if not conducted during the initial evaluation. This approach ensures early detection and linkage to care, which is critical for improving health outcomes and reducing transmission (Centers for Disease Control and Prevention [CDC], 2021a).

Evidence-Based Interventions

The CDC's Compendium of Evidence-Based Interventions and Best Practices for HIV Prevention is a resource designed to help public health professionals, healthcare providers, and community organizations implement effective HIV prevention strategies. It includes interventions that have been rigorously evaluated and shown to reduce HIV transmission, promote health equity, and improve care for people living with or at risk of HIV. The compendium is divided into categories such as behavioral, biomedical, and structural interventions, ensuring a comprehensive approach to prevention (CDC, 2024).

One example of a behavioral intervention is Project RESPECT, which focuses on providing HIV risk-reduction counseling during HIV testing. Studies have shown that individuals who receive counseling through this program are more likely to adopt safer sexual behaviors, such as increased condom use (CDC, 2024). Structural interventions, such as housing assistance programs for people living with HIV, address social determinants of health by improving stability and access to medical care, which in turn enhances treatment adherence and reduces transmission rates (CDC, n.d.). Another example from the biomedical category is Pre-Exposure Prophylaxis (PrEP) programs, which provide at-risk individuals with medication that significantly reduces their chances of contracting HIV.

Pre-Exposure Prophylaxis (PrEP)

Pre-exposure prophylaxis (PrEP) is an effective strategy for preventing HIV infection in individuals at high risk. PrEP has been widely recommended for populations such as men who have sex with men (MSM), people who inject drugs (PWID), and heterosexual individuals at high risk (CDC, 2021). The CDC's 2021 guidelines provide detailed information on the use of PrEP, including indications, prescribing practices, and monitoring protocols. Healthcare providers are encouraged to discuss PrEP with sexually active adults and adolescents, particularly those with partners of unknown HIV status, inconsistent condom use, or recent bacterial STIs. The guidelines also emphasize the importance of tailoring PrEP discussions to individual risk factors and ensuring access to this preventive measure (CDC, 2021b).

In addition to testing and PrEP, the CDC advocates for a multifaceted approach to HIV prevention. This includes promoting consistent and correct condom use, providing education on safer sex practices, and addressing social determinants of health that contribute to HIV

vulnerability. Collaborative efforts with community-based organizations and stakeholders are essential to tailor interventions that meet the unique needs of diverse populations (CDC, n.d.).

HIV Treatment Access in Arkansas

In 2022, over 80% of Arkansans diagnosed with HIV received HIV medical care within one month of diagnosis, which puts Arkansas on par with the national rate of 81.9% (CDC, 2022). Arkansas RAPPS Inc., Engaging Arkansas Communities, and AR Care Positive Connections provide testing, referral, and educational services for Arkansans seeking HIV healthcare in the central region. The Arkansas Department of Health also participates in the Ryan White Program, which provides medication and transportation assistance for Arkansans with HIV and has 16 office locations across the state (ADH). Arkansas residents can access treatment via referral from community-based organizations (CBOs), such as Arkansas RAPPS Inc. receives referrals for grant-funded and state-funded treatment options across the state (CDC, 2022).

As of 2023, Arkansas has a standing order for HIV preexposure prophylaxis (PrEP) and HIV postexposure prophylaxis (PEP), meaning there is a pre-approved protocol or written guideline that allows them to assess a patient's needs and administer these HIV treatments without needing a separate, individual prescription from a physician (Arkansas Code § 17-92-101). Under the HIV PrEP Protocol, Arkansas pharmacists may initiate PrEP and PEP along with any necessary administration supplies for those eligible for the medication. Financial assistance is available, and PLWHIV can receive referrals to care through CBOs and community outreach programs at the Arkansas Department of Health and the University of Arkansas Medical Sciences (UAMS). As of In 2018, PrEP coverage was only 11.4% (AHEAD, n.d.). As of 2022, 1,708 people in Arkansas are using PrEP with a rate of 68 per 100,000 population, compared to the national rate of 154 (AidsVu, 2024b). Pulaski, Madison, Washington, and Benton counties represent the highest populations of people using PrEP in Arkansas. While the PrEP-to-Need Ratio (PNR) for males in Arkansas reflects needs are being met for that population, the PNR of females (1.83) and Black people (1.86) indicate a strong unmet need for these communities as well as a need to target services to these populations (AidsVu, 2024a). In a qualitative study conducted in 2020 looking at the experiences of HIV treatment engagement and retention among PLWHIV in Arkansas, Marshall et al. identified some barriers to treatment for those in rural areas (which account for roughly half of the population of Arkansans living with HIV). Transportation what a primary barrier to treatment as well as "anticipating and/or experiencing HIV-related stigma" (p.1, Marshall et al., 2023). Survey responses did, however, indicate that access to Ryan White case management was a perceived benefit, in addition to peer navigators and telehealth access.

HIV Criminalization in Arkansas

Arkansas is one of several states still participating in the criminalization of HIV. People living with HIV (PLHIV) may be charged with a felony for nondisclosure and may still be held liable if they are unaware of their diagnosis. The state code also asserts that transfer via needle-sharing may also be charged as a felony. Additionally, PLHIV may be required to register as sex offenders if convicted under the criminal exposure statute (Arkansas Code § 5-14-123). HIV criminalization in Arkansas is a concern due to several factors, including racial disparities in arrests and convictions, lack of evidence that these laws improve public health, and the potential for increased stigma and fear of testing. The laws often do not require actual

transmission of HIV or intent to transmit, and they disproportionately affect Black men (Cisneros, et al, 2023).

Arkansas's Progress on CDC HIV Recommendations

To end the HIV epidemic in the U.S., the CDC suggests states repeal and modernize outdated criminalization laws in addition to deprioritizing HIV criminalization through "specific or general criminal statutes" (such as solicitation) (CDC, 2021). States can achieve this in a number of ways, but other states that have made such changes have provided defenses for people who took practical measures to prevent transmission as well as rolled HIV into statutes about general infectious or communicable diseases (CDC, 2021). Since these laws were enacted before the availability of antiretroviral therapy (ART) and pre-exposure prophylaxis (PrEP), laws and policies in Arkansas should update these statutes to reflect what is now known about HIV transmission and viral suppression. Since 1990, there have been at least 119 charges at arrest for allegations of HIV-related crimes (Cisneros et al., 2023). Black men are overrepresented for those receiving these charges, who make up 31% of PLWHIV in Arkansas (Cisneros et al., 2023). Of this total, a third originated in Pulaski County and 18% originated in Little Rock (Cisneros et al., 2023). The racial composition of people arrested for allegations of HIV-related crimes skews Black. Black people were 48% of all HIV-related arrests, but only represent 15% of the state's total population. Cisneros et al. (2023) additionally noted that "an HIV conviction was much more likely to be the reason a Black woman was on the sexual offender registry (SOR) compared to a white man." While Black men were only seven percent of the state's population, they were 44% of the of all HIV-related arrests. This racial disparity in who is arrested for HIV-related crimes is a deterrent to HIV-prevention and willingness to participate in testing and treatment. Equity in the enforcement of existing HIV-related laws should be a primary goal to decrease HIV rates.

Hepatitis C Challenges in Arkansas

HCVis the most common sexually transmitted infection associated with illicit substance use. Injection rates of illicit substances have increased, particularly with the use of opioids and methamphetamines. The primary mode of HCV transmission is through sharing injection equipment, which significantly raises the risk of infection. Between 2010 and 2017, HCV infection rates quadrupled, underscoring the urgent need for prevention and intervention efforts. Additionally, it is estimated that approximately half of individuals living with HCV are unaware of their infection, highlighting the importance of widespread screening, particularly among high-risk populations (American Society of Addiction Medicine [ASAM], 2022).

HCV is the leading cause of liver-related morbidity (Arkansas Department of Health, 2023). While injection drug use remains the predominant route of transmission, other less common modes include perinatal transmission, healthcare-related exposures, and sexual contact with an individual diagnosed with HCV. The virus primarily attacks the liver, causing inflammation that can eventually progress to cirrhosis. Certain populations are disproportionately affected by HCV, including people who inject drugs, racial and ethnic minorities, men who have sex with men and are living with HIV, and transgender individuals. Health disparities further exacerbate barriers to treatment, particularly among racial minorities, individuals in rural areas, incarcerated populations, and those of lower socioeconomic status.

Despite concerns about substance use, it is not recommended to withhold HCV treatment from individuals who are actively using illicit drugs. Instead, supportive services should be provided to assist with recovery and adherence to treatment. The economic burden of HCV infections is substantial, with estimated costs exceeding $10 billion. Barriers to treatment include health disparities, high treatment costs, the slow progression of the virus, and limited access to healthcare services (ASAM, 2022). Lack of health insurance coverage is a proxy for poor access to healthcare, which is a barrier to treatment for people who are chronically infected (Arkansas Department of Health, 2023). Addressing these challenges through expanded screening, harm reduction programs, and increased access to treatment is critical to reducing HCV transmission and improving health outcomes.

Hepatitis C Virus Prevalence & Incidence in Arkansas

Arkansas had a total of 38,598 HCV virus cases between January 2009 and March 2024 (HepVu, 2024a). According to data visualized by HepVu, Arkansas had estimated a prevalence rate of 970 per 100,000 population between 2013 and 2016, compared to the national rate of 926.5 during that same time. Of the 20,005 new cases of HCV reported in Arkansas between 2018 and 2022 inclusive, 38.4% of those cases reported injection drug use and 22.3% reported use of drugs other than via injection (ADH, Data Hub, 2024). Further, over half of the reported HCV cases (11,467) were people who have been incarcerated in the past (ADH, 2024). Directly measuring HCV incidence in Arkansas is challenging due to partial or inconsistent reporting of positive test results and frequent asymptomatic infections (Arkansas Department of Health, 2023).

Hepatitis C Virus Treatment Access in Arkansas

HCV is a virus that affects the liver. Some of the outcomes can include liver disease, liver cancer and liver failure. While there is a treatment that clears the virus within six months after being infected, approximately 80% of those infected develop a chronic, life-long infection. Some of the symptoms can include fever, chronic fatigue, as well as joint and stomach pain. Many people do not experience symptoms until they are in the advanced stages of liver disease. If one is having unprotected sex and/or using injectable substances, it is important to have frequent testing. Other modes of infection can include contact with supplies that have bodily fluids, including on hands and surfaces. Using clean needles is important to avoid transmission of Hepatitis and other sexually transmitted illnesses (CDC, 2016).

Since January 2020, only 6,408 people have been in care for HCV, and an even smaller 778 people are receiving medication for HCV (ADH, 2024). The Center for Health Law and Policy Innovation of Harvard Law School (CHLPI) and the National Viral Hepatitis Roundtable (NVHR) gave Arkansas a score of “D” regarding the state of Medicaid access in the state (National Viral Hepatitis Roundtable (NVHR) & Center for Health Law and Policy Innovation (CHLPI), n.d.). Arkansas lost the most points for substance use restrictions which require six months of sobriety even though the American Association for the Study of Liver Diseases (AASLD) asserts that “there is strong evidence from various settings in which PWID have demonstrated adherence to treatment and low rates of reinfection.” A deterrent of extending access to PWUD is lack of adherence to HCV treatment. However, the Guidance Panel of AASLD strongly recommends using the minimal monitoring (MINMON) approach, which “is

safe and effective and leads to an SVR rate that is comparable to that realized with standard monitoring," including patients with HIV coinfection (Bhattacharya et al., 2023).

American Society of Addiction Medicine Hepatitis C Recommendations Recent statistics report that approximately one in four people 12 years and older used an illicit substance within the past year. Access to treatment is imperative, but there are some barriers. Despite the recommended guidelines, including the need for those currently using illicit substances to still receive HCV treatment, some reimbursement services only cover treatment if one has been abstinent from substances for a minimum of six months. Alcohol use has been shown to worsen HCV infection and symptoms. Chronic, heavy alcohol use is also associated with end-stage liver disease. HCV treatment is still recommended despite these concerns. Additional support is also recommended, including case management and group treatment. Medication-assisted therapy is also recommended to assist people to maintain recovery. Education on the prevention of reinfection is important, as well as encouragement to continue to get tested if injections are continued to be used (Carter et al., 2023; Corcoran & Spach, 2024).

Need for Improved Medical Care Services

State of the art medical care for HCV should be accessible and available to all people who need it, including those who use, or have used, alcohol or other drugs. Active alcohol or other drug use should not in itself exclude any person from receiving treatment for their HCV infection (American Society of Addiction Medicine, 2022). All agencies, third-party payers, and healthcare professionals should align policy and practice accordingly. The decision to initiate treatment for HCV infection in any patient should be made by the patient and their practitioner following careful consideration of the benefits and risks of therapy in each individual and their circumstances.

All healthcare settings, especially addiction treatment programs, should provide or coordinate comprehensive HCV care for their patients. Clinical staff working with people who use, or have used drugs, should be trained in pre- and post-test counseling to educate patients regarding the prevention, transmission, clinical course, and treatment options for HCV infection. Payers and policy makers should ensure that medical clinicians are reimbursed for HCV treatment services at OTPs given the unique, high-contact function OTPs serve in communities. Integration of HCV care delivery at nontraditional locations is also strongly encouraged since people with SUD frequently encounter stigma in more traditional healthcare settings and, therefore, may choose not to seek HCV care in such settings.

Address Health Equity Concerns

Healthcare systems and clinicians should identify and rectify underlying racial discrimination by adjusting policy and practice accordingly. Research is needed to better delineate what policies and practices are contributing to racial disparities in HCV treatment eligibility and receipt. In Arkansas, health equity concerns related to HCV include disparities in access to testing, prevention and treatment. This is particularly the case in rural areas, for incarcerated individuals, and racial or ethnic minorities. Despite guidelines recommending universal screening in specific age groups, and populations, racial and ethnic minorities have less chance of being screened, accessing treatment and achieving sustained control of HCV (Alexia & Almeqdadi, 2024).

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Screening policies in jails and prisons must be improved to detect HCV infection rates and to communicate those results to those who are screened. Universal “opt-out” testing for HCV, Hepatitis B Virus (HBV), and Human Immunodeficiency Virus (HIV) should be provided to all individuals who are incarcerated. Structural barriers within healthcare systems, such as limited access to healthcare facilities, lack of insurance coverage, cultural barriers, and lack of linkage to coordinated care contribute to lower rates of HCV treatment (Alexia & Almeqdadi, 2024).Efforts to address disparities in HVC care access and treatment requires a multifaceted approach that addresses both structural and individual-level factors. Policy interventions aimed at improving access to are essential in achieving health equity (Alexia & Almeqdadi, 2024).

Foster Interprofessional Collaboration and Care

There is a need for increased mutual awareness and collaboration between addiction medicine, infectious disease, and primary care clinicians. Because partnerships between healthcare professionals in infectious disease and addiction medicine are important and synergistic, government agencies should coordinate with organizations from both fields and invest in those fields’ evidence-based strategies for reducing HCV infections, including increasing access to addiction medications, DAA treatment, and harm reduction services.

Recommend Policy Changes

Because treating individuals with HCV virus (HCV) can reduce future healthcare costs and improve health outcomes, third-party payers should cover comprehensive HCV care that aligns with evidence-based treatment practices and nationally accepted guidelines. Organizations such as the American Association for the Study of Liver Diseases (AASLD) and the Infectious Diseases Society of America (IDSA) have developed guidelines that emphasize the importance of early detection, antiviral therapy, and access to care for all individuals diagnosed with HCV. Expanding insurance coverage for HCV treatment not only improves patient outcomes but also reduces long-term healthcare expenditures by preventing complications such as cirrhosis, liver failure, and hepatocellular carcinoma (AASLD & IDSA, 2023).

Payer restrictions to HCV treatment based on chronicity, fibrosis stage, prescriber specialty, or those with substance abstinence requirements may violate federal law and should be removed. Alternative payment models designed to integrate medical, behavioral, and SUD treatment services should be developed to meet the needs of persons with SUD and cooccurring HCV infection. Innovative state-based strategies for expanding access to evidence-based pharmaceutical treatments for HCV infection, such as subscription models, should be considered, their effectiveness should be rigorously evaluated, and successes should be replicated. Governments should invest in local strategies in partnership with community-based organizations to expand HCV screening, diagnosis, linkages to care, and treatment (American Society of Addiction Medicine, 2022).

Recommendations for Improvement of Hepatitis C Virus in Arkansas

While Arkansas has made some progress in expanding HCV testing and treatment, significant gaps remain. One major shortcoming is limited access to screening, especially in rural areas where healthcare facilities are scarce. The Centers for Disease Control and Prevention recommends universal HCV screening for all adults, yet many healthcare providers in Arkansas

do not routinely test for HCV, leading to undiagnosed and untreated cases (CDC, 2023). Another challenge is restrictive Medicaid policies that require prior authorization and proof of sobriety before approving direct-acting antiviral (DAA) treatments. These barriers delay care and leave many high-risk individuals, particularly people who inject drugs (PWID), without access to curative treatments (American Association for the Study of Liver Diseases & Infectious Diseases Society of America, 2023).

Additionally, Arkansas falls short in harm reduction efforts. Unlike many states, Arkansas does not have a legalized syringe services program (SSP), despite evidence that such programs significantly reduce HCV transmission among PWID (CDC, 2022). The lack of harm reduction strategies, including medication-assisted treatment (MAT) for opioid use disorder, further exacerbates the crisis. Incarcerated individuals, a population disproportionately affected by HCV, also lack adequate screening and treatment access, contributing to the continued spread of the virus upon reentry into the community (National Viral Hepatitis Roundtable, 2022).

To improve HCV prevention and treatment in Arkansas, the state should expand routine HCV screening, particularly in primary care, emergency departments, and correctional facilities.

Eliminating Medicaid restrictions on DAA therapy would improve access and reduce long-term healthcare costs associated with untreated HCV. Additionally, legalizing and expanding SSPs would help prevent new infections and connect individuals to healthcare services. Increasing funding for community-based outreach programs and integrating HCV care into substance use disorder treatment programs would further improve health outcomes. By addressing these barriers and implementing evidence-based strategies, Arkansas can make significant progress in reducing HCV infections and ensuring timely access to treatment for all affected individuals.

Syphilis Challenges in Arkansas

Syphilis is caused by the bacterium Treponema pallidum (T. pallidum), which can have severe effects on multiple organ systems, including the central nervous system. If left untreated, syphilis progresses through different stages, with neurosyphilis occurring when the bacterium invades the CNS. Neurosyphilis can develop at any stage of the disease and may lead to cognitive impairment, meningitis, vision and hearing loss, and motor dysfunction (Centers for Disease Control and Prevention, 2023). There are four stages of Syphilis: primary, which often presents with pain free ulcers, but can also cause painful lesions at the infection site. Secondary syphilis can cause rashes, lesions in the mucocutaneous, as well as lymphadenopathy. Tertiary can cause cardiac problems, general paresis, and lesions. Hearing and vision loss is also common in later Syphilis infections.

Syphilis has been experiencing a dramatic resurgence in recent years, posing a growing public health concern in the United States and globally. Following a historic low number of cases in 2000-2001, Syphilis cases in the United States increased approximately seventy-three percent between 2013 and 2017. According to the Centers for Disease Control and Prevention, syphilis cases have been steadily increasing, with reported infections rising by 74% between 2017 and 2021, reaching their highest levels in decades (CDC, 2023). The resurgence is particularly concerning due to the increase in congenital syphilis, which occurs when an infected mother transmits the disease to her baby during pregnancy. Cases of congenital syphilis have surged,

leading to severe complications, including stillbirths, infant mortality, and lifelong health issues (World Health Organization [WHO], 2023).

Syphilis rates were higher among gay and bisexual men, but rates among women increased approximately 156% during this period and 65% for all men. Among women diagnosed with Syphilis, approximately 17% reported use of methamphetamine, heroin and other injectable substances within the last year. Current data shows a trend of increased rates of Syphilis and co-occurring substance use disorders among women (Kidd, S.E., Grey, J.A., Torrone, E.A., Weinstock, H.S., 2019). Of pregnant women with congenital syphilis, approximately 48% (nearly double) reported using illicit substances and were less likely to have had prenatal care or treatment.

Several factors contribute to the rising syphilis rates. Limited access to healthcare, reduced public health funding, stigma surrounding sexually transmitted infections (STIs), and gaps in routine screening have all played a role in the disease's resurgence (CDC, 2022). Additionally, substance use, particularly methamphetamine and opioid use, has been linked to higher rates of syphilis transmission, as these substances can contribute to risky sexual behaviors (National Institute on Drug Abuse [NIDA], 2022). The growing burden of syphilis disproportionately affects marginalized communities, including men who have sex with men (MSM), racial and ethnic minorities, people experiencing homelessness, and individuals with limited healthcare access (CDC, 2023).

To address the growing concerns of syphilis, public health initiatives must focus on increasing routine screening, expanding access to treatment, and enhancing public awareness campaigns. The CDC recommends routine syphilis screening for high-risk populations, including pregnant women, MSM, and individuals with multiple sexual partners (CDC, 2023). Furthermore, increased investment in STI clinics and public health programs is essential to combat the epidemic. Enhanced partner notification programs and prevention education in communities at higher risk can also help curb transmission rates (WHO, 2023). Addressing health disparities and improving access to STI prevention and treatment services will be crucial in reversing the rising trend of syphilis infections.

Universal and Best Practices for Addressing Syphilis

Syphilis remains a significant global public health challenge, with rising infection rates requiring a comprehensive and evidence-based response. The Centers for Disease Control and Prevention (CDC) and the World Health Organization (WHO) emphasize a combination of early detection, effective treatment, and robust prevention strategies to curb syphilis transmission (CDC, 2023; WHO, 2023). Universal best practices for addressing syphilis include routine screening, timely treatment with penicillin, partner notification services, and community education to reduce stigma and promote early diagnosis.

Universal Screening

One of the most effective interventions is universal screening, particularly among high-risk populations, including pregnant women, men who have sex with men (MSM), and individuals with multiple sexual partners. The CDC recommends prenatal syphilis screening during the first trimester and additional testing for high-risk pregnancies to prevent congenital syphilis, a

condition that has seen a troubling rise in recent years (CDC, 2022). Additionally, partner notification programs play a crucial role in preventing reinfection by ensuring that exposed individuals receive prompt testing and treatment (WHO, 2023).

Treatment Urgency and Accessibility

Another critical best practice is ensuring immediate and accessible treatment for those diagnosed with syphilis. Benzathine penicillin G remains the gold standard for syphilis treatment, and increasing its availability is essential, particularly in underserved areas (WHO, 2023). Furthermore, integrating syphilis prevention into broader sexual health and harm reduction services can enhance outcomes. Providing routine syphilis testing in HIV clinics, substance use treatment centers, and correctional facilities ensures that vulnerable populations receive the care they need (CDC, 2023).

Public Health Advocacy and Investment

To combat the growing syphilis epidemic, public health agencies must also invest in education and awareness campaigns that address stigma and promote regular testing. Digital tools, such as mobile health apps and online partner notification services, have proven effective in reaching high-risk groups and encouraging early testing (WHO, 2023). Additionally, addressing healthcare disparities and expanding insurance coverage can improve access to syphilis prevention and treatment services. By implementing these best practices, health organizations can reduce syphilis transmission and improve overall sexual health outcomes globally.

Collaboration and Holistic Care

Collaboration with community health programs and substance use treatment centers is important for holistic care. Substance use, particularly the use of Methamphetamine and injectable drug use is associated with higher risk and rates of Syphilis (Carlson et al., 2023). Other risk factors include engaging in unprotected sex, multiple partners, poverty, healthcare disparities, substance use/misuse, stigma and mistrust of healthcare workers/systems. These need to be considered with treatment and program development (Kidd et al., 2019).

Syphilis Prevalence & Incidence in Arkansas

Syphilis, a sexually transmitted infection caused by the bacterium Treponema pallidum, has seen fluctuating trends across the United States, including Arkansas. Syphilis can cause serious health problems, including blindness, hearing loss or dementia. Arkansas has seen an increase in syphilis cases, particularly among certain populations. This mirrors national trends where syphilis has been rising, particularly among men who have sex with men (MSM), but also among heterosexual populations, including pregnant women. Congenital Syphilis rates (transmission from mother to baby) have also been increasing, a public health concern due to the severe complications it can cause in newborns.

In 2019, Arkansas had rates of Syphilis 1,106 per every 92.5 rate per population and rose to 2,961 in 2023 (CDC, 2024). Since 2017, Arkansas had a 164% increase in early-syphilis cases from 2017 to 2021, and a 285% increase among girls and women ages 15-44. The surge in cases was discovered during the COVID pandemic as testing was more common. A shortage

of Penicillin, stigma and a lack of education regarding Syphilis has caused a lack of appropriate treatment in Arkansas, despite Syphilis being easily treatable if identified early. Early treatment is less invasive as well (Axios, 2023). Despite this, Arkansas continues to see high rates.

Syphilis Recommendations for Improvement in Arkansas

Arkansas has experienced a significant increase in syphilis cases, particularly among women of reproductive age, leading to a concerning rise in congenital syphilis. From 2017 to 2021, early syphilis cases in the state increased by 164%, from 562 to 1,482 cases, with a 285% increase among women aged 15-44 years (Arkansas Department of Health, 2022). Congenital syphilis cases also surged by 254% during this period, from 13 to 46 cases, resulting in nine stillbirths, five of which occurred in 2021 (ADH, 2022). Despite the availability of free syphilis testing and treatment at local health departments, Arkansas faces challenges in controlling the infection's spread. Barriers include limited public awareness, insufficient access to prenatal care, and inadequate partner notification and treatment efforts.

To address these issues, Arkansas should implement several key strategies. First, enhancing public awareness and education through targeted campaigns can help inform communities about syphilis transmission, prevention, and the importance of regular testing, especially for high-risk groups. Second, improving access to prenatal care is crucial to ensuring that pregnant women receive timely syphilis screening and treatment to prevent congenital infections. Third, strengthening partner notification and treatment programs can help identify, notify, and treat sexual partners of infected individuals, reducing reinfection and further transmission. Lastly, expanding community-based testing and outreach efforts in underserved areas will increase testing accessibility and engagement with high-risk populations. By implementing these strategies, Arkansas can work towards reducing syphilis transmission rates and improving overall health outcomes for its residents.

CONCLUSION

Addressing the high rates of HIV, HCV, and syphilis in Arkansas requires a multifaceted approach that prioritizes accessibility, education, and systemic change. While progress has been made in expanding screening efforts and securing federal funding, significant barriers remain, particularly in rural areas where healthcare access is limited. The underutilization of proven interventions like PrEP and harm reduction programs underscores the need for increased awareness, funding, and policy support. Sustainable improvements will depend on strengthening healthcare infrastructure, enhancing provider training, and reducing stigma surrounding these conditions. By implementing comprehensive, evidence-based strategies, Arkansas can improve health outcomes and ensure that all individuals, regardless of location or socioeconomic status, receive the care they need.

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