INTRODUCTION: Kentucky has been identified by the Ending the HIV Epidemic (EHE) Initiative: A Plan for America as one (1) of seven (7) states with a substantial rural burden. The highest percentage of persons unaware of their HIV status (undiagnosed HIV infection) occurred in the South as compared with other US Regions at year-end 2016 and second highest at year-end 2018.[1, 2] Roughly thirty-one percent (31%) of Kentuckians diagnosed with HIV have not received care.[3] Approximately ninety-two percent (92%) of Kentuckians diagnosed with HIV in 2018 were linked to medical care within twelve (12) months of diagnosis compared to eighty-two percent (82%) within one (1) month of diagnosis, indicating delay in treatment and viral suppression. Almost twenty-three percent (23%) of HIV cases over the last ten (10) years received a concurrent diagnosis (diagnosis with AIDS within thirty [30] days of the initial HIV diagnosis), with the majority (forty-six percent, 46%) of concurrent diagnoses in the Cumberland Valley Area Development District (ADD) in Southeastern Kentucky.[4] About thirty percent (30%) of Kentuckians diagnosed with HIV were late testers (diagnosed with AIDS within one [1] year of initial HIV diagnosis). Twenty-three percent (23%) of concurrently diagnosed HIV and AIDS cases have an undetermined transmission route, which creates challenges for prevention initiatives aimed at increasing early testing and engagement in care.

Kentucky has two predominant HIV disease patterns: urban and rural. Fifty-four (54) of the two hundred twenty (220) identified counties as most vulnerable to an HIV and/or hepatitis C virus (HCV) outbreak in the United States are in Kentucky, with most located in Appalachian Kentucky.[5] Appalachian Kentucky is isolated with limited employment opportunities, low educational attainment, limited access to care, low wages, and other barriers to seeking care, such as transportation. The greatest burden for the state as a whole is in urban areas, with forty-eight percent (48%) of known cases in Jefferson County (including Louisville) and nineteen percent (19%) in Fayette County (including Lexington).[4] Louisville and Lexington both have more diverse populations than the rest of the state.

This situational analysis was informed by the Epidemiological Profile Snapshot, EHE Survey Results, Appalachian Regional Commission data, 2020 Kentucky HIV/AIDS Annual Surveillance Report, and the 2017 Kentucky Minority Health Status Report. The EHE Community Members Survey was a targeted survey, attempting to identify survey respondents who were most at risk of contracting HIV/AIDS both in rural and urban areas. The Kentucky Department for Public Health (KDPH) partnered with the Kentucky Income Reinvestment Program (KIRP), local health departments (LHD), community-based organizations (CBO), and the Ryan White (RW) Care Coordinator program to distribute the surveys to various stakeholders across the commonwealth.

SOCIAL DETERMINANTS OF HEALTH: Looking through the social determinants of health (SDOH) lens, many Kentuckians have been disadvantaged in multiple areas as compared to the US and are even more disadvantaged and distressed in Appalachian Kentucky, as supported by 2017 data. For example, Appalachian Kentucky's median household income was forty percent (40%) less than the national median, and thirty-one percent (31%) less than the median income in non-Appalachian Kentucky.[6] Appalachian Kentucky had a twenty-six percent (26%) lower supply of primary care physicians (PCP) per one hundred thousand (100,000) population and a fifty-nine percent (59%) lower supply of specialty providers compared to non-Appalachian Kentucky with twenty-one percent (21%) lower PCPs and sixty percent (60%) lower specialty providers than the national average. Long-term poverty and geographic isolation have created vulnerability and a disproportionate impact by the opioid epidemic in Appalachian Kentucky.[7] Appalachian Kentucky comprised a large majority of the drug overdose death rate through 2019, with three (3) of the top five (5) counties (Greenup, Boyd, and Estill Counties).[8] Nationally, Kentucky ranked very low for educational attainment. Kentucky ranked fifth in the nation for the percent of population 25 (twenty-five) years and older with no high school diploma (or equivalent).[9]

The two major urban areas are also affected by SDOH. For instance, Fayette County reported nineteen point one percent (19.1%) persons living in poverty compared to eighteen point five percent (18.5%) in Kentucky and thirteen point five percent (13.5%) in the US.[11] Adults aged eighteen to sixty-four (18-64) with health insurance decreased by fourteen percent (14%) in Fayette County from 2010 to 2016 indicating a need for better access to healthcare.

Louisville Metro identified one hundred thirty-six (136) languages spoken, while almost twelve percent (12%) of Lexington-Fayette County residents spoke non-English languages at home (compared to approximately five percent [5%] in Kentucky and twenty-one percent [21%] in the US).[11-12] In 2019, Jefferson County ranked first in the state with the most overdose deaths of any county (three hundred nineteen, 319), an increase from two hundred eighty-one (281) in 2018, while Fayette County ranked second for fentanyl-related, heroin-related, and methamphetamine-related overdose deaths.[8]

SDOH Indicators: National Rates Compared to Appalachian Kentucky and Non-Appalachian Kentucky, %[6, 10]

	Median Household Income (2010-2014)	Household Poverty Rate	Post-Secondary Education, 25-44 Years of Age	Disability Benefits	Uninsured Population Under Age 65
Appalachian Kentucky	$33,840	26.7	48.4	14.3	18.6
Non-Appalachian Kentucky	$48,889	16.3	61.8	6.8	16.2
National	$56,135	15.6	63.6	5.1	16.8

Persons with HIV (PWH) and persons at risk for HIV also face stigma, discrimination, homophobia, and transphobia. In Kentucky, there is a greater burden of HIV disease among certain populations, such as persons of color (especially African American women) and young men who have sex with men (MSM).

SOCIAL DETERMINANTS OF HEALTH AND KENTUCKY HIV RESOURCES: The Kentucky HIV/AIDS Care Coordinator Program (KHCCP) helps provide prompt, consistent, and continued quality care and services to PWH and their families. Those with no more than 500 (five hundred) percent of the federal poverty level for household income may be eligible for KHCCP and their financial assistance resources. Over seventy (70) care coordinators in nine (9) regional sites assess the needs and provide services for PWH. KHCCP assistance includes helping clients locate and access a system of referrals to medical care, emergency financial assistance for utilities, food bank home delivered meals, health education/risk reduction/prevention, health insurance, home and community based health, hospice, housing, insurance assistance, legal services, linguistics, Medicaid, medical and non-medical case management, oral healthcare, outpatient/ambulatory health, medication assistance, mental health, medical nutrition therapy, psychosocial services, Social Security Disability, substance abuse outpatient/residential treatment, and transportation. KHCCP also provides clients with educational information regarding disease transmission and health maintenance, encourages good health habits, and provides secondary prevention through continued case management. KHCCP is also an umbrella program for other client assistance programs such as the Kentucky Health Insurance Continuation Program (KHICP), outpatient healthcare and support services, and state support service programs.

The spring and fall RW Part B meetings include trainings to address stigma, discrimination, homophobia, and transphobia. Previous culturally sensitive topics include the following: Current Challenges to HIV Prevention and Care by Tom Collins (University of Kentucky), How Our Perceptions Impact Our Practice by Dr. Roger Cleveland (Director of CREED, Kentucky State University), Cultural Humility by Kim Thomas (Merck Community Liaison), and Substance Use, HIV and Hepatitis C by April M. Young, PhD, MPH (University of Kentucky). Stigma can prevent PWH from receiving the care they need and deserve. The HIV/AIDS Targeted Prevention Program focuses on addressing stigma to increase HIV testing, reduce HIV cases, and decrease late stage testing for HIV.

PILLAR ONE: Diagnose

Early diagnosis of all individuals with HIV is imperative to the success of EHE. From 2009 to 2018, the annual Kentucky HIV diagnosis rate has remained fairly steady with slight fluctuations between seven point one (7.1) to eight point four (8.4) cases per one hundred thousand (100,000) population.[4] According to the Centers for Disease Control and Prevention (CDC) 2018 estimated annual HIV disease diagnosis rates per one hundred thousand (100,000), Kentucky ranked twenty-third (23rd) with a rate of eight point one (8.1) compared to the national rate of eleven point four

(11.4). From 2010 through 2019, a total of three thousand three hundred sixty-eight (3,368) HIV cases were diagnosed among Kentuckians. Of these total HIV cases, thirty-four percent (34%) had progressed to AIDS as of December 31, 2019.

Racial disparities exist among Kentuckians diagnosed with HIV. There are higher percentages of new cases among black non-Hispanics and Hispanics. In 2018, blacks accounted for thirty percent (30%) of newly diagnosed HIV cases compared to nine percent (9%) of Kentucky's population, whereas Hispanics accounted for six percent (6%) of new HIV cases compared to comprising only four percent (4%) of Kentucky's population.[4] Black females and black males had consistently higher rates of new diagnoses compared to their white counterparts, from 2014 through 2018.

Seven hundred sixty seven (767) of the three thousand three hundred sixty-eight (3,368) HIV disease cases diagnosed in the most recent ten (10) years were diagnosed with AIDS within thirty (30) days of the initial HIV diagnosis—also known as a concurrent diagnosis.[4] During the presented time period, nine hundred ninety-four (994) Kentuckians diagnosed with HIV disease were late testers (or those who have an AIDS diagnosis within one year of initial HIV diagnosis.

The HIV Prevention Program at KDPH support HIV counseling and testing activities in each of the one hundred twenty (120) counties across the state.[13] Sponsored non-clinical agencies offer rapid-rapid HIV-1/2 antibody testing and can provide results in minutes. Those with reactive results from an initial rapid test can be tested immediately with a different brand of rapid test that is less sensitive than the initial rapid test. Clients receiving reactive results from both rapid tests are almost certainly infected with HIV and can be promptly linked to an HIV care provider without waiting days or weeks for a confirmatory test. Sponsored clinical agencies offer a rapid finger stick HIV 1/2 antibody test. All state sponsored testing sites offer anonymous or confidential HIV testing at free or minimal cost by appointment and/or on a walk in basis. Pre-test and post-test counseling are offered at all agencies.

Gaps – Limited Testing: Limited routine and universal HIV testing occurs in acute care, emergency care settings, outpatient medical encounters, and the criminal justice system resulting in missed opportunities. Among the EHE Kentucky Community Member Stakeholder survey respondents, forty-seven point nine percent (47.9%) were not offered an HIV test with only four point one percent (4.1%) reporting they had already been tested.[14] Data compiled from multiple surveys suggested that HIV testing did not increase at physician office visits, increased at community health center (CHC) physician visits, and increased slightly at emergency department (ED) visits, indicating missed opportunities for routine HIV testing with an additional finding that indicated that HIV testing was performed more often at visits for preventive care and visits with venipuncture.[15] Only two (2) EDs in Kentucky are currently participating in out-out testing despite CDC recommending routine opt-out HIV testing since 2006. Additionally, there is limited targeted testing in high risk communities, such as rural communities. Hoover et al. identified higher HIV testing rates at visits to physician offices, CHCs, and EDs in more urban areas compared to less urban (rural) areas. Approximately two thousand one hundred forty-nine (2,149) Kentuckians are unaware of their HIV status as of December 31, 2019.[4] HIV prevalence is five (5) times higher in state and federal US correctional systems than in the general population and the confirmed AIDS case rate in prisons is two point five (2.5) times greater than the non-incarcerated population. The incarcerated population is among the most challenging to diagnose and treat for HIV. Incarcerated persons are most likely to benefit from HIV prevention interventions due to related HIV risk behaviors including high rates of substance dependence.[16] Additional missed opportunities include the following: pharmacies are not currently utilized for HIV testing; Kentucky legislation does not allow for in-home HIV testing.

Challenges: Challenges in this area are multiple as evidenced by high rates of concurrent diagnosis for HIV and AIDS among MSM transmission, undetermined transmission, and rural populations. There are limited funding sources and resources at the state level to coordinate and expand collaborations across healthcare settings with only one full-time position focused on creating collaboration across all stakeholders. Buy-in from EDs and urgent care can be difficult to obtain. There is no existing collaboration with pharmacies and state programs (KDPH) for HIV testing. Strides for HIV

testing in the criminal justice system due to the recently changed policy will take time to implement. Hard to reach populations, such as persons who inject drugs (PWID), have unique barriers/challenges to implement testing.

Limited awareness and stigma continue to be a challenge. Less than half of the EHE Community Stakeholder survey respondents described their knowledge of how HIV is transmitted as excellent, and less than sixty percent (60%) of Institutional survey respondents described their knowledge as excellent. HIV was not believed to be an issue in their community by eighteen point one percent (18.1%) of community respondents, and less than ten percent (10%) of institutional stakeholders. Over thirty percent (30%) of institutional stakeholders reported that HIV was not seen as an issue in their community. Knowledge of HIV and HCV testing recommendations continue to be limited as well. In regards to stigma, EHE Community Stakeholder survey respondents rated the highest HIV testing barriers as fear someone would find out/confidentiality and stigma (negative belief about group of persons).[14]

Needs (resources, infrastructure, service delivery): The following needs were identified: increased testing in both high-risk populations and in general populations based on universal screening protocols; comprehensive list of urgent care facilities; data to assess which providers, agencies, and organizations are already implementing routine HIV testing in acute, emergency, and outpatient settings; outreach materials for persons at high-risk for HIV identified in healthcare settings; referral process and protocols for PWH who are newly diagnosed and/or lost to care; referral process and protocols to connect persons who are HIV negative and identified as high-risk to pre-exposure prophylaxis (PrEP); and culturally sensitive outreach materials translated into non-English languages.

Barriers: Multiple barriers have been identified in regards to HIV diagnosis in multiple healthcare settings. Providers are not routinely ordering HIV tests in acute, emergency, and outpatient settings; providers have not widely adopted routine HIV screening as part of medical care. Staffing availability to implement testing and counseling in acute care settings may not be a top priority. Additionally, the rapid-rapid testing algorithm is not used in EDs in Kentucky. Stronger relationships with pharmacies is needed. The new policy for PWH who are in the correctional system is still being adapted with a need for more knowledge and awareness. Insensitive or un/undertrained staff and lack of cultural competence has been identified as a barrier.

Limited application of HIV and HCV screening recommendations has been identified. It is difficult to engage providers in education for HIV and HCV, and the HIV continuing medical education (CME) requirement for providers was removed from Kentucky law.

Strengths: Kentucky has several identified strengths in healthcare systems. Positive relationships exist between KDPH and healthcare systems and professional societies. Recent change in state legislation allows for a designee to give HIV results, rather than the testing provider.[17] Two (2) EDs now perform opt-out testing rather than opt-in. Kentucky is home to a large number of chain and independently owned pharmacies who may be utilized for HIV testing. Norton Prompt Care has partnered with Walgreen at five (5) Louisville locations to offer rapid HIV testing.[18]

Additional strengths exist in the community setting. There is a new policy for treatment to be covered by the RW HIV/AIDS Program (RWHAP) services in local and county jails in eligible patients. Kentucky currently leads the nation with syringe services programs (SSP), providing participants with access to critical services and programs including screening, care, and treatment for HIV and viral hepatitis. As of October 19, 2020 Kentucky had seventy-four (74) SSPs operating in sixty-two (62) counties and one (1) county approved but not yet operational.[19] Increased targeted outreach and testing is provided by risk reduction specialists (RRS) through the SSPs in urban and rural settings. The majority of health departments in Kentucky offer free rapid screening for HIV with results available in fifteen to twenty (15-20) minutes, free HIV confirmatory testing, referrals for HIV positive individuals, safer sex counseling, and free condoms. Several CBOs and health centers also offer rapid HIV testing.[13] KDPH has employees who work specifically on social justice issues, implicit bias, and health equity. HIV Prevention promotes the “Know Your Status” Campaign focused on Eastern Kentucky and testing, as well as a faith-based HIV/AIDS initiative focused on African American women.

Current Resources:

- LHDs: Many LHDs have established relationships with local/regional healthcare delivery systems. Each county health department in Kentucky now offers rapid screening for HIV with results available in minutes.[13]
- Kentucky AIDS Education Training Center (KY AETC): KY AETC had seventy-one (71) live training events during the 2019-2020 fiscal year. There were one thousand nine hundred twenty-one (1,921) total participants for all live events. Participants by profession included physicians, social workers, other public health professionals, other non-clinical professionals, pharmacists, practice administrators, community health workers, dietitians/nutritionists, mental/behavioral health workers, nurse practitioners/professionals, other allied health professionals, and substance abuse professionals.
- Kentucky Finding Cases (KyFC) Project: KyFC is an Innovative Pilot Program, through the RWHAP Part B KADAP (Kentucky AIDS Drug Assistance Program) and KIRP. Community health outreach workers (CHOW) and peer workers (PW) work with communities to increase HIV/AIDS and HCV testing and screenings, provide community outreach, and engagement. The target audience the program serves is persons at high-risk for contracting HIV (including PWID, high-risk negatives [HRN]), and PWH.
- KIRP: KIRP is a collaborative partnership with KDPH aimed at improving healthcare delivery via disease education, prevention including increasing PrEP awareness, treatment and professional services for PWH. KIRP partners with existing RWHAP funded programs and Harm Reduction programs at LHDs.
- RWHAP: Part C (CBO) and Part D (local based CBO to provide care and support services) recipients.
- Regional Disease Intervention Specialists (DIS): As of July 2020, there are seven (7) DIS in Kentucky. Once the vacancies are filled, there will be twelve (12) DIS: one (1) DIS in the Western Kentucky Region, four (4) in the Louisville Kentucky Region, one (1) in the Northern Kentucky Region, two (2) in the Bluegrass Region, two (2) in the Lake Cumberland Region, and two (2) in the Kentucky River Region. Additionally, due to a newly awarded grant, a new DIS will be hired to follow the high-risk negative HIV population identified in previous investigations.
- SSPs: See Pillar One Strengths for further details.

PILLAR TWO: Treat

Linkage to and retention in care are key to treating PWH rapidly and effectively with the goal of achieving sustained viral suppression. Roughly thirty-one percent (31%) of Kentuckians diagnosed with HIV do not receive care and approximately forty-six percent (46%) are not virally suppressed.[3] Approximately ninety-two percent (92%) of Kentuckians diagnosed with HIV in 2018 were linked to medical care within twelve (12) months of diagnosis. In 2018, cumulative viral suppression among PWH in Kentucky increased if you received care (seventy-nine percent [79%] virally suppressed) or were retained in care (eighty-four percent [84%] virally suppressed). Among RWHAP clients, viral suppression was eight-seven percent (87%), supporting the importance of retention in care.[20]

As of June 2020, there were over two thousand six hundred seventy-three (2,673) PWH identified as Not In Care (NIC).[21] Kentucky defines NIC as absence of an HIV care indicator for over three hundred sixty-five (365) days. NIC PWH were identified by EHE Region: Louisville (forty-five point four percent, 45.4%), Northern Kentucky (seventeen percent, 17%), Bluegrass (sixteen point three percent, 16.3%), Western Kentucky (nine point five percent, 9.5%), Lake Cumberland (six point eight percent, 6.8%), and Kentucky River (three point seven percent, 3.7%). Kentucky's NIC demographics differed slightly from the new HIV case distribution from 2018 indicating disparities in care retention.

Kentucky NIC Demographics versus New HIV Cases, 2018, %		
Race/Ethnicity	NIC	New HIV Cases
White	48.8	59
Black/African American	38	30
Hispanic/Latino	9.3	6

Gaps – Linkage to Care: Increase linkage to care for rural and urban populations.

Gaps – Viral Suppression: Barriers for PWH in achieving viral suppression: Linkage to care, retention in care, and effective treatment are needed for all Kentuckians to achieve improved viral suppression rates. A gap was identified in the care received among those not in the RWHAP program. Among the seven thousand seven hundred nineteen (7,719) Kentuckians living with HIV in 2018, sixty-nine percent (69%) had a care marker, fifty-two percent (52%) were retained in continuous care, and fifty-four percent (54%) achieved viral suppression.[3] Viral suppression increased for persons who received care in 2018, with seventy-six percent (76%) being retained in continuous care and seventy-nine percent (79%) achieving viral suppression. Of note, among those retained in care in 2018, eighty-four percent (84%) achieved viral suppression. This data indicates the importance to link PWH to care, as this greatly improves their retention and viral load suppression rates (with adherence to antiretroviral treatment) which can ultimately reduce forward infections.

HIV Continuum of Care, Kentucky, 2018[3]			
HIV Diagnosed	Receipt of Care	Retained in Care	Virally Suppressed
7,719 (100%)	5,309 (69%)	4,046 (52%)	4,185 (54%)
	5,309 (100%)	4,046 (76%)	4,185 (79%)

Challenges: Several challenges have been identified. Kentucky needs to increase linkage to care for rural and urban populations and the same process for both may not be ideal. Many new staff are working in outreach and linkage to care and training is ongoing. Limited funding for salaries results in high turnover for DIS, resulting in DIS leaving these positions for higher paying positions within health departments. The Data to Care Initiative in Kentucky is in early stages of implementation, limiting the reduction of those NIC. There are limited infectious disease specialists in rural areas, specifically Lake Cumberland, Kentucky River, Todd County, and Graves County. Additionally, there is a lack of available transportation, particularly in rural areas.

Needs (resources, infrastructure, service delivery): The following needs were identified: increased numbers of DIS; more transportation options and/or medical care options in rural areas; increased awareness of available resources; identification of barriers to HIV care for at-risk populations and communities; increased access to telemedicine and ECHO models of medical care; and exploration of cultural competency of agencies providing services.

Barriers: A number of barriers have been identified. Limited/developing relationships exist between LNs, DIS, RRSs, CHOWs, social workers, and case managers. Some LNs identified lack of resources as barriers, further challenging linkage to care efforts. Kentucky has limited access to HIV medical care in rural areas: Appalachian Kentucky had a twenty-six percent (26%) lower supply of primary care providers per one hundred thousand (100,000) population and a fifty-nine percent (59%) lower supply of specialty providers.[6] Limited public transportation exist in rural areas as identified in several community needs assessments.[11-12] Also, there is limited HIV knowledge and awareness of RWHAP services in minority communities (African American and Latinx).[14] The intersection of religion and HIV and associated stigma and discrimination may result in PWH not seeking treatment.

Strengths: Kentucky has a large number of staff across the state. Regional LN and DIS are a strength with eighty-nine (89) out of every one hundred (100) Kentuckians diagnosed with HIV in 2018 linked to medical care within two (2) months of diagnosis. There are currently ten (10) LNs and there will be twelve (12) DIS when all vacancies are filled serving across the commonwealth. KyFC through the use of CHOWs will target hard to reach populations and assure linkage to care for PWH NIC and persons newly diagnosed with HIV. RWHAP Part B Case Managers are located across the state in regional access points. RWHAP Part B Programs provide care and support services for eligible individuals with household income no more than 500 (five hundred) percent of the federal poverty level. Four (4) RWHAP Part C and/or Part D programs provide comprehensive medical care and supportive services to PWH: University of Louisville (U of L) 550 Clinic, University of Kentucky (UK) Bluegrass Care Clinic, Matthew 25 AIDS Services (Owensboro and Bowling Green Offices), and Heartland CARES, Inc. RWHAP resources are available for transportation to HIV medical care, housing, and many other needs in both urban and remote rural areas.

Current Resources:

- KIRP: See Pillar One for further details.

- KY AETC: See Pillar One for further details.
- KHCCP: See Social Determinants of Health and Kentucky HIV Resources for further details.
- KADAP: This program helps eligible low-income Kentuckians purchase AIDS-related, FDA-approved medications. Participants receive formulary medications through mail-order service (Kentucky Clinic Pharmacy, Lexington).
- KHICP: KHICP provides payment to continue health insurance coverage for eligible individuals at risk of losing employee health benefits or private-pay health insurance because of HIV-related disease.
- RWHAP: Part C Early Intervention Services and Part D Women, Infant, Children recipients.
- SSPs: See Pillar One Strengths for further details.
- Existing HIV/AIDS partner organizations: AIDS Volunteers (AVOL) of Kentucky, Volunteers of America (VOA), Matthew 25, and Heartland CARES, Inc.

PILLAR THREE: Prevent

Since 2000, drug overdose rates in Kentucky have seen an upward trend. In response to Senate Bill 192 enacted in 2015, KDPH publishes guidelines for LHDs implementing harm reduction and SSPs. In November 2016, KDPH mobilized the Harm Reduction Program.[7] The opioid epidemic has contributed to an increase in HIV and HCV cases and a need for increased prevention efforts. In 2018, fifteen percent (15%) of new HIV cases were transmitted by PWID and five percent (5%) by MSM/PWID—higher than the estimated US rates of seven percent (7%) and three percent (3%), respectively.[4] Goals to prevent new HIV transmissions include Pre-Exposure Prophylaxis (PrEP) and SSPs (see Pillar One Strengths). About a quarter of counties deemed vulnerable by the CDC across the US for HIV and HCV outbreaks are in Kentucky indicating a need for PrEP and SSPs.[5]

While HIV incidence is increasing in the South, disproportionately fewer people use PrEP (only thirty percent [30%] in 2017).[22] In 2018, Kentucky had a low PrEP-to-Need Ratio (PNR) of three point four six (3.46), but higher (better) than the PNR of two point nine seven (2.97) for the Southern US and lower (worse) than the US PNR of four point eight nine (4.89).[23-24] Targeted prevention efforts are needed to improve Kentucky's use of PrEP and address the inequalities in PrEP use relative to need.

KDPH is working in minority communities ensuring those at greatest risk for HIV infection know their serostatus and have access to the most effective treatments, coordinated healthcare, transportation, social services, and evidence-based programming regarding risky behaviors. Community engagement and HIV/AIDS champions are important partners in reducing the transmission of HIV/AIDS and reducing the stigma associated with the disease.[7]

Gaps – PrEP: There is inadequate awareness of PrEP among providers and those at risk. A deficient number of providers prescribe PrEP. Additionally, persons are unaware of where to find PrEP services.[14] PrEP materials need to be available in Spanish and other languages and very few Latinx staff are available throughout Kentucky rural areas, as identified in several needs assessments.[11-12,25]

Gaps – SSP: Several gaps were identified in SSPs. SSPs are not located in all communities. Some SSPs have limitations on services available and one-for-one exchanges, despite best practice recommendations. Even in communities with SSPs only a minority of PWID participate in SSPs.

Challenges: There are challenges for PrEP and SSPs. A limited number of providers are prescribing PrEP. PrEP awareness continues to be a challenge among providers and at-risk populations. Funding for both PrEP and SSPs is limited. SSPs are locally driven, resulting in many variations in structure, services provided, and community support. PWID are often reluctant to use preventive services in SSPs due to time needed, loss of anonymity, or other barriers.

Needs (resources, infrastructure, service delivery): The following needs were identified: increased number of providers trained to prescribe PrEP; increased education for at-risk populations and providers on PrEP; funding for a statewide PrEP coordinator; champions and local experts for PrEP; PrEP media campaign; and linkage to PrEP for persons that are identified as at-risk and test negative for HIV.

Barriers: SSP barriers include many SSPs are one-for-one exchanges, despite best practice recommendations due to community acceptance. Support in communities for SSPs varies across the state. For PrEP a lack of payment options

exist for uninsured and underinsured. Kentucky needs more PrEP clinics and PrEP prescribing providers. For both SSPs and PrEP, there can be insensitive staff and lack of cultural competency, lack of social support (family, faith-based, etc.), and language barriers.[11-12,25]

Strengths: Kentucky currently leads the nation with the largest number of SSPs. The Harm Reduction Initiative embeds RRSs in SSPs throughout the state to provide screening, comprehensive education, and care for persons at highest risk for contracting and transmitting HIV and HCV. SSPs have increased PrEP education through the RRSs.

PrEP is prescribed. In 2018, there were an estimated one thousand two hundred nine (1,209) PrEP users in Kentucky (rate of thirty-two [32] PrEP users per one hundred thousand [100,000] population compared to fifty-seven [57] in the Southern US and sixty-eight [68] in the US).[22-24] One LHD has an operating PrEP clinic. HIV Prevention has ongoing PrEP marketing efforts in areas with the highest burden of HIV.

Additional strengths include health education resources offered in both English and Spanish by LHDs, as well as translators. KRS 214.650 states "The Cabinet for Health Services shall urge access to Spanish speaking interpreters to provide prevention, treatment, and service efforts in relation to HIV/AIDS." Condom distribution by the HIV Prevention team focuses on high-risk areas, providing education on the importance of condom use while providing over four hundred thousand (400,000) condoms in 2019.

Current Resources:

- SSPs: See Pillar One Strengths for further details.
- KIRP: See Pillar One for further details.
- KyFC: See Pillar One for further details.
- KY AETC: See Pillar One for further details.
- KY Office of Drug Control Policy
- VOA FIT Program: VOA Mid-States offer a Friends Inspiring Testing (FIT) PrEP Guide with over 14 (fourteen) current PrEP prescribers located in the Kentuckiana (Kentucky and Indiana) Region.[26]

PILLAR FOUR: Respond

Kentucky has a well-developed Cluster Detection and Response Plan draft. Due to a cluster outbreak in Northern Kentucky and the Cincinnati Metropolitan area, Kentucky has experience in effectively working across state jurisdictions and working with PWID in this setting. The overall goal is to identify early potential HIV outbreaks to get needed prevention and treatment services to people who need them.

Gaps – Resources: Lack of capacity to respond to cluster investigations at the LHD level.

Challenges: Several challenges have been identified. Multiple labs need onboarding to receive all molecular sequencing. Kentucky shares borders with seven (7) other states creating challenges for data sharing. Limited staffing to respond to cluster investigations or existing staff must be reassigned from regular duties. Finally, a large number of counties (or regions) designated as vulnerable to an HIV and/or HCV outbreak among PWID by the CDC.

Needs (resources, infrastructure, service delivery): The following needs were identified: expand partnership with Kentucky Health Information Exchange (KHIE) and develop process for lab reporting; train regional epidemiologists to respond in outbreak; identify additional funding for DIS; and fill vacancies in HIV surveillance to conduct all required activities.

Barriers: Multiple systems with labs resulting in difficulty building trust and protocols for various systems. Also, shared borders with multiple states, all with different regulations.

Strengths: KDPH has an existing collaboration with KHIE. RRS in the field to provide increased regional testing for cluster investigations. Good surveillance capacity to identify clusters when cases arise.

Current Resources

- KHIE
- Kentucky Preparedness Branch
- State Lab
- KIRP: See Pillar One for further details.

PARTNERS:

LHDs

Local and/or State Education Agencies: U of L, UK, Northern Kentucky University, Western Kentucky University, Fayette County Schools Migrant Program, Family Resource Centers, UK Office of LGBTQ Resources, U of L 550 Clinic,

UK Bluegrass Care Clinic, Kentucky Income Reinvestment Program (KIRP), UK Center for Excellence, UK Center for Drug and Alcohol Research, Ryan White Care Coordinator Program, Ryan White LNs, and Kentucky Drug Assistance Program (KDAP)

Corrections or Law Enforcement Agencies: Glasgow Police Department, Hazard City Police, and Shelby County Detention Center

Non-Governmental Organizations: Arbor Youth Services, Hope Center, Children and Family Counseling Associates, Inc. (CAFCA), Simon House, Kentucky HIV/AIDS Legal Project, Kentucky Board of Nursing, Kentucky Harm Reduction Coalition, Louisville Youth Group, and House of Ruth

State Government: Department for Behavioral Health Developmental and Intellectual Disability (DBHDID), Office of Health Equity, Kentucky Department for Public Health HIV/AIDS Section, Kentucky Department for Public Health Community Health Care Worker Program, and Department of Corrections

Community Advocacy Organizations: PFLAG of Central Kentucky (as of 2014, the organization officially changed its name from "Parents, Families, and Friends of Lesbians and Gays" to PFLAG), Kentucky Black Pride, Pride Community Services Organization, Moveable Feast, and Kentuckiana Pride Foundation

Faith-Based Organizations: Black Church Coalition, Catholic Action Center, Natalie's Sisters, Salvation Army, Lexington Rescue Mission, New Life Day Center, AIDS Interfaith Ministries of Kentuckiana (Isaiah House), Bluegrass Rainbow Faith Communities, and Redbird Mission (education)

SSPs

Mental Health/Behavioral Health Centers: Kentucky River Comprehensive Care Centers, New Vista, Mountain Comprehensive Care Center, Appalachian Regional Health Centers, Intrust Counseling, Juniper Health, Spero Health, Kentucky Opioid Response Effort (KORE), Lisa Walker Women's Inpatient, Recovery Works (Pinnacle TX Centers), Pennyroyal Center, and Whitesburg Medical Clinic

CBOs: Matthew 25 AIDS Services, Heartland CARES, Inc., AVOL, and Volunteers of America

Clinics/Hospitals: Ephraim McDowell Infectious Disease, Family Health Care Clinic (New Vista), Hometown Clinic, Beattyville Family Medical Clinic, Jennie Stuart Medical Center, Miller Oral Health Clinic, and Audubon Area Community Care Clinic

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