Kentucky HIV/AIDS Integrated Epidemiological Profile 2022

Kentucky Cabinet for Health and Family Services
Department for Public Health
HIV/AIDS Section

Dear Reader:

The Kentucky Department for Public Health (KDPH) is pleased to release Kentucky's HIV/AIDS Integrated Epidemiologic Profile (IEP) 2022. "Integrated" refers to the combination of information that formerly was produced separately for Health Resources and Services Administration (HRSA) for "care" and Centers for Disease Control and Prevention (CDC) for "surveillance and prevention". The IEP presents comprehensive data to provide a wide scope of information on Kentucky's population and factors that affect HIV diagnoses among Kentuckians. The goal of this profile is to help inform prevention and care activities for persons with HIV (PWH) in Kentucky, inform HIV planning/policy decisions, and help assess the impact of prevention and care activities. This is a CDC grant deliverable and is produced to fulfill the requirements of Funding Opportunity Announcement (FOA): PS18-1802.

The Kentucky's HIV/AIDS IEP 2022 consist of 4 domains:

Domain 1 profiles general characteristics of the residents in Kentucky, which includes several demographic elements and social determinants of health.

Domain 2 profiles new and cumulative HIV infections diagnosed among Kentuckians. In calendar year 2020 there were 301 new HIV infections diagnosed among Kentucky residents, a diagnosis rate of 6.7 per 100,000. This is a decrease from the rate of 7.5 per 100,000 population for 2019. Trends among people with newly diagnosed infections are presented in this section, and disparities by race/ethnicity, age at diagnosis, sex, and mode of transmission are highlighted. As per CDC guidance, the data for the last two years (2021 and 2022) are considered preliminary and not included in the trends analysis.

Domain 3 describes the landscape of HIV treatment and care services throughout Kentucky. KDPH has a wide network of services available to individuals diagnosed with HIV. In 2020, the Kentucky HIV/AIDS Care Coordinator Program (KHCCP) provided Ryan White HIV treatment services to 4,932 individuals diagnosed with HIV/AIDS. The HIV Care Continuum is also examined for those diagnosed with HIV and living in Kentucky.

Domain 4 describes the scope of HIV prevention activities across Kentucky and the gaps and barriers.

The data presented in this report are available at:
https://chfs.ky.gov/agencies/dph/dehp/hab/Documents/IntegratedEpiProfile2022.pdf

Sincerely,
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Kentucky HIV/AIDS Integrated Epidemiological Profile Production
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For all media inquiries, please call the Office of Communications at (502) 564-6786 for assistance.

Kentucky Department for Public Health HIV/AIDS useful links:

HIV Reporting and Statistics:

Fillable Adult HIV Confidential Case Report Form:

https://chfs.ky.gov/agencies/dph/dehp/hab/Documents/ACRF_Fillable.pdf

Fillable Pediatric HIV Confidential Case Report Form:

https://chfs.ky.gov/agencies/dph/dehp/hab/Documents/PCRF_Fillable.pdf

HIV Prevention:

Syringe Services Programs:

https://chfs.ky.gov/agencies/dph/dehp/hab/Pages/kyseps.aspx

HIV Test Sites in Kentucky:

https://chfs.ky.gov/agencies/dph/dehp/hab/Documents/KYHIVTestSites.pdf

Self-Testing in Kentucky:

https://www.chfs.ky.gov/agencies/dph/dehp/hab/Pages/Self-testing-for-HIV.aspx

HIV Services:

HIV Care Coordinator Regions and Contact Information:

https://chfs.ky.gov/agencies/dph/dehp/hab/Documents/KYHIVCCRs.pdf

Ryan White Services Eligibility Application:

https://chfs.ky.gov/agencies/dph/dehp/hab/Documents/RWEligApp.pdf

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We thank the persons who have been involved in the HIV Community Planning Groups for providing feedback over the years regarding which data are most helpful to their respective planning groups. We continue to solicit their input, as our efforts are only as good as the information on which we base our programmatic decisions.

The profile was created under the able guidance of Dr. Tisha Johnson, Kentucky HIV/AIDs medical director.

Abbreviations

ACS	American Community Survey
ADAP	AIDS Drug Assistance Program
ADD	Area Development District
AHI	Adolescent Health Initiatives
AVOL	AIDS Volunteers of Lexington
ARC	The Appalachian Regional Commission
ART	Antiretroviral Therapy
BRFSS	Behavioral Risk Factor Surveillance System
CBO	Community Based Organization
CDC	Centers for Disease Control and Prevention
CHFS	Cabinet for Health and Family Services
CIDR	Cumulative Interstate Duplicate Review
CTR	Counseling, Testing and Referral Sites
eHARS	HIV/AIDS Reporting System (enhanced)
EHE	Ending The HIV Epidemic
EMA	Emerging Metropolitan Areas
FACPM	Fellow of the American College of Preventive Medicine
FDA	Food and Drug Administration
FHC	Female Heterosexual Contact
FPL	Federal Poverty Line
FQHC	Federally Qualified Health Center
GED	General Education Diploma
HCV	Hepatitis C Virus
HIV/AIDS	Human Immunodeficiency Virus / Acquired Immune Deficiency Syndrome
HOPWA	Housing Opportunities for Persons with AIDS
HRSA	Health Resources and Services Administration
HUD	Housing and Urban Development
IDU	Injection Drug Users
IEP	Integrated Epi Profile
KADAP	Kentucky AIDS Drug Assistance Program
KDPH	Kentucky Department for Public Health
KIPDA	Kentuckiana Regional Planning and Developmental Agency
KIRP	Kentucky Income Reinvestment Program
KHCCP	Kentucky HIV/AIDS Care Coordinator Program
KHICP	Kentucky Health Insurance Continuation Program
KHPAC	Kentucky HIV/AIDS Planning and Advisory Council
KYAETC	Kentucky AIDS Education and Training center
KYBRFSS	Kentucky Behavioral Risk Factor Surveillance System
LGBTQ	Lesbian, Gay, Bisexual, Transgender, and Queer/Questioning
LHD	Local Health Department
MD	Medical Doctor
MMSC	Male to Male Sexual Contact

MMWR	Morbidity and Mortality Weekly Report
MPH	Master of Public Health
NEDSS	National Electronic Disease Surveillance System
NIR	No Identified Risk
OVS	Office of Vital Statistics
PLWA	Person Living with AIDS
PrEP	Pre-Exposure Prophylaxis
PWH	Person with HIV
PWID	Persons Who Inject Drugs
RIDR	Routine Interstate Duplicate Review
SAE	Small Area Estimation
SAHIE	Small Area Health Insurance Estimates
SAMHSA	Substance Abuse and Mental Health Services Administration
SES	Socio Economic Status
SSP	Syringe Services Program
STD	Sexually Transmitted Diseases
STI	Sexually Transmitted Infection
TasP	Treatment as Prevention

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HIV/AIDS Reporting Requirements

According to state regulation 902 KAR 2:020 Reportable Disease Surveillance, Section 16, health professionals licensed under KRS chapters 311 through 314, health facilities licensed under KRS 216.015(13), and medical laboratories licensed under KRS chapter 333 are required to report HIV and AIDS cases to the Kentucky Department for Public Health within five business days of diagnosis.

Cases of confirmed HIV and AIDS are reported to the Kentucky Department for Public Health's HIV/AIDS Surveillance Program at 866-510-0008* using the Confidential Adult HIV Case Report form for patients ≥ 13 years of age at the time of diagnosis. Data from the case report forms are compiled to produce this report.

Additional case reporting information can be found on the Kentucky HIV/AIDS Section Website:

https://chfs.ky.gov/agencies/dph/dehp/hab/Pages/reportsstats.aspx

*Note: The previous Bullitt, Henry, Jefferson, Oldham, Shelby, Spencer, and Trimble Counties' reporting route through Louisville Metro Public Health and Wellness Department has been discontinued. All reporting is made directly to the Kentucky Department for Public Health HIV/AIDS Surveillance Program.

Executive Summary

As of December 31, 2021, a cumulative total of 11,832 HIV infections had been reported to the Kentucky Department for Public Health since reporting began in 1982. Of those, 60% had progressed to AIDS.

During 2020, a total of 301 new HIV infections were diagnosed among Kentuckians and reported to Kentucky Department for Public Health's (KDPH) HIV/AIDS Surveillance Program. Four out of every five (80%) of newly diagnosed Kentuckians resided in three ADDs of Bluegrass (17%), KIPDA (50%), and Northern Kentucky (13%). The majority of HIV diagnosis in Kentucky during 2020 were among males (85%), White populations (61%), 20-29 years old (36%), and MMSC as category of HIV transmission (50%). The annual rate of HIV diagnosis in Kentucky has also remained fairly stable from 2011 to 2020, with slight fluctuations between 6.7 (2020) and 8.5 (2018) HIV cases per 100,000 population.

As per a CDC report, Kentucky was ranked 24th compared to other states and Washington, D.C. based on estimated HIV diagnosis rates during 2020. During 2020, the distribution of new HIV cases for Kentucky by sex and age at diagnosis closely paralleled that of the U.S. The percentage of new HIV cases in Kentuckians that are White, is much greater compared to overall U.S. cases (61% vs. 26%, respectively). This can be partially attributed to the greater percentage of White populations in Kentucky's general population (84%) as compared to the U.S. population (60%).

The five-year trends (2016-2020) in HIV data shows:

- The HIV diagnosis rate among males in Kentucky was 4.5 to 5.8 times higher than the rate for females.
- The HIV diagnosis rate for Black populations was 3.5 to 6.6 times higher than White populations.
- The diagnosis rate for Hispanics was 2.7 and 4.9 times higher than White populations over the five-year period.
- The HIV diagnosis rate among Black males was 3.4 to 5.5 times higher than White males.
- The HIV diagnosis rate among Black females was 3.9 to 16.1 times higher than that of White females over the five-year period.
- Among adult/adolescent males by transmission route, the largest number of cases diagnosed each year from 2016 to 2020 reported MMSC as their primary risk factor for HIV transmission.

The impact of the HIV epidemic in Kentucky is not uniformly distributed across the state. The distribution is as follows:

- Cumulatively at the county level, 5,234 infections (44% of the total statewide infections) were diagnosed in Jefferson County, 1,551 (13%) in Fayette County, and 561 (5%) in Kenton County.

- At ADD level, the highest percentages of cumulative infections were diagnosed in KIPDA (48%), Bluegrass (19%), and Northern Kentucky (9%).

The cumulative Kentucky HIV data also highlights various disparities:

- African Americans constitute 9% of the Kentucky population but 32% of the cumulative HIV cases.
- Adults 20-29 years of age old constitute 13% of the Kentucky population but 31% of cumulative HIV cases. Similarly, adults 30–39 years old and 40-49 years old constitute 12% of Kentucky's population each, but 33% and 21% of HIV cases respectively.
- Six percent of Black males were teenagers at time of diagnosis compared to 2% of White males and 2% of Hispanic males.
- Among adult/adolescent males, the majority of cumulative HIV cases reported the primary route of exposure as MMSC (71%), while among adult/adolescent women, most (57%) were exposed through heterosexual contact with a PWH or at high risk for HIV infection (e.g., a PWID).
- Adult/adolescent minority males (12% of Black males and 7% of Hispanic males) reported higher percentages of IDU as the route of transmission in comparison to non-minority adult/adolescents (8% of White males).

As of December 31, 2021, a total of 95 pediatric HIV cases have been reported to the Kentucky HIV/AIDS Surveillance Program since reporting began in 1982. The majority of reported pediatric cases (79%) were due to perinatal transmission through an HIV-infected mother.

Since the start of the HIV epidemic, a total of 7,079 persons diagnosed with HIV have progressed to AIDS (Stage 3). Newly diagnosed cases that had progressed to AIDS as of December 31, 2021, were predominantly male, White, and males reporting sexual contact with other males.

During the most recent 10-year period, 737 (21.2%) of the 3,482 newly diagnosed HIV cases were diagnosed with AIDS within 30 days of the initial HIV diagnosis - also known as a concurrent diagnosis.

According to the CDC late testers are those who have an AIDS diagnosis within one year of initial HIV diagnosis. During the most recent 10-year period, 928 (26.7%) of the 3,482 Kentuckians diagnosed with HIV disease were late testers. Kentucky data shows that the rate of concurrent diagnosis as well as late testers is higher in the eastern Kentucky counties compared to other parts of the state.

As of December 31, 2021, a total of 4,054 deaths (mortality rate 90 deaths per 100,000 population) have been reported among persons diagnosed with HIV infection in Kentucky. Mortality data include deaths reported among persons diagnosed with HIV infection regardless of cause of death. The mortality rate was higher among males (154 per 100,000 population) than females (28 per 100,000 population).

According to CDC, an HIV cluster signifies increased HIV transmission among a group of people in a geographic area or in a sexual or social network. This can indicate gaps in HIV prevention or care for that group of people. Transmission clusters can represent recent and ongoing HIV transmission in a population where prevention efforts could prevent new infections. Kentucky is one of the pioneer states for implementing HIV cluster detection and response efforts as per CDC guidance.

At the end of 2020, there were 535 HIV and HCV coinfections reported in Kentucky. This represents a small number compared to 86,784 HCV cases in 2020 for Kentucky. Of the coinfections reported, 73% were male, 62% were White, and 42% had IDU as mode of HIV transmission. Thirty-one percent (31%) of coinfections each were among those aged 20-29 years old and 30-39 years old age at time of HIV diagnosis.

In the U.S., 10% of HIV infections diagnosed in 2018 were attributed to unsafe injection drug use among PWID. Research has shown that individuals who use drugs have a higher risk for acquiring HIV infection. In recent years, Kentucky has seen an increase in HIV diagnosis among PWID, with the percentage of cases increasing from 11.5% of total cases in 2015 to 22.3% in 2020.

Characteristics of persons enrolled in the Kentucky HIV/AIDS Care Coordinator Program (KHCCP) are similar to the characteristics of persons known to be living with HIV infection in Kentucky.

- During 2020, KHCCP provided Ryan White HIV Services to 4,932 individuals diagnosed with HIV/AIDS.
- The majority of KHCCP clients were males (80%).
- White populations constituted the highest percent of participants (63%), followed by Black populations at 35%.
- More than half of KHCCP clients had MMSC (52%) as the category of HIV transmission, followed by heterosexual contact at 33% and IDU at 8%.
- The highest number of participants were from the Louisville Care Coordinator Region (2,019), followed by Lexington (1,450).

Entry into the HIV care continuum begins with diagnosis and linkage to care. During 2020, 79% of the newly diagnosed cases in Kentucky were linked to HIV medical care within one month of their diagnosis. Eighty-five (85) out of every 100 newly diagnosed cases were linked to care within one year of initial HIV diagnosis.

Kentucky HIV Continuum of Care for 2020 shows that there were 8,270 adult/adolescents with their most recent address in Kentucky diagnosed with HIV disease (regardless of progression to AIDS) at the end of 2019 and living at the end of 2020. Of those:

- Seventy percent (70%) had a care marker in 2020 and were considered to be in care.
- Forty-seven percent (47%) were retained in continuous care in 2020.
- Fifty-four percent (54%) achieved viral suppression.

- Males attained higher level for receipt of care at 71%, compared to 69% for females. Males also achieved higher levels of retention in care (47% verses 45% for females), and viral suppression at 54%, compared to females at 53%.
- In 2020, Hispanic adult/adolescent Kentuckians newly diagnosed with HIV attained higher levels of linkage to HIV medical care (89%) compared to their White (80%) and Black (70%) counterparts.
- White adult/adolescents attained higher rates compared to Black, and Hispanic adult/adolescents for receipt of care, retention in care, and viral suppression. Fifty-seven percent (57%) of White adult/adolescents were virally suppressed in 2020, compared to 48% of Black and 51% of Hispanic adult/adolescents.
- Those aged 13–19 years old were least likely to get linked to care, when compared to the other current age categories. However, once they were effectively linked to care, they were most likely to receive care compared to other age categories.
- Adults/adolescent Kentuckians aged 13-19 years were most likely to be virally suppressed at 64% when compared to other age categories, while the 40-49 years age category were least likely to be virally suppressed at 52%.
- Persons with IDU as a risk factor identified had the lowest percentages of linkage to care, while Kentuckians with no identified risk factor had the lowest percentage for receipt of care, retention in care, and viral load suppression.
- Kentuckians who reported MMSC as the category of transmission had the highest rates of engagement across all care markers along the continuum.

The HIV Prevention Program at KDPH sponsors several HIV counseling and testing sites in each of the 120 counties across the state. Sponsored non-clinical agencies offer rapid-rapid HIV-1/2 antibody testing and can provide results within 1 to 20 minutes. Those with reactive results from an initial rapid test can be tested immediately with a different brand of rapid test 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. 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. No testing information was derived from self or home tests for HIV because use of such tests was not permitted in Kentucky due to consumer protection concerns during the timeframe of this profile.

Kentucky HIV Prevention staff provide funded partners with quarterly training and educational materials for distribution. These materials stress the importance of prevention efforts aimed at keeping high risk persons negative for HIV through the use of PrEP, education, and condoms.

Introduction

Background

The Kentucky HIV/AIDS Integrated Epidemiological Report presents data on HIV cases diagnosed among Kentuckians that have been reported to the KDPH HIV/AIDS Surveillance Program through December 31, 2021. The data only includes those persons who have been confidentially tested and reported to the KDPH HIV/AIDS Surveillance Program. No adjustments were made to the data presented to account for undiagnosed, anonymously tested, or unreported cases.

The purpose of this profile is to describe the HIV burden of disease in Kentucky and serve as reference point for HIV prevention and planning groups, nonprofit organizations, local health authorities, providers, etc. in the community. The information provided in this profile may be used in the following ways:

- To share information with community members
- To develop HIV programmatic policy and provide resources to communities in need
- To create HIV interventions and bridge barriers to care
- To develop proposals and apply for funding
- To increase HIV awareness
- To disseminate information to providers
- To create HIV programmatic goals and objectives

It is with this information that Kentuckians are better equipped to provide HIV prevention and care to end the HIV epidemic. HIV prevention and care needs a collaborative approach to reduce HIV-related disparities, gaps in care, and new HIV infections.

Organization of Profile

The IEP was prepared in accordance with the Integrated Guidelines for Developing Epidemiologic Profiles for HIV Prevention and Ryan White CARE Act Community Planning developed by CDC and HRSA. Multiple data sources were used to create this profile (as described under data sources) to address seven core questions listed below.

Domain 1: Characteristics of general population in Kentucky

Question 1.1: What are the demographic characteristics and social determinants of health among the general population in Kentucky?

This section includes basic demographic data from the 2020 Census and Kentucky State Data Center. Population demographics and sociodemographic characteristics are discussed.

Domain 2: Epidemiology of HIV in Kentucky

Question 2.1: What is the epidemiology of HIV and the distribution of HIV-related disparities and health inequities in Kentucky?

The epidemiology of HIV infection is described, including new, cumulative, and living cases, annual trends, transmission routes, deaths, and geographic distributions with focus on the beginning of the infection (HIV) and later stage (AIDS).

Question 2.2: What is the distribution of social determinants of health that exacerbate HIV-related disparities among people with HIV in Kentucky?

This section describes the HIV-related disparities found among Kentuckians diagnosed with HIV/AIDS.

Domain 3: HIV care and treatment among people with HIV in Kentucky

Question 3.1: What HIV care and treatment services are available in Kentucky?

This section details the services provided to those individuals living with HIV/AIDS in Kentucky.

Question 3.2: What is the HIV care continuum in your service area for the overall population and for priority populations in Kentucky?

This section examines the HIV care continuum among Kentuckians diagnosed with HIV/AIDS.

Domain 4: Prevention of HIV in Kentucky

Question 4.1: What is the landscape of HIV prevention and testing services in Kentucky, including gaps in prevention?

This section describes the landscape of HIV prevention and testing throughout Kentucky.

Question 4.2: What are the indicators of risk for acquiring and transmitting HIV infection in Kentucky?

This section addresses various indicators of risk for acquisition of HIV from multiple data sources and HIV prevention efforts.

Key Terminology

The terminology used in this report is in a format consistent with CDC's technical guidelines for HIV surveillance grantees in the U.S., and also consistent with the National HIV Surveillance Report, available online at: https://www.cdc.gov/hiv/library/reports/hiv-surveillance.html.

Current Age: An individual's age or age group as of December 31, 2021.

Age at Diagnosis: An individual's age or age group at the time of initial HIV disease diagnosis.

Adults and Adolescents: An individual aged 13 years and older.

Pediatric: An individual aged less than 13 years.

AIDS: Advanced stage of HIV infection characterized by severe immune deficiency and diagnosed by the presence of at least one of 26 opportunistic illnesses or a CD4 T-lymphocyte count of less than 200

cells/ml of blood. The CD4 T-lymphocyte count takes precedence over the CD4 T-lymphocyte percentage, and a percentage of less than 14% is considered only if the count is missing.

Concurrent Diagnosis: Both HIV and AIDS are diagnosed within a 30-day period.

Date of Diagnosis: The date of an individual's initial HIV disease diagnosis.

HIV: A retrovirus that infects the helper T cells of the immune system resulting in immunodeficiency. HIV is diagnosed by a positive confirmatory antibody test or positive/detectable viral detection test.

HIV Disease: Persons with a diagnosis of HIV infection regardless of stage of disease. This includes persons with HIV (non-AIDS), as well as those who have advanced stages of the disease (AIDS).

Race and Ethnicity: Ethnicity categories include Hispanic and not Hispanic. Data for all not Hispanic persons are displayed in combination with their racial groupings, which include:

- White
- Black or African American
- Asian
- Native Hawaiian or other Pacific Islander
- American Indian or Alaska Native

Kentucky's HIV data are collected for all racial and ethnic groupings. However, due to small numbers, data for the following racial groups are aggregated into the "other" designation: American Indian or Alaska Native, Native Hawaiian or Pacific Islander, and persons of multiple races.

Sex: Sex designations in this report are based on a person's sex assignment at birth. In May 2012, CDC issued guidance to state and local programs on methods for collecting data on transgender persons and working with transgender-specific data. However, characterization of HIV infection among transgender persons in Kentucky would require supplemental data from special studies.

Transmission Category: Classification used to summarize the behavior or event most likely responsible for disease transmission. Each case is only included in a single transmission route.

- MMSC: Male-to-male sexual contact.
- IDU: Individuals who report injecting nonprescription drugs.
- MMSC/IDU: Men who report having sex with other men and also inject nonprescription drugs.
- Heterosexual Contact: A person reporting specific heterosexual contact with a person known to have, or to be at high risk for HIV infection, such as IDU, a bisexual male (females only), or a person with hemophilia/coagulation disorder.
- FHC: A female who does not fit in the heterosexual contact category above, with no reported IDU, but reported sexual contact with a male and no additional information about the male's HIV status or behaviors.
- Hemophilia: Individuals receiving clotting factor for hemophilia/coagulation disorder.

- Perinatal: Individuals born to a mother with HIV or a mother with an exposure history listed in the transmission category hierarchy.
- Blood Transfusion/Organ Transplant: Individuals who received blood transfusions or organ transplants. Individuals with a transfusion date listed after March 1985 are considered Cases of Public Health Importance and are followed to verify the mode of transmission.
- Undetermined/NIR: Individuals reporting no exposure history to HIV through any of the modes listed in the transmission category hierarchy above.

Technical Notes

1. **Reporting Delays:** Delays exist between the time HIV infection is diagnosed and the time the infection is reported to the HIV/AIDS Surveillance Program. As a result of reporting delays, case statistics for the most recent years of diagnosis may not be complete. Therefore, the data for 2021 and 2022 are considered provisional and will not be presented in the analysis of trends. The data presented in this report have not been adjusted for reporting delays.
2. **Place of Residence:** HIV data are presented based on residence at the time the initial HIV infection was diagnosed. Data presented on living cases reflect those originally diagnosed while living in Kentucky that are still presumed to be living, regardless of their current residence. (Related: see Technical Note 5 below).
3. **Vital Status:** Cases are presumed to be alive unless the HIV/AIDS Surveillance Program has received notification of death. Current vital status information for cases is ascertained through routine site visits with major reporting sites, reports of death from providers, reports of death from other states' surveillance programs, routine matches with Kentucky death certificates (vital statistics registry), and Social Security Death Master Files.
4. **Transmission Route:** Despite the possible existence of multiple methods through which HIV was transmitted, cases are assigned a single most likely transmission route based on a hierarchy developed by the CDC. A limitation of the dataset is the large number of cases reported with an undetermined transmission route. Currently, surveillance data are collected through hard copy case reports, telephone reports, and chart reviews, which occasionally result in missing information. Enhanced surveillance activities have been implemented to resolve case reports with missing risk factor information, including the re-classification of females into the FHC category.
5. **RIDR:** Case duplication between states can occur and has become more of an issue due to the mobility of our society. To help resolve duplicate reporting, CDC initiated the RIDR project in 2004. RIDR compares patient records throughout the nation in order to identify duplicate cases. The states with duplicate cases contact one another to compare patient profiles to assign the case one state residency based on residence at the earliest date of diagnosis. Due to this process, the cumulative number of cases within Kentucky may change, but the process has increased the accuracy of Kentucky's data by reducing the chance that a case has been counted more than once nationally.

6. **Small Numbers:** Data release limitations are set to ensure that the information cannot be used to inadvertently identify an individual. Data suppression rules are applied based on the population denominators for analyses below the state level. Additional numerator suppression rules are applied for groups or geographic areas that have <50,000 population. Rates are not released when the numerator is fewer than ten cases because of the low reliability of rates based on the small number of cases**.**
7. **Difference between HIV Infection/HIV Disease, HIV without AIDS, and Concurrent Diagnosis of HIV with AIDS:** HIV infection includes all individuals diagnosed with HIV regardless of the stage of disease progression. This term is used interchangeably with HIV disease. The data are presented based on the date of the first diagnosis reported to the HIV/AIDS Surveillance Program. HIV without AIDS includes individuals who were diagnosed with HIV and had not progressed to AIDS as of the report date. Concurrent diagnosis includes those who were diagnosed with AIDS within 30 days of initial HIV diagnosis.

Data Sources

In creating the IEP for Kentucky, several data sources were used to help visualize the overall picture of HIV disease within the state of Kentucky. A brief description of all the data sources follows.

Kentucky HIV/AIDS Surveillance Data

In 1982, CHFS established a surveillance system to track diagnosed AIDS cases. Additionally, in 2004, state regulation 902 KAR 2:020 was enacted to facilitate the reporting of name-based HIV infections. Data are collected on standardized reporting forms and include information on demographics, laboratory and clinical information, category of transmission, opportunistic infections, treatment, and referral services. Data are obtained from mandatory laboratory reporting and medical record abstractions. All data are stored in the eHARS. eHARS data are only representative of reported infections. Consequently, persons tested and not reported, persons testing anonymously, and persons undiagnosed/untested are not included in surveillance data. No adjustments have been made to the data to account for reporting delays or missing mode of transmission, unless indicated.

Kentucky State Data Center

Kentucky population estimates used to describe socio-demographic characteristics and calculate rates were obtained from the Kentucky State Data Center. The Kentucky State Data Center Program is a cooperative effort among the University of Louisville, the Commonwealth of Kentucky, and the U.S. Census Bureau. Kentucky Population Research is the applied demographic research program of the University of Louisville's Urban Studies Institute that provides technical assistance to the Kentucky State Data Center. The Kentucky State Data Center and Kentucky Population Research are housed at the University of Louisville. Data can be accessed at http://ksdc.louisville.edu/datadownloads/estimates/.

This website includes current population estimates and projections, income and poverty levels, education levels, and housing data. Profiles for Kentucky are divided by state, ADD, county and

city. This website also provides links to the U.S. Census Bureau to obtain further census information.

U.S. Census Bureau

General population data, including demographics, income levels, socio-economic status indicators, poverty rate, and educational attainment was obtained from the U.S. Census Bureau, in either the American Community Survey (ACS) 5-Year Estimates, or the SAHIE portion of the ACS.

ACS is an ongoing survey used to obtain information to determine how federal and state funds should be distributed annually. ACS collects data on social, housing, economic and demographic data for the American public.

The SAHIE portion of ACS was used to obtain percentages of those uninsured in Kentucky.

U.S. Census Bureau data contains a wide range of online statistical data on the U.S. population in different formats (e.g., tables, maps). State and county-specific information is easily accessible, and links to other census websites are provided.

U.S. Bureau of Labor Statistics

Employment data was obtained from the U.S. Bureau of Labor Statistics. This data set is a monthly survey of the payroll records of various businesses which provide data on employment hours and earnings.

Appalachian Regional Commission

ARC is an economic development partnership agency of the federal government and 13 state governments focusing on 423 counties across the Appalachian Region. ARC's mission is to innovate, partner, and invest to build community capacity and strengthen economic growth in Appalachia. ARC develops various data research reports, chartbooks, evaluations, and maps to understand the needs of the Appalachian Region.

Feeding America

Map the Meal Gaps is an annual study conducted by Feeding America to improve the understanding of how food insecurity and food costs vary at the local level. By better understanding variations in local need, communities can develop more targeted strategies to reach people struggling with hunger. For food insecurity estimates, Map the Meal Gap analyzes the relationship between food insecurity and its determinants which includes non-undergraduate student poverty, unemployment, median income, homeownership, and disability status. The model also includes controls for percentage of the population that is African American and percentage that is Hispanic.

Vital Statistics Data

OVS is housed within CHFS. It maintains a database of vital records, including birth and death data. Mortality data can be used to monitor and evaluate health status in terms of current mortality levels and long-term mortality trends, as well as to identify segments of the population at greatest risk of death from specific diseases and injuries. Mortality data are useful for HIV surveillance in ascertaining deaths of persons diagnosed with HIV infection, including leading and underlying causes of death. These data are linked with HIV/AIDS data at least annually. HIV/AIDS data are also linked with Social Security Death Master Files annually.

Behavioral Risk Factor Surveillance System

The Behavioral Risk Factor Surveillance System (BRFSS) is a telephone health survey sponsored by CDC. The survey is randomly administered to non-institutionalized civilian adults aged 18 and older who are living in a household with a telephone. Participation in the survey is strictly voluntary. Personal identifying information, such as name or address, is not collected. In Kentucky, BRFSS has been conducted continuously since 1985. The Kentucky BRFSS Program is located organizationally within CHFS. Data from this survey are used to identify HIV risk factor indicators among persons in Kentucky.

Kentucky Needs Assessments

The 2020 EHE Needs Assessment Survey was developed to gather data from both stakeholders and community members. Data was collected through questions covering the availability and perceived availability of resources and programs from across the four pillars of Ending the HIV Epidemic, as well as barriers to community access to these services. The data collected was used to provide planning group members with a clear picture of the HIV epidemic in Kentucky.

The 2022 End HIV Kentucky Statewide Needs Assessment Survey was conducted as part of the statewide integrated planning process to provide consumer driven data regarding needs, use, barriers, and gaps in HIV prevention and treatment within the state of Kentucky.

General Limitations

HIV prevalence data presented are not inclusive of persons who have not been tested, persons who have been tested anonymously, or persons who have been tested but not reported. Therefore, HIV prevalence data presented in this report, though representative of majority of diagnosed and reported infections, are not inclusive of all living HIV cases.

Several data sources have been utilized for compilation of this profile. The classification of some demographic groups may not be similar to classifications of HIV infections to allow direct comparisons, though this is very minimal. Additionally, some of the data sources may not be as recent as the presented HIV data.

Lastly, behavioral risk group categories in some of the surveys were not necessarily collected in the same format as HIV surveillance risk behaviors. This makes direct comparison of risk groups to HIV data challenging.

Additionally, there are about 10% cumulative HIV infections without a known mode of transmission, which further complicates direct comparison of data sources. Enhanced surveillance activities have been implemented to resolve case reports with missing risk factor information.

Domain 1: Population Demographics and Social Determinants of Health

Question 1.1: What are the demographic characteristics and social determinants of health among the general population in Kentucky?

Demographics Characteristics

In 2020, the population of Kentucky was estimated to be 4,477,251 by the Kentucky State Data Center. Kentucky is the 36th largest state by geographic area in the United States.[1] Kentucky's population increased by 3% from the year 2010 to 2020.[2] There are 120 counties in Kentucky, with Jefferson County housing the largest population with an estimated 782,969 residents, and Robertson County with the smallest population (estimated 2,193 residents).[2] Kentucky is divided into 15 ADDs; the individual counties that make up each ADD can be found in Appendix 1. Figure 1 below highlights Kentucky's population by county. Figure 2 shows Kentucky's population estimates from year 2010 to 2020.

Figure 1: Population by County, 2020, Kentucky

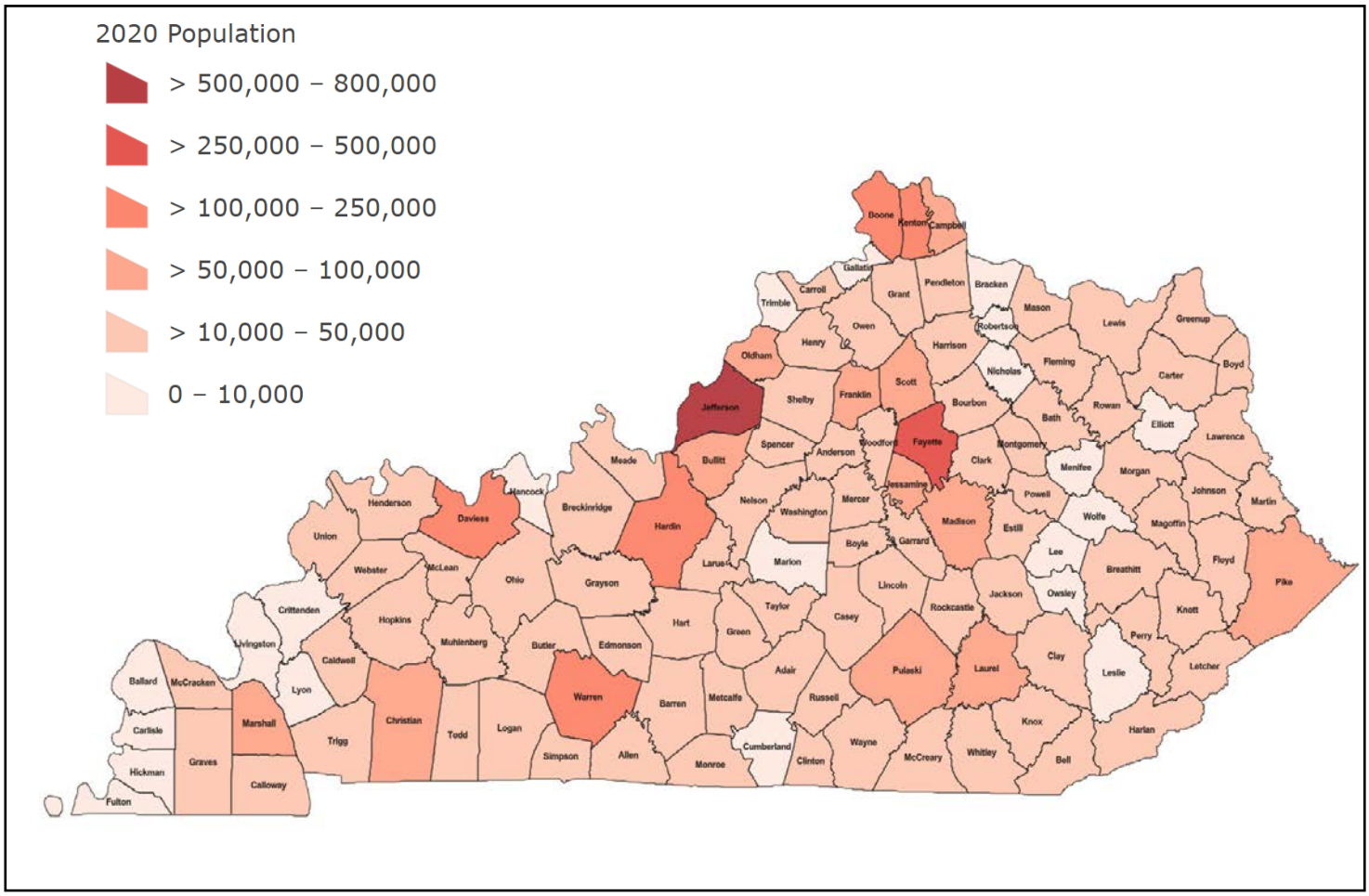
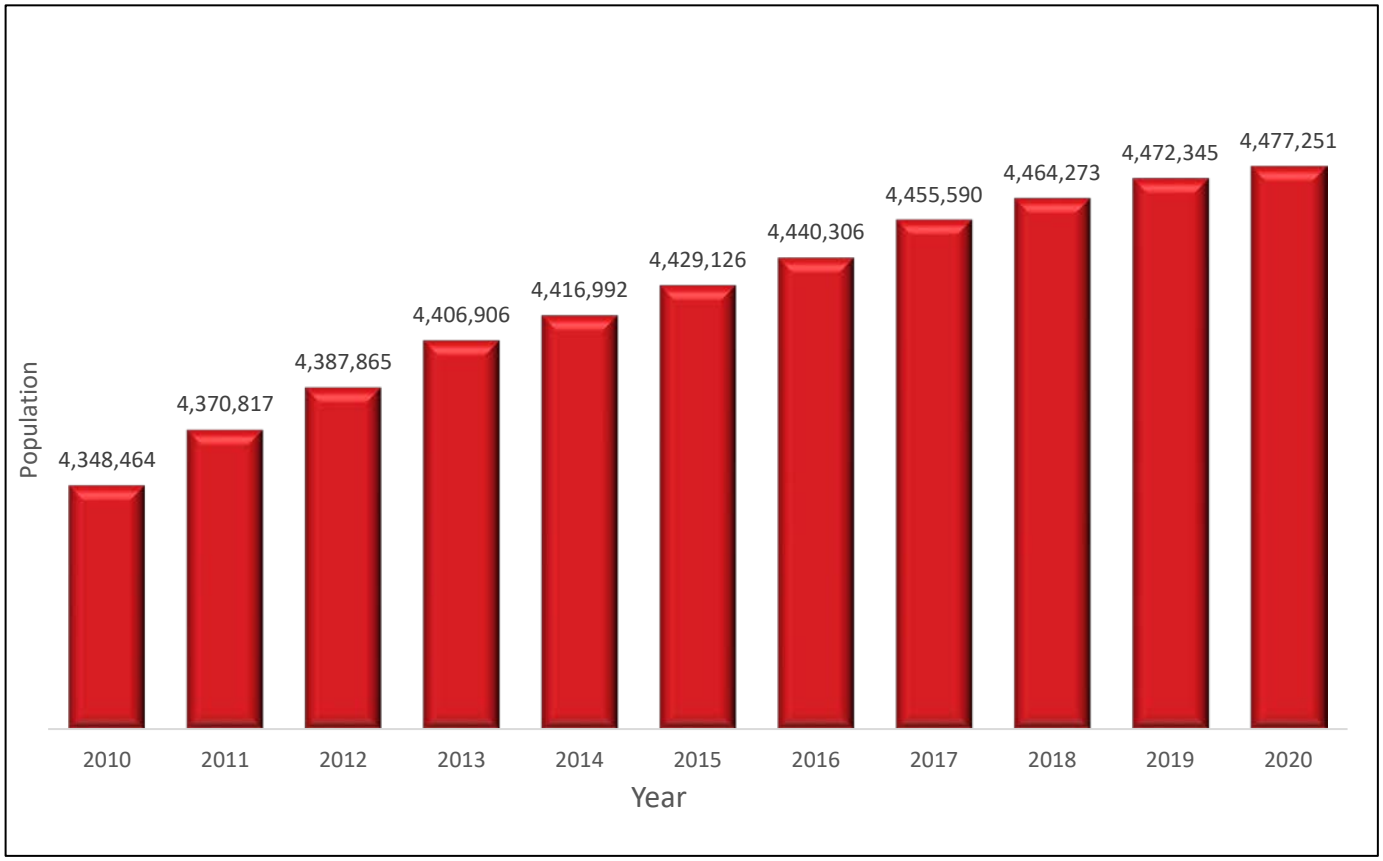


Figure 2: Total Population by Year, 2010 to 2020, Kentucky



Bluegrass ADD includes the city of Lexington, KIPDA ADD includes the city of Louisville, and Northern Kentucky ADD includes the cities of Covington and Florence. Table 1 below shows Kentucky's population by ADD. KIPDA ADD (22.6%) has the largest population, while Buffalo Trace ADD has the smallest (1.2%).[2]

Bluegrass, KIPDA, and Northern Kentucky ADDs make up over 50% of the estimated population in Kentucky. From 2010 to 2020, the ADDs with the highest percentage of population growth were Barren River (9%), Bluegrass (8.1%), Northern Kentucky (6.3%) and KIPDA (5.2%).[2] Table 2 shows a list of ADDs and the percent change in population from 2010 to 2020. The ADDs that experienced a reduction in population include Big Sandy (-11.3%), Kentucky River (-10.9%), and Cumberland Valley (-3.1%).[2]

Table 1: Population and Percent Distribution by ADD of Residence, 2020, Kentucky

Population and Percent Distribution by ADD of Residence, 2020, Kentucky		
ADD	**Population**	**Percent**
Barren River	310,722	6.9%
Big Sandy	137,081	3.1%
Bluegrass	835,529	18.7%
Buffalo Trace	55,322	1.2%
Cumberland Valley	229,480	5.1%
FIVCO	130,731	2.9%
Gateway	84,993	1.9%
Green River	215,800	4.8%
KIPDA	1,010,377	22.6%
Kentucky River	102,073	2.3%
Lake Cumberland	209,764	4.7%
Lincoln Trail	279,284	6.2%
Northern Kentucky	467,864	10.4%
Pennyrile	212,529	4.7%
Purchase	195,702	4.4%
Total	**4,477,251**	**100%**

Table 2: Population Change from 2010 to 2020 by ADD, Kentucky

Population Change from 2010 to 2020 by ADD, Kentucky			
ADD	**2010 Population**	**2020 Population**	**Percent Change**
Barren River	284,949	310,722	9%
Big Sandy	154,608	137,081	-11.3%
Bluegrass	772,582	835,529	8.1%
Buffalo Trace	56,528	55,322	-2.1%
Cumberland Valley	236,714	229,480	-3.1%
FIVCO	137,931	130,731	-5.2%
Gateway	81,652	84,993	4.1%
Green River	213,720	215,800	1.0%
KIPDA	960,590	1,010,377	5.2%
Kentucky River	114,514	102,073	-10.9%
Lake Cumberland	207,684	209,764	1.0%
Lincoln Trail	270,845	279,284	3.1%
Northern Kentucky	440,010	467,864	6.3%
Pennyrile	219,548	212,529	-3.2%
Purchase	196,589	195,702	-0.5%
Total	**4,348,464**	**4,477,251**	**3.0%**

Age and Sex at Birth

Table 3 below, shows the distribution of Kentucky's 2020 population by age and sex at birth. The age group that contained the largest proportion of Kentucky's population included those 65 years or older (17.2%), followed by those younger than 13 (16.0%). The percentage of males exceeded females in all age groups except for ages 55 and older. Overall, the percentage of females (50.7%) was slightly higher than the percentage of males (49.3%) in Kentucky.[2]

Table 3: Distribution of Kentucky Population by Age Group and Sex at Birth, 2020

Kentucky Population by Age Group and Sex at Birth, 2020						
Age	Males		Females		Total Population	
	No.	%	No.	%	No.	%
<13	367,062	16.6%	348,705	15.3%	715,767	16.0%
13-14	58,798	2.7%	56,048	2.5%	114,846	2.6%
15-24	299,872	13.6%	283,489	12.5%	583,361	13.0%
25-34	301,683	13.7%	289,420	12.7%	591,103	13.2%
35-44	274,239	12.4%	276,702	12.2%	550,941	12.3%
45-54	274,404	12.4%	280,010	12.3%	554,414	12.4%
55-64	286,694	13.0%	309,290	13.6%	595,984	13.3%
≥65	342,593	15.5%	428,242	18.8%	770,835	17.2%
Total	**2,205,345**	**100%**	**2,271,906**	**100%**	**4,477,251**	**100%**

Race/Ethnicity and Sex at Birth

The racial distribution of Kentucky's population is presented in Table 4. Race and ethnicity data have been collapsed into 4 categories, which are, White, Black/African American, Hispanic and others. Among Kentuckians, 85% are White, 9% are African American, 4% are Hispanic and two percent belong to other racial and ethnic categories.[2]

Table 4: Distribution of Kentucky Population by Race/Ethnicity and Sex at Birth, 2020

Kentucky Population by Race/Ethnicity by Sex at Birth, 2020						
Race/Ethnicity	Males		Females		Total Population	
	No.	%	No.	%	No.	%
White, Not Hispanic	186,5039	84.6%	1,940,038	85.4%	3,805,077	85.0%
Black, Not Hispanic	199,721	9.1%	201,371	8.9%	401,092	9.0%
Other	44,681	2.0%	47,124	2.1%	91,805	2.1%
Hispanic	95,904	4.3%	83,373	3.7%	179,277	4.0%
Total	**2,205,345**	**100%**	**2,271,906**	**100%**	**4,477,251**	**100%**

Table 5 below displays the racial distribution by Kentucky's ADDs. KIPDA holds the largest percentage of residents of any race/ethnicity. White Kentuckians are the majority of the population in every ADD. About one-fifth of the White population in Kentucky resides in each ADD of KIPDA (19.3%) and Bluegrass (18.2%). About half (46%) of the Black/African American population lives in KIPDA, while only about a half percent (0.4%) lives in Kentucky River ADD. One third of the Hispanic population lives in KIPDA (32.7%) and about a quarter of population lives in Bluegrass (22.9%) ADD.[2]

Table 5: Distribution of Kentucky Population by Race/Ethnicity and ADD of Residence, 2020

Kentucky Population by Race/Ethnicity and ADD of Residence, 2020										
ADD	White		Black/African American		Other*		Hispanic		Total Population	
	No.	%	No.	%	No.	%	No.	%	No.	%
Barren River	267,400	7.0%	21,720	5.4%	9,102	9.9%	12,500	7.0%	310,722	6.9%
Big Sandy	132,631	3.5%	1,948	0.5%	835	0.9%	1,667	0.9%	137,081	3.1%
Bluegrass	692,274	18.2%	80,129	20.0%	22,016	24.0%	41,110	22.9%	835,529	18.7%
Buffalo Trace	52,383	1.4%	1,679	0.4%	365	0.4%	895	0.5%	55,322	1.2%
Cumberland Valley	220,593	5.8%	3,944	1.0%	1,649	1.8%	3,294	1.8%	229,480	5.1%
FIVCO	125,264	3.3%	2,441	0.6%	1,018	1.1%	2,008	1.1%	130,731	2.9%
Gateway	80,084	2.1%	2,394	0.6%	740	0.8%	1,775	1.0%	84,993	1.9%
Green River	192,657	5.1%	12,951	3.2%	3,218	3.5%	6,974	3.9%	215,800	4.8%
KIPDA	734,057	19.3%	186,880	46.6%	30,838	33.6%	58,602	32.7%	1,010,377	22.6%
Kentucky River	98,815	2.6%	1,351	0.3%	755	0.8%	1,152	0.6%	102,073	2.3%
Lake Cumberland	196,379	5.2%	5,555	1.4%	1,956	2.1%	5,874	3.3%	209,764	4.7%
Lincoln Trail	240,959	6.3%	22,164	5.5%	5,110	5.6%	11,051	6.2%	279,284	6.2%
Northern Kentucky	423,068	11.1%	19,336	4.8%	8,895	9.7%	16,565	9.2%	467,864	10.4%
Pennyrile	175,814	4.6%	24,697	6.2%	2,901	3.2%	9,117	5.1%	212,529	4.7%
Purchase	172,699	4.5%	13,903	3.5%	2,407	2.6%	6,693	3.7%	195,702	4.4%
Total	**3,805,077**	**100%**	**401,092**	**100%**	**91,805**	**100%**	**179,277**	**100%**	**4,477,251**	**100%**

*Other includes American Indian/Alaska Native, Asian, or Native Hawaiian/Pacific Islander

Nativity

The U.S. Census 2016-2020 ACS 5-Year Estimates was used to determine the nativity of Kentucky residents. Nativity refers to whether a resident was born inside the U.S. (native-born), or born outside the U.S., also known as foreign-born. Table 6 below shows the distribution of Kentuckians for native or foreign-born by sex at birth and race/ethnicity. It is estimated that 96% of Kentucky residents are native-born and 4% are foreign-born.[3] Of the residents who are foreign-born, it is estimated that over half are not U.S. citizens.[3] Among foreign-born populations, those of Hispanic origin (34.5%) make up the highest percentage by ethnic group.[3]

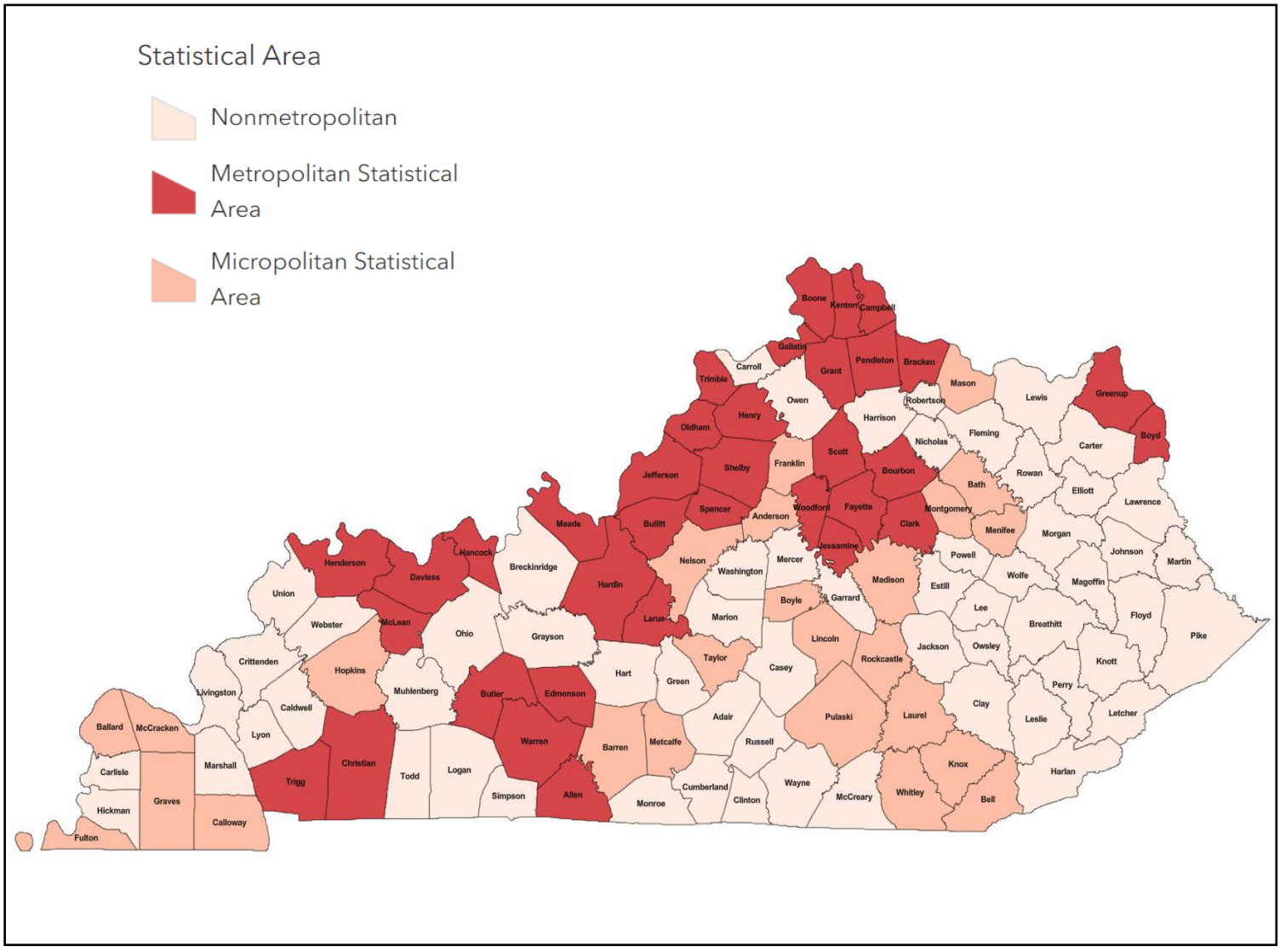
Table 6: Percentage of residents by Nativity, Sex at Birth, and Race/Ethnicity, 2016-2020, Kentucky

Residents by Native-born, Foreign-born, Sex at Birth, and Race/Ethnicity, 2016-2020, Kentucky		
Characteristic	**Native-Born N = 4,285,629**	**Foreign-Born N = 176,323**
	%	**%**
Sex at Birth		
Male	49.1%	52.1%
Female	50.9%	47.9%
Race/Ethnicity		
White	86.6%	21.8%
African American	7.9%	12.9%
American Indian/Alaska Native	0.2%	0.3%
Asian	0.4%	28.2%
Native Hawaiian and other Pacific Islander	0.1%	0.5%
Hispanic	2.5%	34.5%
U.S. Citizenship Status		
Naturalized citizen	-	40.5%
Not a U.S. citizen	-	59.5%

Metropolitan Statistical Areas

The U.S. Office of Management and Budget and U.S. Census Bureau group counties based on population size of core urban area. These groups of counties are defined as metropolitan, micropolitan, or nonmetropolitan statistical areas.[5] A metropolitan statistical area contains a core urban area with a population of at least 50,000.[5] It also includes adjacent counties that have a high degree of social and economic integration with the core urban area. A micropolitan statistical area contains a core urban area with a population between 10,000-49,999.[5] It also includes adjacent counties that have a high degree of social and economic integration with the core urban area. The areas that do not meet the population requirements for the metropolitan or micropolitan areas are referred to as nonmetropolitan statistical areas. Nonmetropolitan statistical areas are not synonymous with rural areas. Figure 3 below highlights the statistical areas by county in Kentucky.

Figure 3: Metropolitan Statistical Area by County, 2020, Kentucky



Appalachian Region

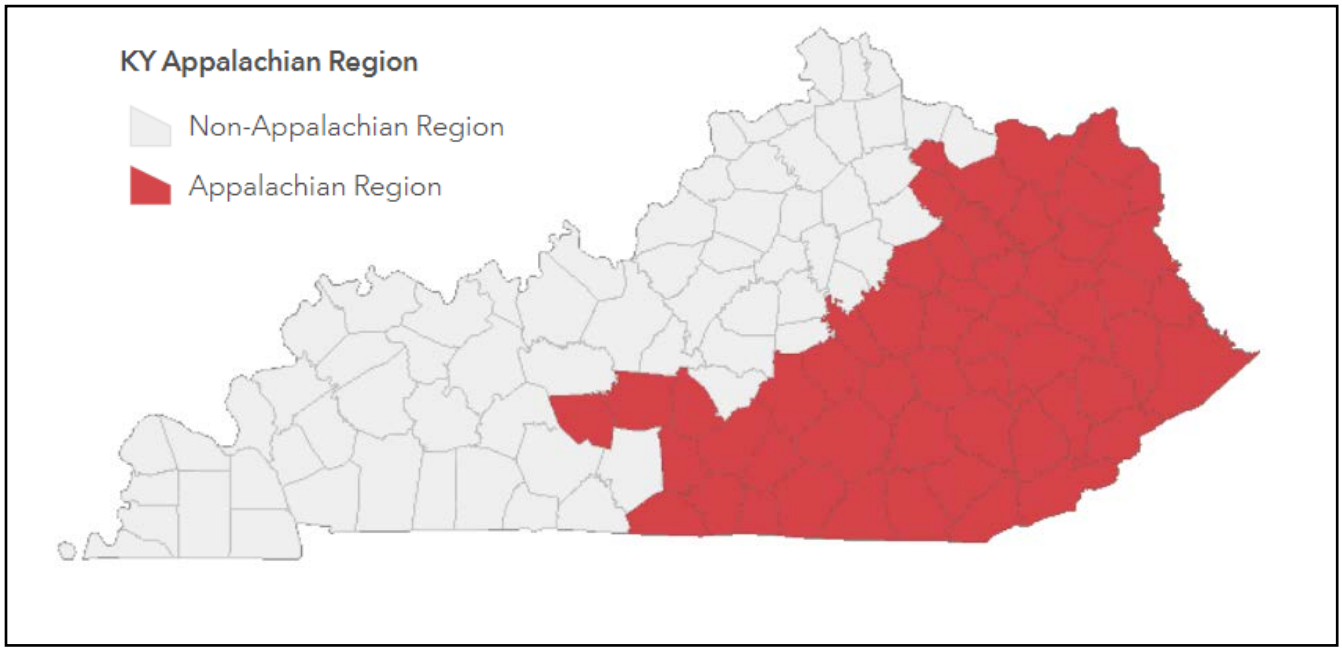
The Appalachian Region consist of 423 counties across 13 states that include or border the Appalachian Mountains. The region stretches from southern New York to northern Mississippi.[4] In Kentucky, 54 counties are a part of the Appalachian Region. The population in Appalachian Kentucky is estimated to be 1,166,054, which is 26% of Kentucky's population.[2] Based on factors which place the counties at particular risk for economic distress, they are designated as part of Appalachia by ARC.[4] 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. Appalachian Kentucky's median household income was 40% less than the national median, and 31% less than the median income in non-Appalachian Kentucky. Appalachian Kentucky had a 26% lower supply of primary care physicians per 100,000 population and a 59% lower supply of specialty providers compared to non-Appalachian Kentucky with 21% lower primary care physicians and 60% lower specialty providers than the national average.[35] Table 7 compares several national rates with Appalachian and non-Appalachian regions in Kentucky. Kentucky Appalachian region rates compares very poorly to the national and non-Appalachian regions of Kentucky. Based on these challenges, Kentucky Appalachian region population must be prioritized to ensure the equable distribution of resources so that everyone can maintain a healthy lifestyle.

Table 7: National Rates Compared to Appalachian Kentucky and Non-Appalachian Kentucky

National Rates Compared to Appalachian Kentucky and Non-Appalachian Kentucky, %[34,35]					
	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%

Figure 4 below represents the Appalachian and Non-Appalachian counties in Kentucky.

Figure 4: Kentucky Counties by Appalachian Region



Social Determinants of Health

Healthy People 2030 defines social determinants of health as conditions in the environments where people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks. Some social determinants of health factors may include economic stability, healthcare access and quality, and/or educational access and quality. Kentucky has been challenged by high unemployment and poverty rates, as well as low median household income and educational attainment. In general, Kentucky lags the nation on these indicators. Kentucky has less diversity by race/ethnicity when compared to other states.[6] Among Kentuckians, 85% are White, 9% are African American, 4% are Hispanic and 2% are other races.[2] Based on the 2020 ACS 5-Year Estimates, Kentucky ranked as the eighth poorest state with median household income of $52,238.[8] It is estimated that 16.6% of Kentuckians live below the poverty level, which is higher than the national percentage of 12.8%.[1] Children under 18 years account for 22.2% of the population living below poverty level.[1] In 2020, Kentucky had an unemployment rate of 6.4, compared to the national average of 8.1.[9] Nationally, Kentucky ranked very low for educational attainment.

Based on the America's Health Rankings Annual Report 2021, Kentucky ranked poorly in health measures such as physical inactivity, smoking, mental distress, chronic conditions, and premature death.[10] America's Health Rankings Health Disparities Report 2021 found disparities between metropolitan and non-metropolitan areas for uninsured, between Hispanic and White populations for

dedicated healthcare provider, and between those with less than a high school education and some college education for physical inactivity in Kentucky.[11]

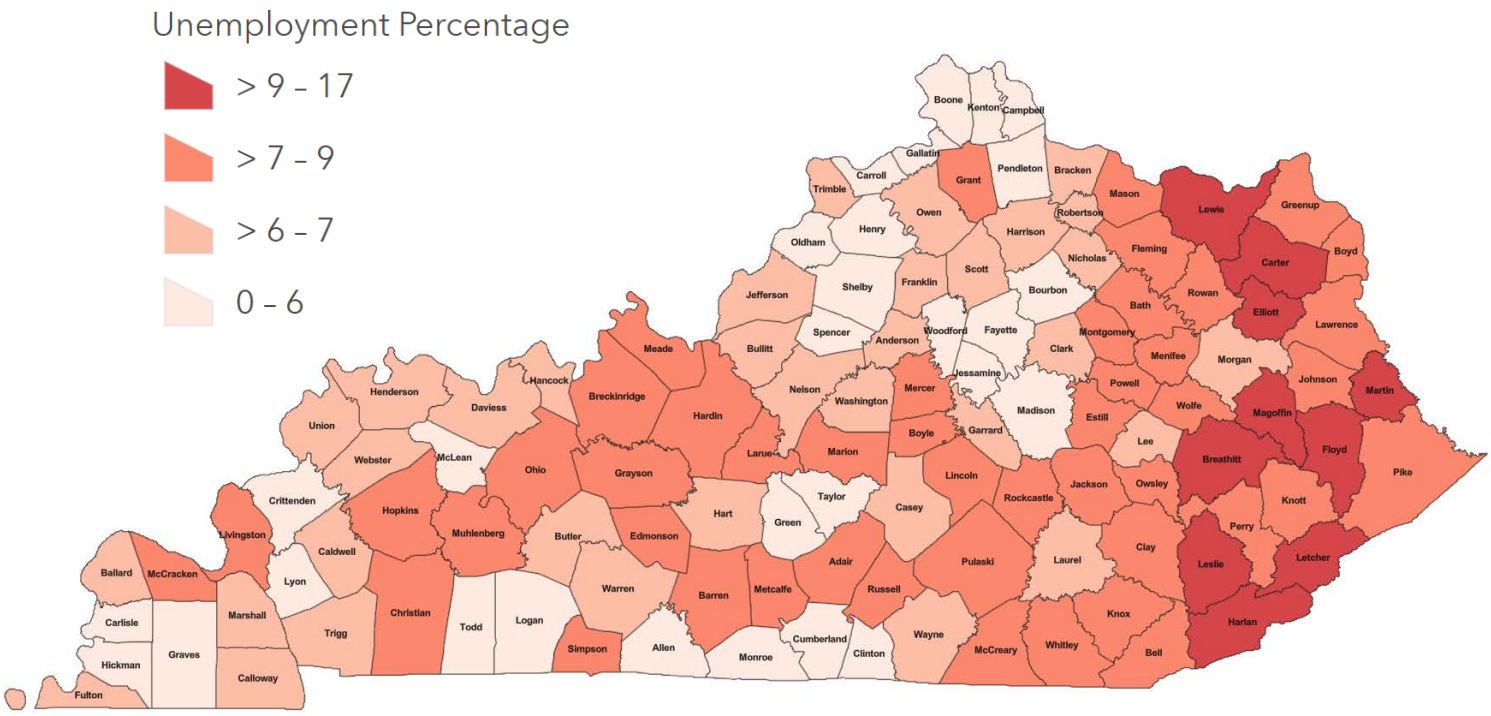
The following sections will describe factors that have an impact on the health and wellbeing of Kentucky's population.

Unemployment

During 2020, the average unemployment rate among the states in United States ranged from 4.1% (Nebraska) to 13.5% (Nevada). Kentucky was ranked 19th with the unemployment rate of 6.4% by the U.S. Bureau of Labor Statistics.[9] The unemployment rate for Kentucky was the highest in April 2020 at 16.5% .[12] The unemployment rates are calculated as the percentage of labor force living in the state.

As per the U.S. Bureau of Labor Statistics, Kentucky's average unemployment rate decreased from 6.4% in 2020 to 4.7% in 2021 (-1.7% change).[13] The counties with the highest unemployment rates for 2020 were Magoffin (16.1%), Harlan County (11.9%), Martin (11.6%), and Leslie County (10.6%). Counties with the lowest unemployment rates include Carlisle (4.7%), Oldham and Todd (4.8%), and Cumberland County (4.9%).[14]

Figure 5: Percentage of Unemployment by County, 2020 Annual Averages, Kentucky



The unemployment data shows the rate of unemployment being generally higher among the eastern Kentucky counties, which represent most of the Appalachian counties, with fewer opportunities for employment when compared to metropolitan areas like Louisville or Lexington.

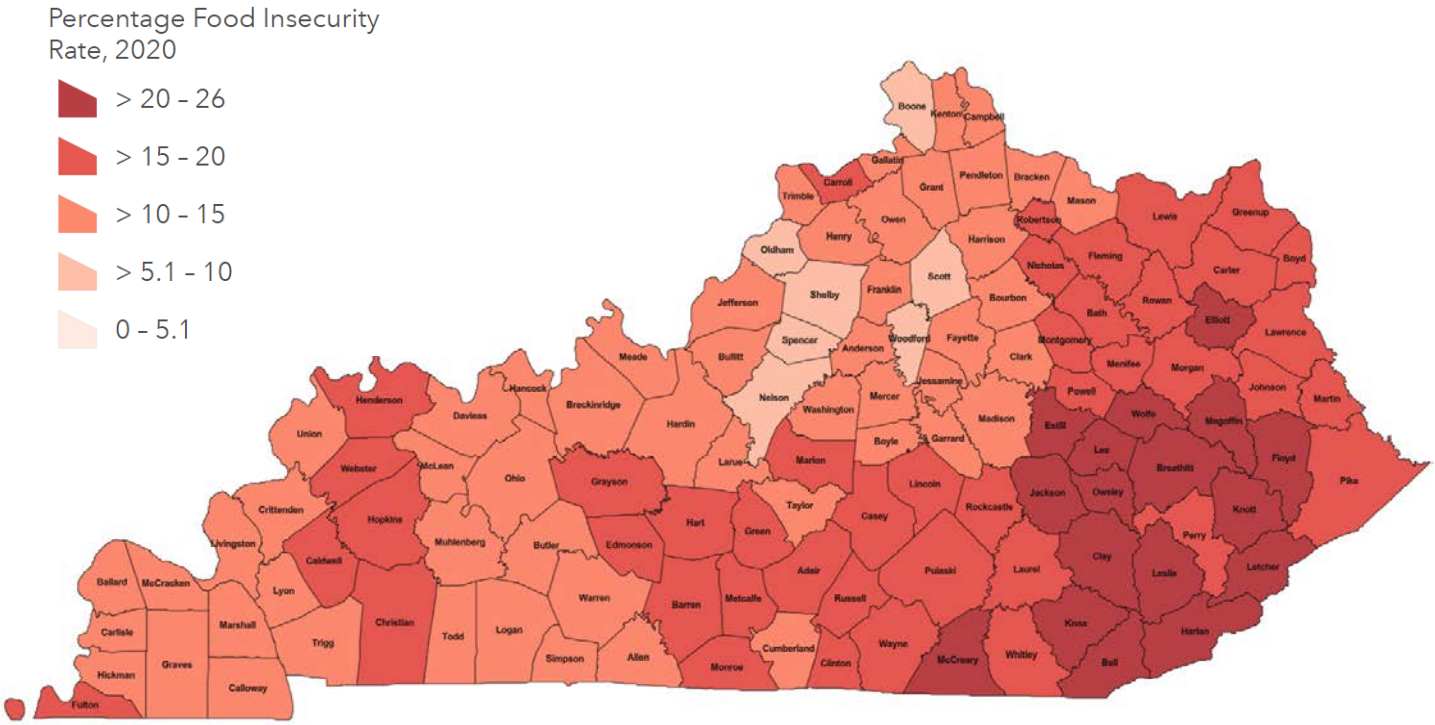
Food Insecurity

The U.S. Department of Agriculture defines food insecurity as lack of access, at times, to enough food for an active healthy life for all household members and limited or uncertain availability of nutritionally adequate foods. According to Feeding America, in 2020, it is estimated that 12.9% of Kentuckians were food insecure.[15] Kentucky has the highest rate of food insecurity among older adults (50–59 years old) in the nation at 17.3%.[16] Among Kentucky seniors 60 and older, 6.9% are food insecure.[16] Figure 6 highlights the food insecurity rate in Kentucky using the Feeding America Map the Meal Gap study data.

The food insecurity rates among Black populations (22%) and Hispanics (18%) are much higher when compared with White populations (12%), which shows the disparities based on race for food insecurity among Kentuckians.

As per the report, food insecurity varied from 5.4% in Oldham County to 25.9% in Wolfe County. In general, food insecurity rates for eastern Kentucky counties are higher compared to other parts of the state.

Figure 6: Feeding America Map the Meal Gap, 2020 Food Insecurity Rate in Kentucky



Source: Map the Meal Gap 2021: An Analysis of County and Congressional District Food Insecurity and County Food Cost in the United States in 2020. Feeding America.

Homelessness/Housing

The data from the National Alliance to End Homelessness, estimates that on a given night in 2020, there are 4,011 people homeless in Kentucky. In 2020, the average rate of homelessness for Kentucky is 9.0 homeless per 10,000 population, which shows a major decrease from 19.1 per 10,000 population in 2007. As per the report, the two major cities in Kentucky had a higher rate of homelessness with Louisville (Jefferson County) at 14.4 homeless per 10,000 population and Lexington (Fayette County) with 21.3 homeless per 10,000 population.[18] The report showed that the rate of homelessness in Kentucky is much higher among males (10.9 per 10,000 population) compared to females (7.1 per 10,000 population). The report also states that the rate of homelessness in Kentucky is higher among African American (27.7 per 10,000 population) compared to Hispanics at 8.3 per 10,000 population and White populations at 7.3 per 10,000 population.

Figure 7: Rate of Homelessness by Gender, 2020, Kentucky

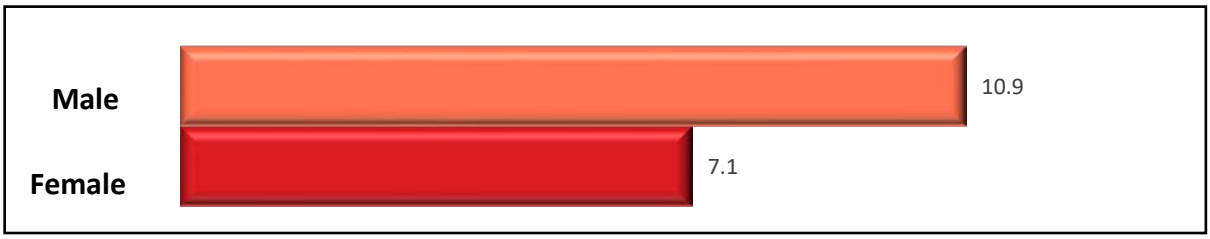
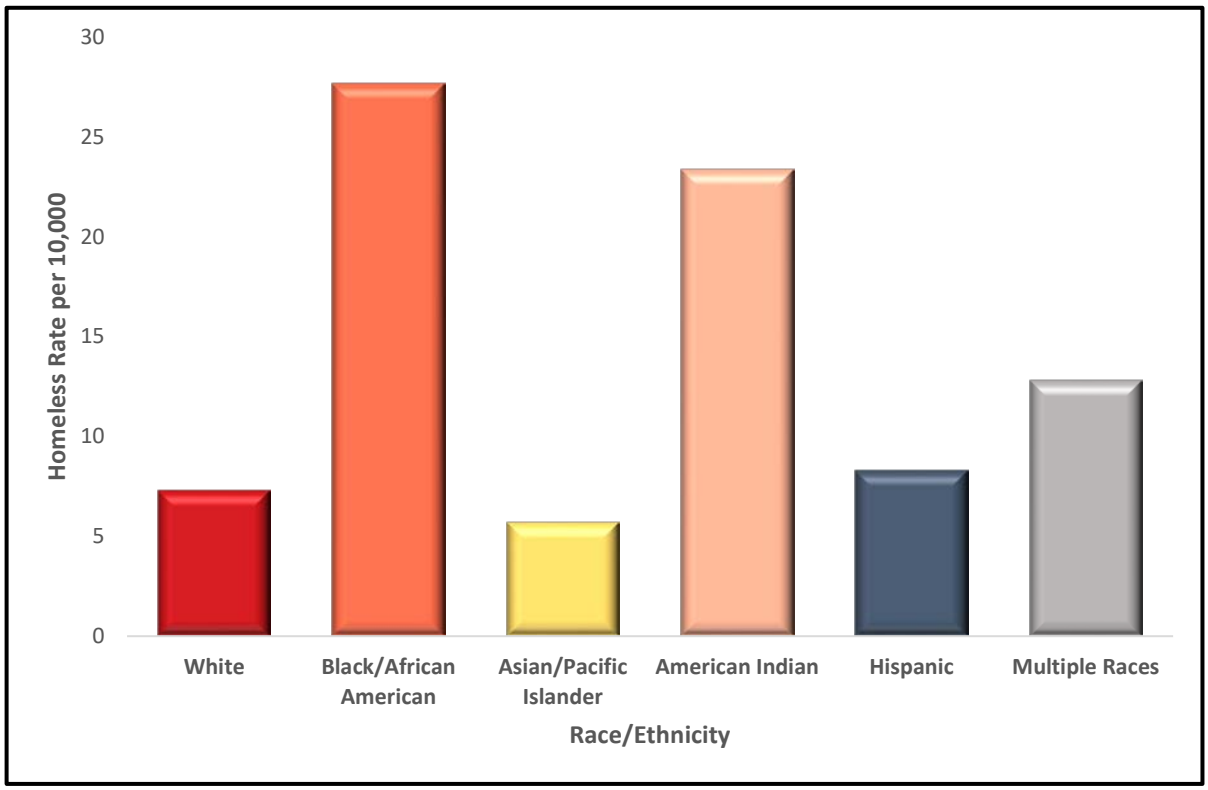


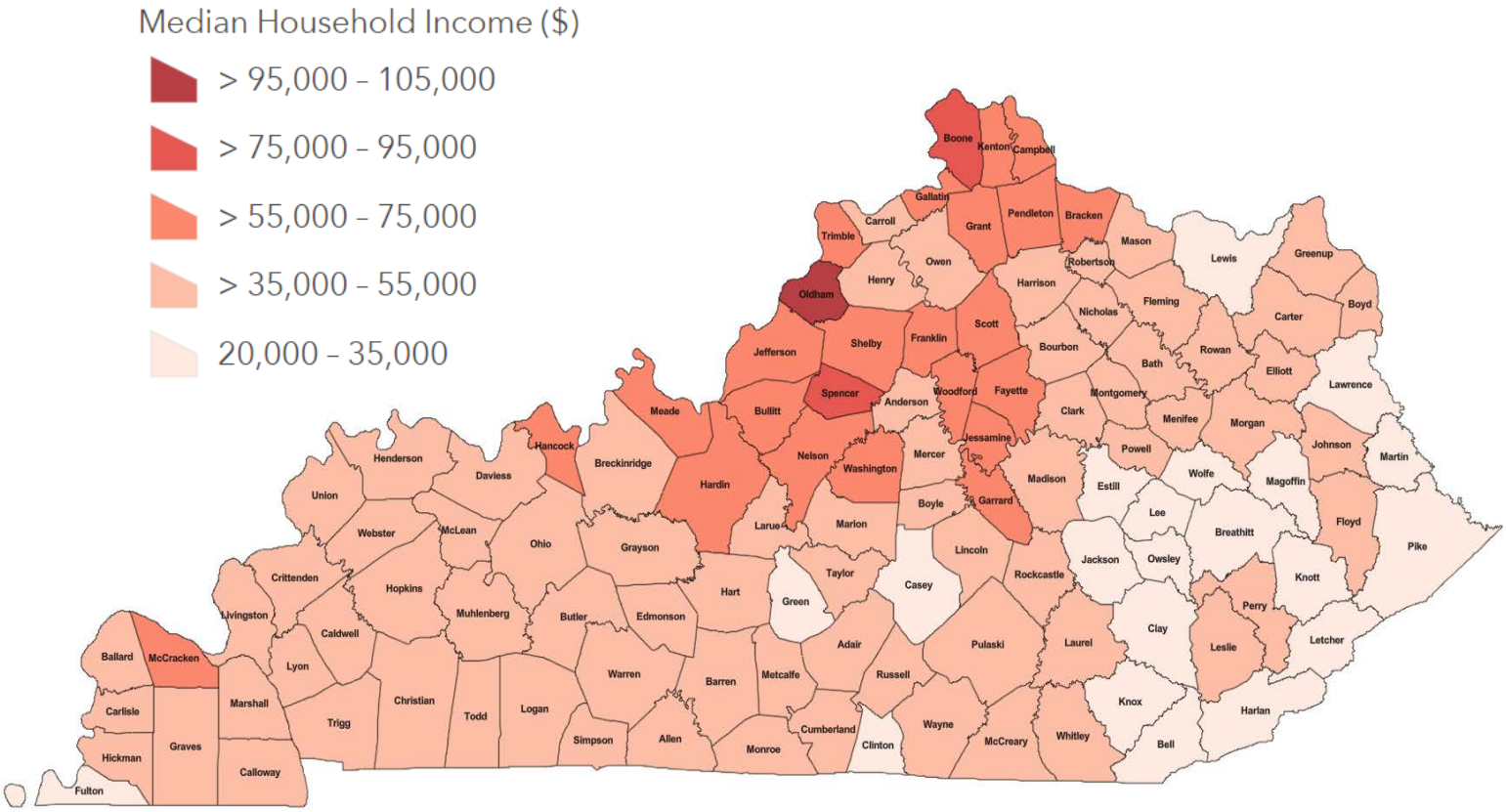
Figure 8: Rate of Homelessness by Race/Ethnicity, 2020, Kentucky



Median Household Income

According to U.S. Census estimates, in 2020, Kentucky had a median household income of $52,238 compared to $64,994 in the United States. The median household income for Kentucky counties shows a major variation from more than $100,000 to less than $30,000. The counties with the highest median household income were Oldham County at $103,761, Spencer County at $85,488 and Boone County at $82,838. The three counties with lowest median household income were Wolfe County at $22,292, Lee County at $24,699, and Clay County at $27,479.[7] Figure 9 highlights the median household income by county. In general, eastern Kentucky counties have a lower median household income when compared to other parts of the state.

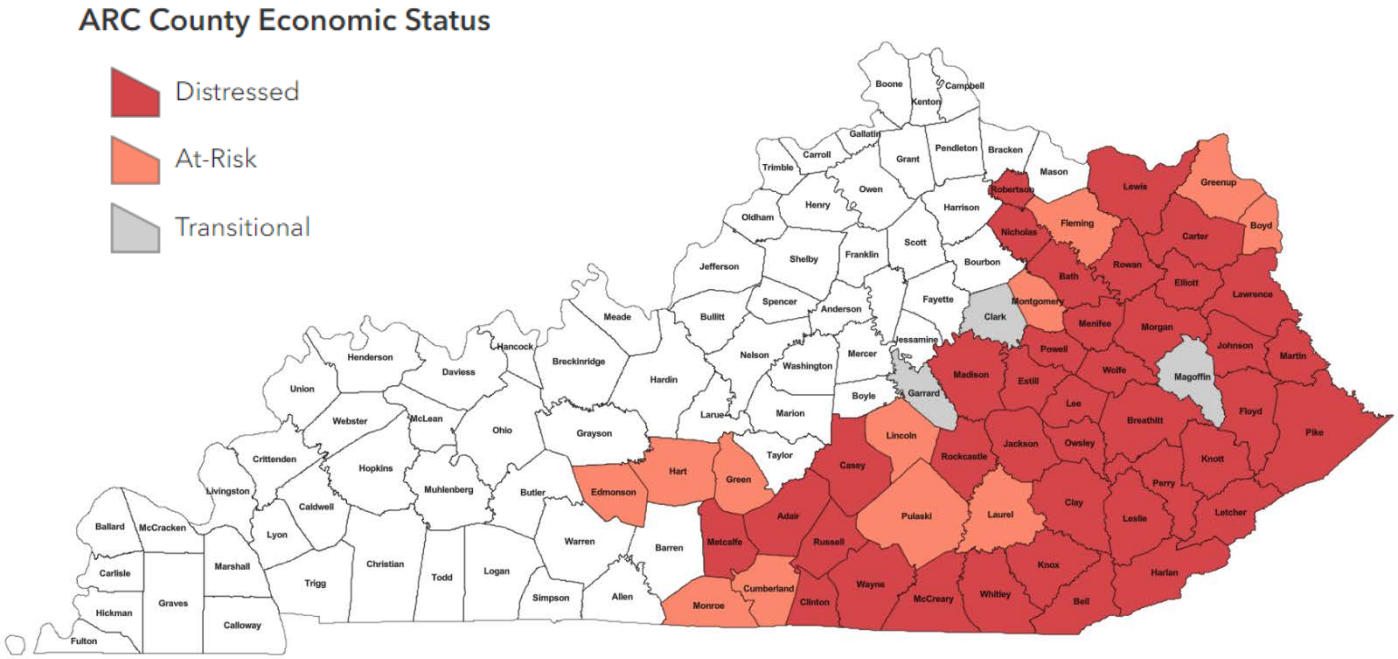
Figure 9: Median Household Income by County, 2020, Kentucky



Economic Status Classification System for Appalachian Counties

In the 2022 ARC County Economic Status classification system, Kentucky Appalachian counties were classified as either distressed, at-risk, or transitional. See classification definitions below. When compared to other Appalachian counties, Kentucky Appalachian counties make up 48% of the Appalachian region that are classified as distressed.[19]

Figure 10: ARC County Economic Status Classification System, Kentucky

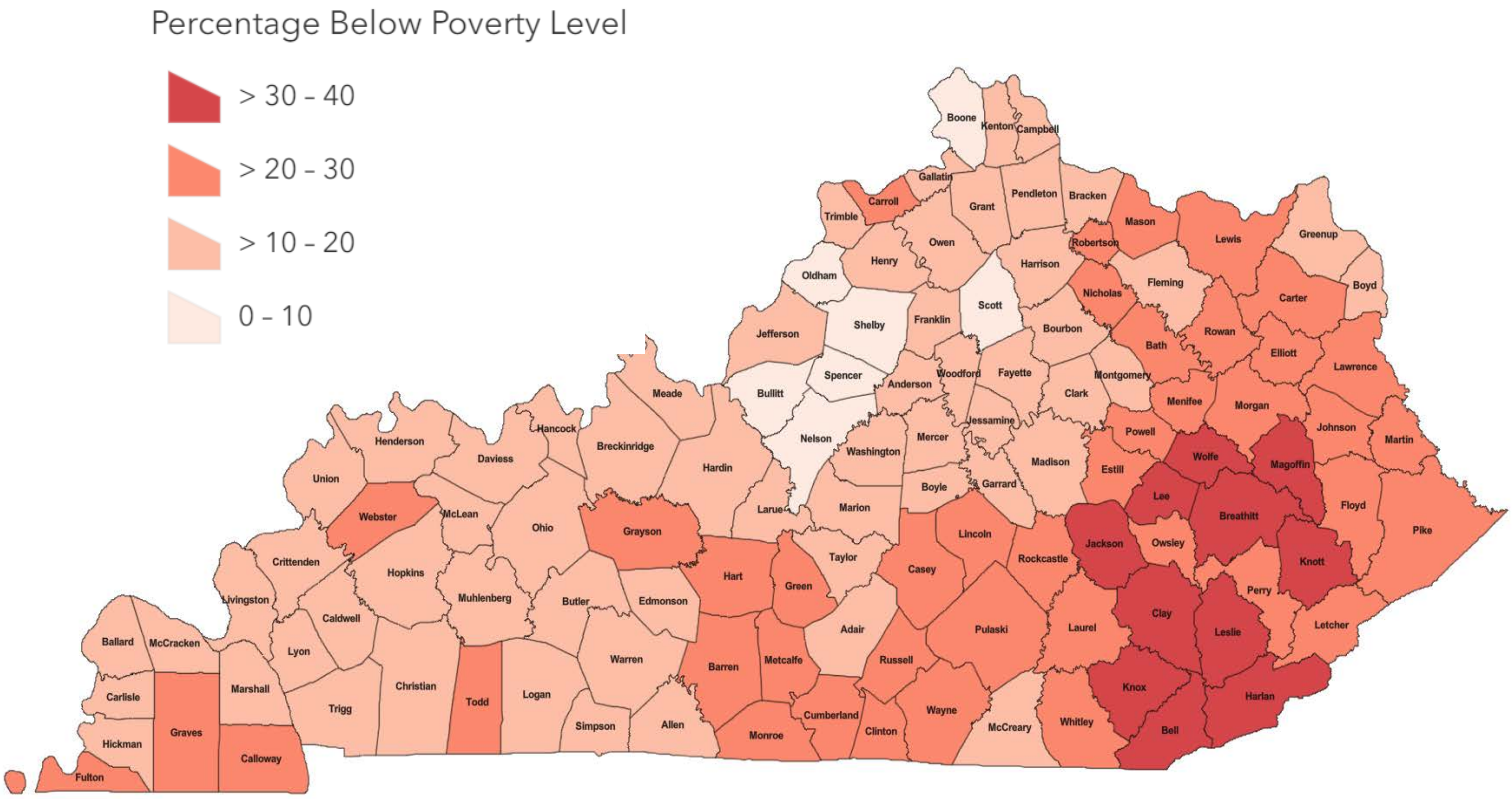


Distressed	Distressed counties are the most economically depressed countries.
At-Risk	At-Risk counties are those at risk of becoming economically distressed.
Transitional	Transitional counties are those transitioning between strong and weak economies.
Competitive	Competitive counties are those that are able to compete in the national economy but are not in the highest 10 percent of the nation's counties.
Attainment	Attainment counties are the economically strongest counties.

Poverty Rate

In 2020, 16.6% of Kentucky residents lived below poverty level, compared to 11.4% at national level.[20] In Kentucky, African Americans (26.6%) and Hispanics (24.4%) had a higher percentage living below the poverty level compared to White populations at 15.4%. Of those that lived below poverty level, 32.6% had less than a high school education and 35.1% were unemployed.[20] The counties with the highest percentage living below the poverty level in Kentucky included Wolfe County (36.1%), Clay County (34.9%), and Harlan County (34.2%).[20] The counties with the lowest percentage included Oldham County (4.8%), Boone County (6.5%), and Nelson County (7.7%).[20] Figure 11 below, highlights Kentucky's poverty rate by county. In general, eastern, and southeastern counties of Kentucky have a higher percentage of those living below poverty when compared to other parts of the state.

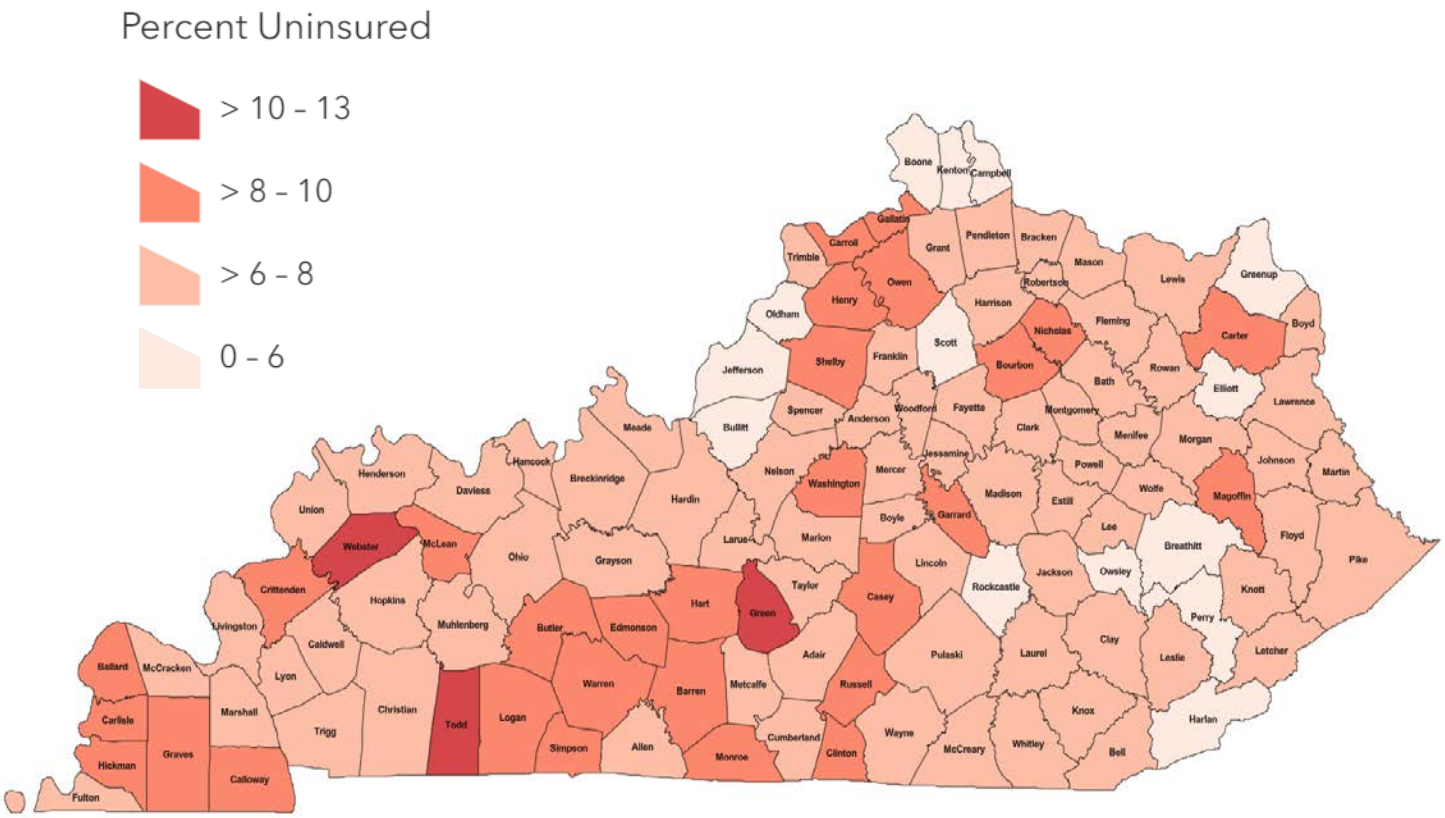
Figure 11: Percentage Below Poverty Level by County, 2020, Kentucky



Uninsured

According to the 2020 ACS 5-Year Estimates, 5.6% of Kentucky residents were uninsured compared to 8.7% of U.S. residents.[1] The U.S. Census Bureau's Small Area Health Insurance data was used to describe those that are uninsured in Kentucky. Figure 12 below shows the percentage of uninsured by county. In 2020, the counties with the highest percentage of uninsured population were Todd County (13.1%), Green County (10.6%), and Webster County (10.3%). The counties with the lowest uninsured percentage were Oldham County (4.4%), Bullitt County (5.5%), and Elliott Counties (5.5%).[21]

Figure 12:Percentage of Uninsured Aged Less than 65 years, by County, 2020, Kentucky



More males were uninsured then females in all race/ethnic categories. Among the three categories provided for race/ethnicity, a higher percentage of Hispanics were uninsured (15.7%), followed by African Americans (8.4%) and White populations (6.3%).[21] Table 8 below displays the distribution of residents who were estimated to be uninsured in 2020 by race/ethnicity and sex.[21]

Table 8: Number and Percentage of Uninsured by Race/Ethnicity and Sex at Birth, among those less than 65 Years of Age, 2020, Kentucky

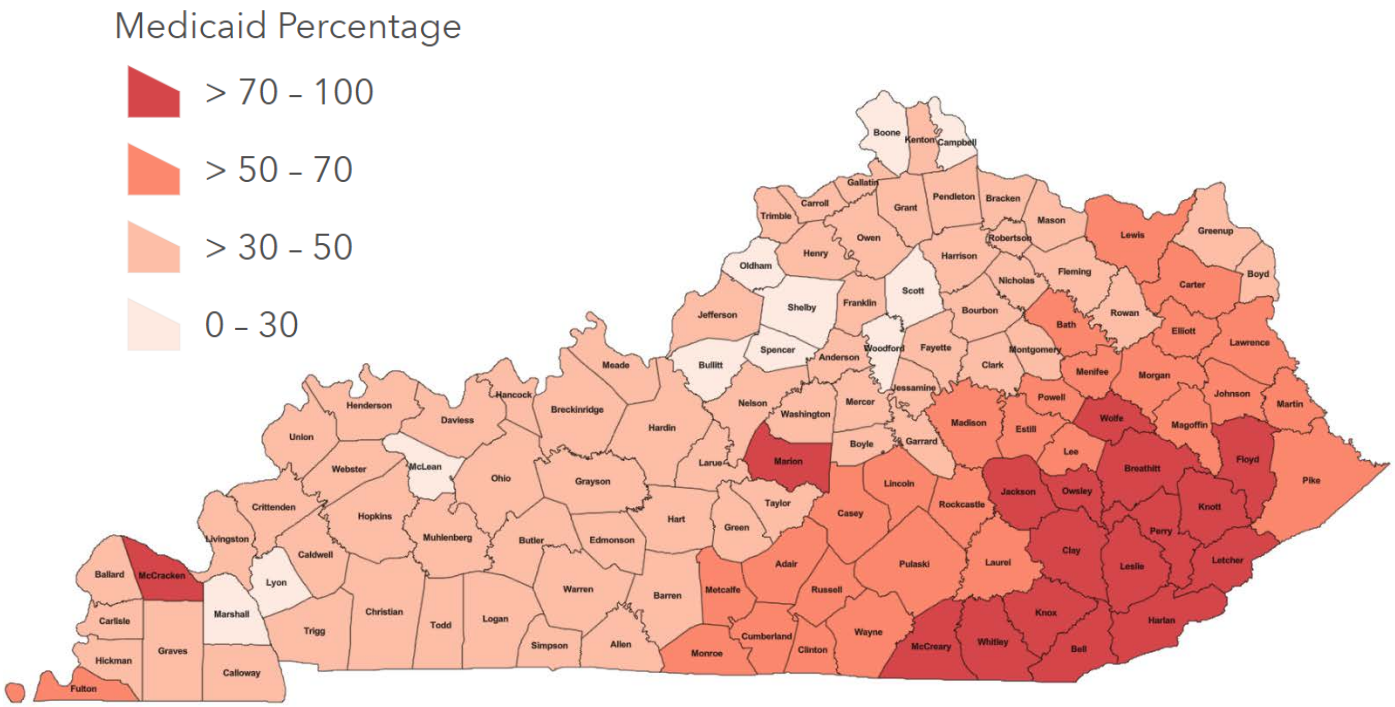
Number and Percentage of Uninsured by Race/Ethnicity, and Sex at Birth, among those less than 65 Years of Age, Kentucky					
Race/Ethnicity	Male		Female		Kentucky Total Percentage
	No.	%*	No.	%*	
White, Non-Hispanic	107,985	7.3%	78,219	5.3%	6.3%
African American, Non-Hispanic	14,263	10%	10,261	6.9%	8.4%
Hispanic	14,963	17.2%	10,777	14%	15.7%
Kentucky Total Percentage	8%		5.8%		6.9%

*The percentage is for specific race and sex at birth category.

Medicaid Coverage

Medicaid provides health coverage to millions of Americans including low-income adults, children, pregnant women, elderly, and those with disabilities. According to the Kentucky Department for Medicaid Service Data, it was estimated that 41% or 1,845,552 Kentucky residents were enrolled in Medicaid in 2020. The data shows that the Medicaid coverage rate is comparatively higher for the eastern Kentucky counties as shown in figure 13.

Figure 13: Percentage of Medicaid Enrollment by County, 2020, Kentucky



Educational Attainment

The educational attainment levels for Kentuckians 25 years of age and older are represented in Table 9. It was estimated that 87.2% of Kentucky residents aged 25 years and older are a high school graduate or higher.[22] A higher percentage of females received a high school diploma (88.2%) and bachelor's degree or higher (26.1%) when compared to males at 86.0% and 23.9% respectively.[22] Overall, the percentage of Kentucky residents aged 25 years and older that pursued a bachelor's degree or higher (25%) is significantly less than the percentage of residents that completed high school (87.2%).[22] Almost similar percentages of White populations (87.5%) and African Americans (86.9%) graduate high school, while the percentage among Hispanics (72.2%) is much lower. It is worth noticing that even though the rate of high school graduation is similar for White populations and African Americans, the percentage is much lower for African Americans for bachelor's degree or higher (25.2% vs. 17.8%).

Table 9: Percentage of Educational Attainment for Ages 25 Years and Older, 2016-2020, Kentucky

Percentage of Educational Attainment for Ages 25 Years and Older, Kentucky, 2016-2020		
Characteristic	High School Graduate or Higher	Bachelor's Degree or Higher
	%	%
Sex		
Male	86.0%	23.9%
Female	88.2%	26.1%
Race/Ethnicity		
White	87.5%	25.2%
African American	86.9%	17.8%
Hispanic	72.2%	21.1%
Age Group		
25-34	91.4%	29.2%
35-44	90.0%	29.5%
45-64	87.4%	23.7%
65+	81.3%	20.4%
Total Kentucky	**87.2%**	**25.0%**

Source: U.S. Census Bureau, 2016-2020 ACS 5-Year Estimates

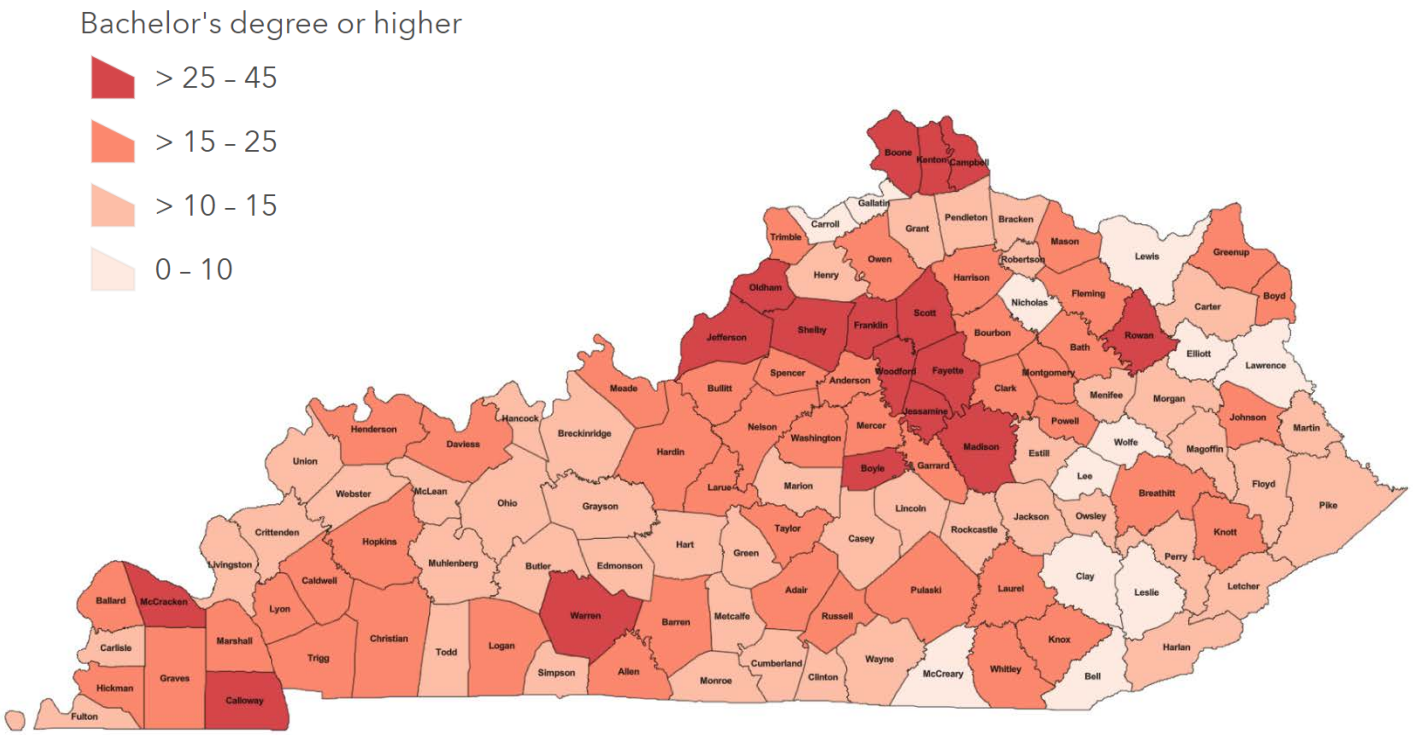
Poverty Rate and Educational Attainment

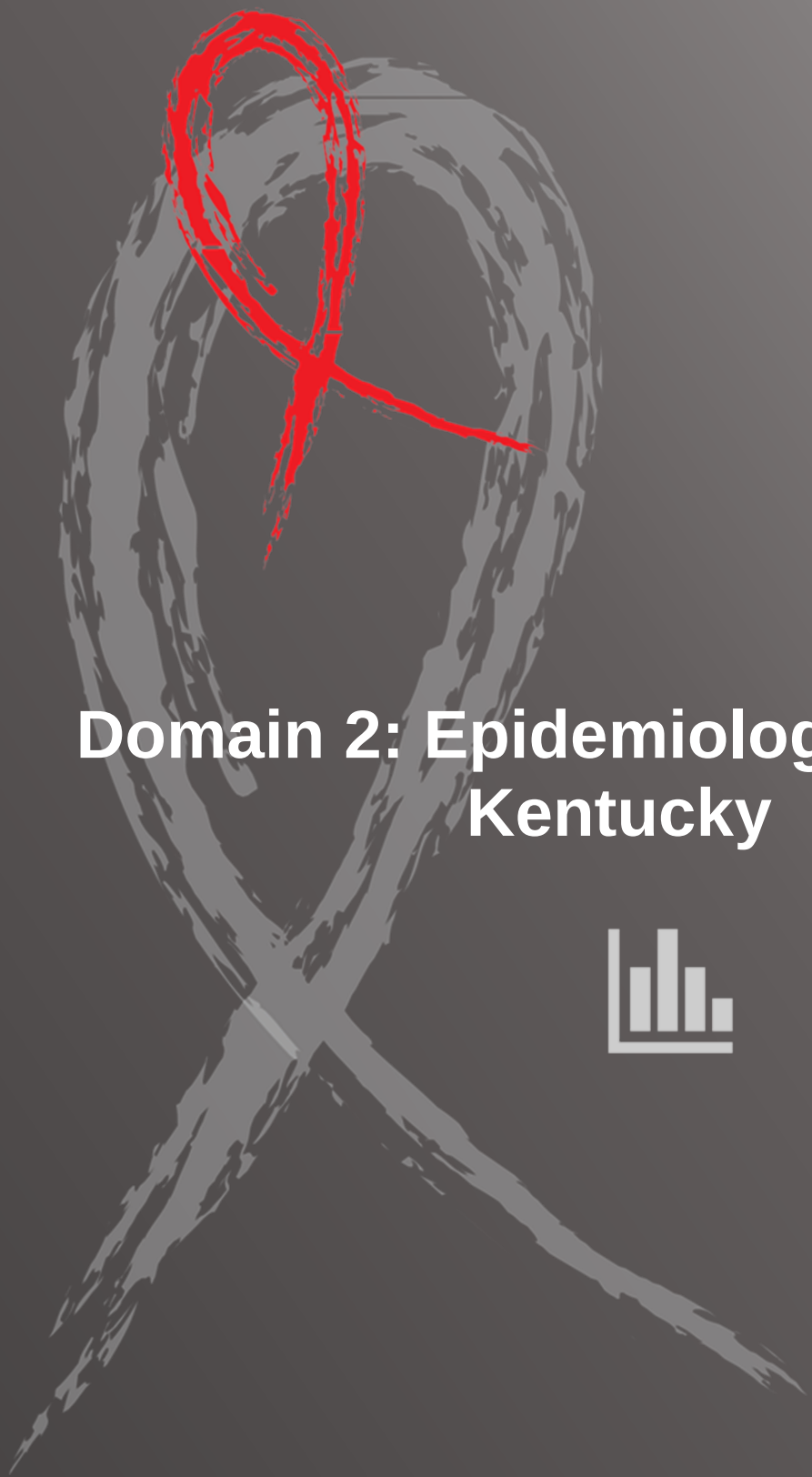
Table 10 shows the poverty rate by educational attainment for Kentuckians 25 years and over for whom the poverty status has been determined.[22] The table shows that poverty rate for those who have an educational attainment level of less than a high school graduate is 32.6%, while the rate for those who are high school graduates is 15.9%. The data further shows that the poverty rate for those with some college or associate degree is 11.4%, while bachelor's degree or higher have a rate of 4.4%. The data suggests that the educational attainment and poverty rate are related in an inverse manner. Figure 14 map shows the percentage of Kentuckians 25 years and over who received a bachelor's degree or higher by county in Kentucky.

Table 10: Poverty Rate for Population 25 Years and Over for Whom Poverty Status Is Determined, 2020, Kentucky

Poverty Rate for Population 25 Years and Over for Whom Poverty Status Is Determined	
Less than high school graduate	32.6%
High school graduate (includes equivalency)	15.9%
Some college or associate degree	11.4%
Bachelor's degree or higher	4.4%

Figure 14: Percentage of Educational Attainment of Bachelor's Degree or Higher by County, 2022, Kentucky





Domain 2: Epidemiology of HIV in Kentucky

Question 2.1: What is the epidemiology of HIV and the distribution of HIV-related disparities and health inequities in Kentucky?

Newly Diagnosed HIV Infections

During 2020, a total of 301 new HIV infections were diagnosed among Kentuckians and reported to KDPH HIV/AIDS Surveillance Program. This represents a decrease in the number of newly diagnosed cases when compared to 2019 (334 cases). Table 11 below shows the number of newly diagnosed HIV infections per year of diagnosis (2011 - 2021) as of December 31, 2021.

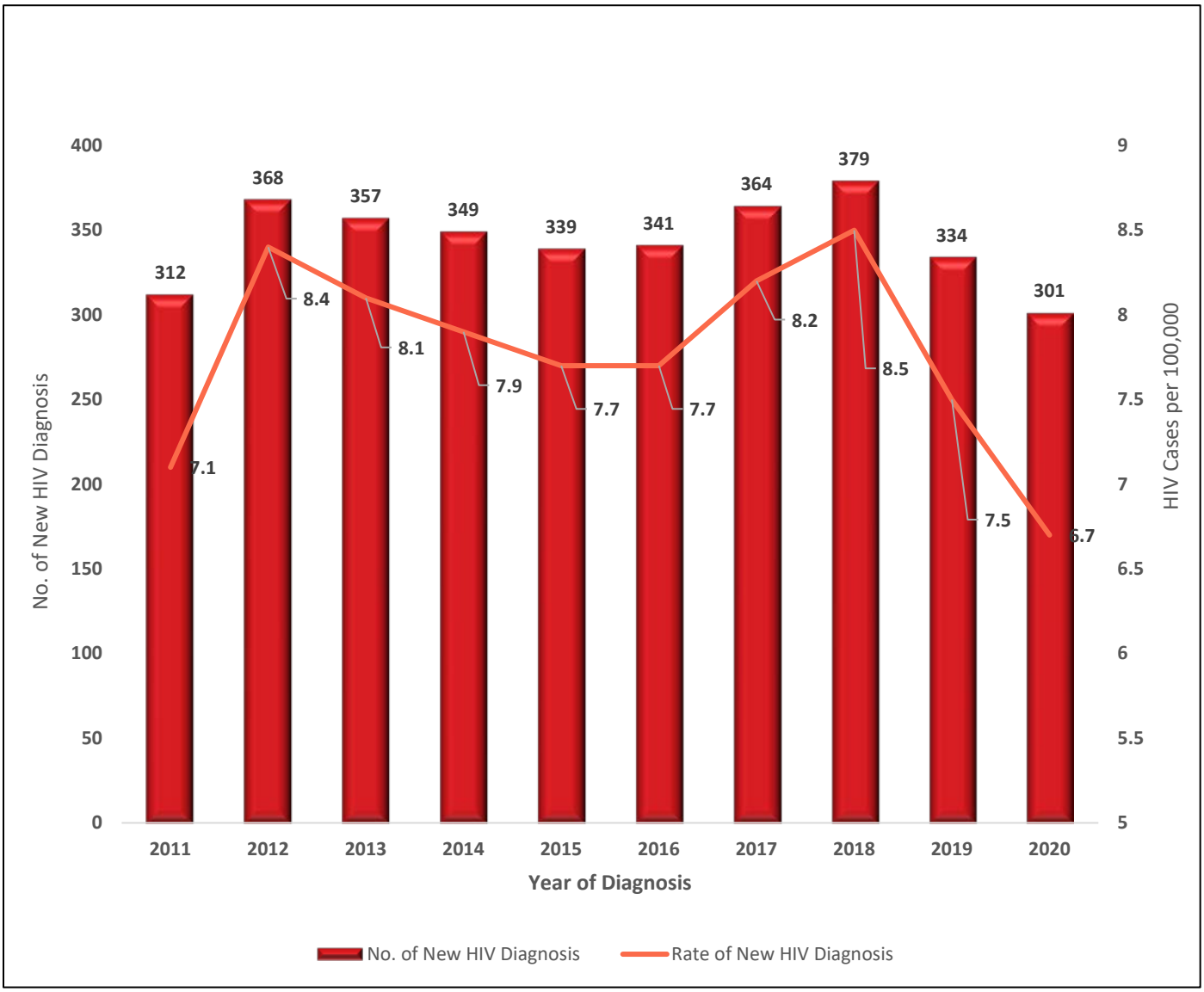
Table 11: Number of HIV Infections per Year of Diagnosis (2011-2021†) as of December 31, 2021, Kentucky

Number of HIV Infections per Year of Diagnosis (2011-2021†)	
Year of HIV Diagnosis	Total HIV/AIDS Cases†
	No.
2011	312
2012	368
2013	357
2014	349
2015	339
2016	341
2017	364
2018	379
2019	334
2020	301
2021†	350
Total	3794

†Data reported as of December 31, 2021

Over the past ten years the number of HIV cases reported per year has little variation, with the highest number of HIV cases reported in 2018 (379). The annual rate of HIV diagnosis in Kentucky has also remained fairly stable from 2011 to 2020, with slight fluctuations between 6.7 and 8.5 HIV cases per 100,000 population. Figure 15 below highlights the number of newly diagnosed HIV infections and HIV diagnosis rates per year in Kentucky.

Figure 15: Number of New HIV Infections and Annual HIV Diagnosis Rate by Year of Diagnosis, 2011-2020, Kentucky*



*Data are current as of December 31, 2021. Data from 2021 are considered preliminary due to reporting delays and are not included in trend analysis.

A Comparison of Kentucky to Other States and Washington, D.C., using National Data from the CDC, 2020[1]

In 2020, the annual estimated national HIV diagnosis rate was 9.2 per 100,000 population. The diagnosis rates among the 50 States and Washington, D.C. ranged from 1.3 per 100,000 population (Maine and Montana) to 27.6 per 100,000 (Washington, D.C.). Kentucky ranked 24th with an estimated diagnosis rate of 6.7 per 100,000.

Table 12: Estimated* Annual HIV Disease Diagnosis Rates per 100,000 Population by Residence at Time of Diagnosis, 2020, Kentucky

Rank	Area of Residence	Rate
1	Washington, D.C.	27.6
2	Georgia	18.5
3	Florida	15.7
4	Louisiana	15.6
5	Mississippi	13.6
6	South Carolina	12.6
7	Nevada	12.5
8	Texas	12.1
9	Alabama	12.0
10	Maryland	11.7
11	New York	10.2
11	North Carolina	10.2
13	California	10.0
14	Delaware	9.4
14	Tennessee	9.4
16	New Jersey	9.1
17	Arizona	8.9
18	Illinois	8.7
19	Oklahoma	8.4
20	Arkansas	8.0
21	West Virginia	7.8
22	Ohio	7.6
23	Virginia	7.3
24	**Kentucky****	6.7
25	Indiana	6.4
26	Massachusetts	6.3
27	New Mexico	6.2
28	Pennsylvania	6.1
29	Missouri	5.9
30	Colorado	5.6
31	Washington	5.5
32	Michigan	5.2
33	Rhode Island	5.1
34	Connecticut	4.8
35	Kansas	4.7
35	North Dakota	4.7
37	Oregon	4.2
38	Alaska	4.1
39	Minnesota	4.0
39	Utah	4.0
41	Nebraska	3.8
41	South Dakota	3.8
43	Wisconsin	3.7
44	Hawaii	3.6
44	Hawaii	3.6
45	Iowa	3.2
46	New Hampshire	2.4
45	Iowa	3.2
46	New Hampshire	2.4
46	Wyoming	2.4
48	Vermont	1.9
49	Idaho	1.8
50	Maine	1.3
50	Montana	1.3

[1] Centers for Disease Control and Prevention. HIV Surveillance Report, 2020 ; vol.33
http://www.cdc.gov/hiv/library/reports/hiv-surveillance.html/. Published May 2022. Accessed May 2022.
*Estimated numbers resulted from statistical adjustment that accounted for reporting delays, but not incomplete reporting.
**Kentucky's rate is estimated by CDC using a different methodology and should not be compared directly to reported data elsewhere in this report.

Estimated National HIV Diagnosis Rate per 100,000, 2020: 9.2

During 2020, the distribution of new HIV cases for Kentucky by sex and age at diagnosis closely paralleled that of the U.S. (Table 13). The percentage of new HIV cases in Kentuckians that are White is much greater when compared to U.S. cases (61% vs. 26%, respectively). This can be partially attributed to the greater percentage of White populations in Kentucky's general population (84%) as compared to the U.S. population (60%).[26] U.S. cases have been adjusted for reporting delays and missing risk factors. Kentucky cases have not been adjusted.

Table 13: New HIV Diagnoses by Demographics, 2020, Kentucky and Estimated New U.S. HIV Infections* by Demographics, 2020[5]

New HIV Diagnosis* by Demographics, 2020, Kentucky		
Characteristics	**Number of Cases**	**% Of New HIV cases[1]**
Sex		
Male (adult/adolescent)	256	85%
Female (adult/adolescent)	44	15%
Child (<13 years)	1	<1%
Total	301	100%
Age at Diagnosis‡		
<13	1	<1%
13-24	53	18%
25-44	185	61%
45-64	60	20%
65+	2	1%
Total	301	100%
Race/Ethnicity		
White,	185	61%
Black,	68	23%
Hispanic	28	9%
Other/Unknown	20	7%
Total	301	100%
Transmission Route		
MMSC[2]	151	50%
IDU[3]	47	16%
MMSC/IDU	20	7%
Heterosexual	26	9%
Perinatal	1	<1%
Other/Undetermined[4]	56	19%
Total	301	100%

Estimated New U.S. HIV Infections* by Demographics, 2020[5]		
Characteristics	**Number of New Cases**	**% Of New HIV cases[1]**
Sex		
Male (adult/adolescent)	24,897	82%
Female (adult/adolescent)	5,449	18%
Child (<13 years)	57	<1%
Total†	30,403	100%
Age at Diagnosis‡		
<13	57	<1%
13-24	6,082	21%
25-44	17,182	55%
45-64	6,389	21%
65+	693	2%
Total†	30,403	100%
Race/Ethnicity		
White,	7,843	26%
Black,	12,856	42%
Hispanic	8,008	26%
Other/Unknown	1,696	6%
Total†	30,403	100%
Transmission Route		
MMSC[2]	20,572	68%
IDU[3]	2,033	7%
MMSC/IDU	1,105	4%
Heterosexual	6,548	22%
Perinatal	104	<1%
Other/Undetermined[4]	40	<1%
Total†	30,403	100%

*HIV diagnoses regardless of disease progression
(1) Percentages may not always total 100% due to rounding.
(2) MMSC = male to male sexual contact
(3) IDU = injection drug use
(4) Includes hemophilia, blood transfusion, and risk not reported or not identified.

(5) U.S. cases from CDC. HIV Surveillance Report: Diagnoses of HIV Infection in the United States and Dependent Areas, 2020: 33.
‡ Age at initial HIV diagnosis.
† Totals among subpopulations may be different because values were calculated independently.

Area Development Districts

During 2020, 237 of the 301 newly diagnosed HIV cases for Kentucky were reported from the three ADDs of Bluegrass which includes of Lexington, KIPDA which includes the city of Louisville, and Northern Kentucky. Figure 16 highlights the number of new HIV infections by ADD in Kentucky. KIPDA has the highest number of new HIV cases (149), while Buffalo Trace, Big Sandy and Kentucky River ADDs just had 2 cases each. No cases were diagnosed in Gateway ADD during 2020.

Figure 16: Number of New HIV Infections by ADD, 2020, Kentucky

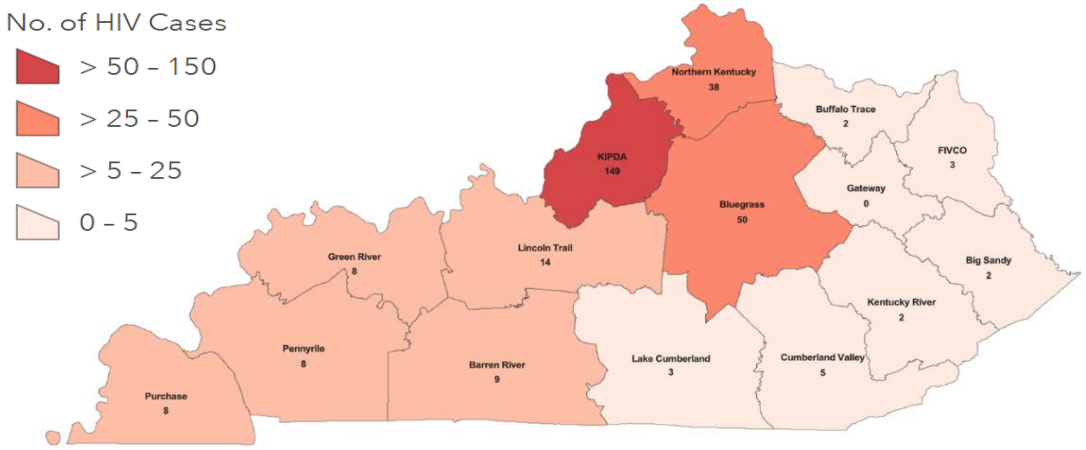
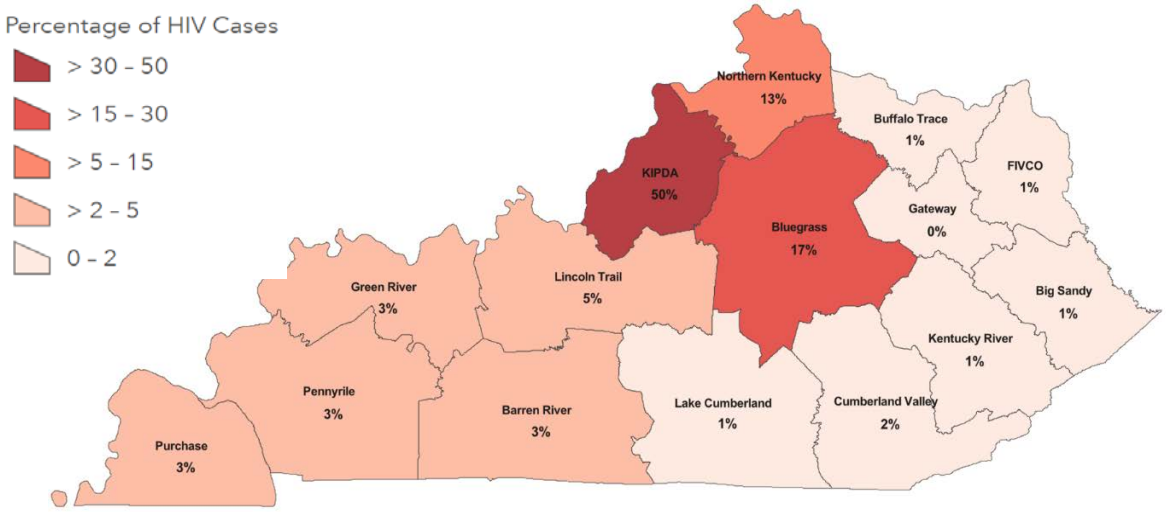


Figure 17 highlights the percentage of new HIV infections by ADD in Kentucky. The data shows that four out of every five (80%) newly diagnosed HIV cases for Kentucky in 2020, were reported from the three ADDs of Bluegrass, KIPDA, and Northern Kentucky. Half (50%) of the newly diagnosed cases during 2020 came from KIPDA, while 17% of the new cases were diagnosed in the Bluegrass ADD. Buffalo Trace, Big sandy, FIVCO, Kentucky River and Lake Cumberland only contributed one percent of cases each. No cases were diagnosed in the Gateway ADD during 2020.

Figure 17: Percentage of New HIV Infections by Area Development District (ADD), 2020, Kentucky

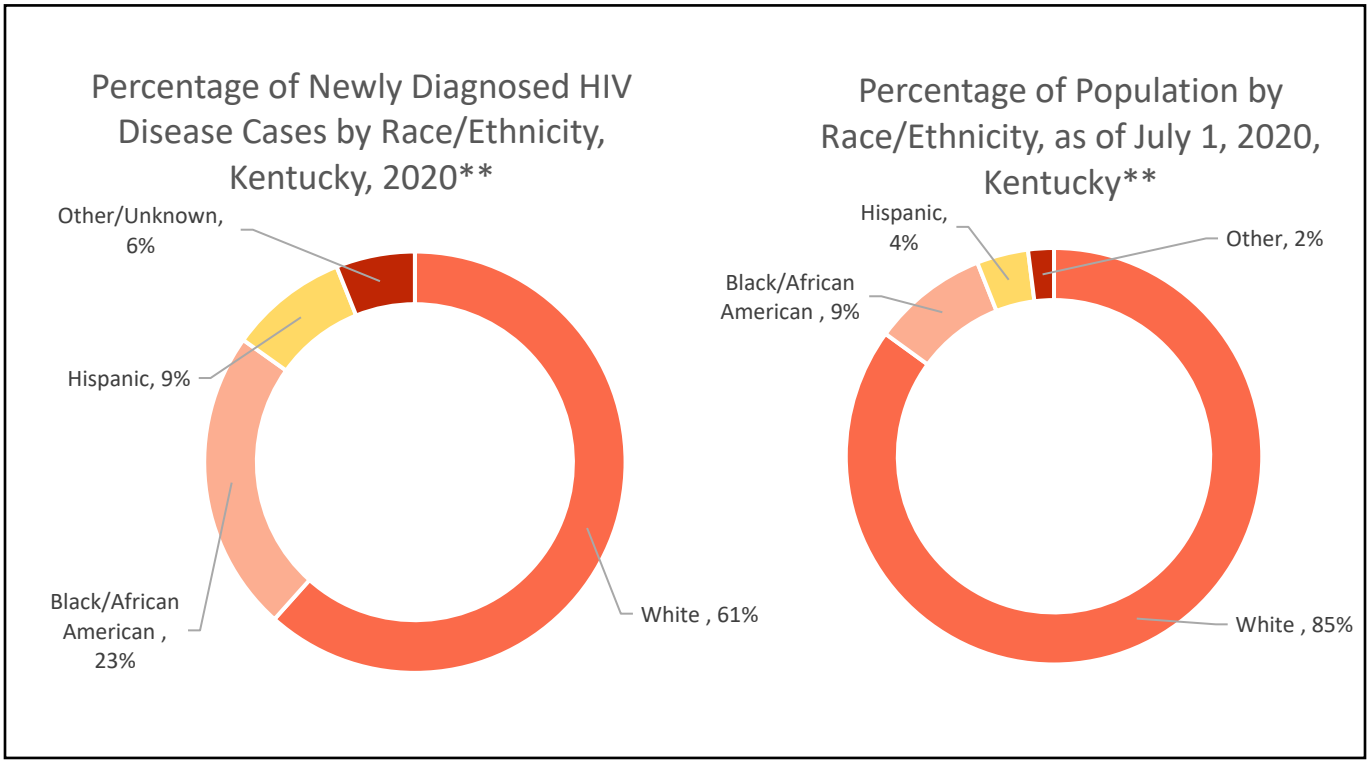


Race/Ethnicity

Figure 18 shows the race/ethnicity percentage distribution for newly diagnosed HIV cases among Kentuckians in 2020, the latest year for which the data are considered complete. The majority of the cases diagnosed in 2020 were among White populations (61%) followed by African Americans (23%).

Figure 18 also shows the race/ethnicity distribution of Kentucky's population by percentage based on 2020 population estimates. Over 80% of Kentuckians are White, 9% are African American, 4% are Hispanic and 2% are persons who identify with multiple races which were grouped under the other category.

Figure 18: Percentage of Newly Diagnosed HIV Disease Cases by Race/Ethnicity, 2020 and Percentage of Population by Race/Ethnicity, as of July 1, 2020, Kentucky



** Percentages may not total 100% due to rounding

HIV racial disparities are highlighted by these two graphs, showing higher percentages of new cases among Black populations, Hispanic populations, and other racial minorities in relation to their representation in the general population. Black populations accounted for 23% of new HIV cases diagnosed in 2020 yet comprised just 9% of Kentucky's population in 2020. Similarly, Hispanic populations accounted for 9% of newly diagnosed HIV cases in 2020 yet comprised only 4% of Kentucky's population that same year.

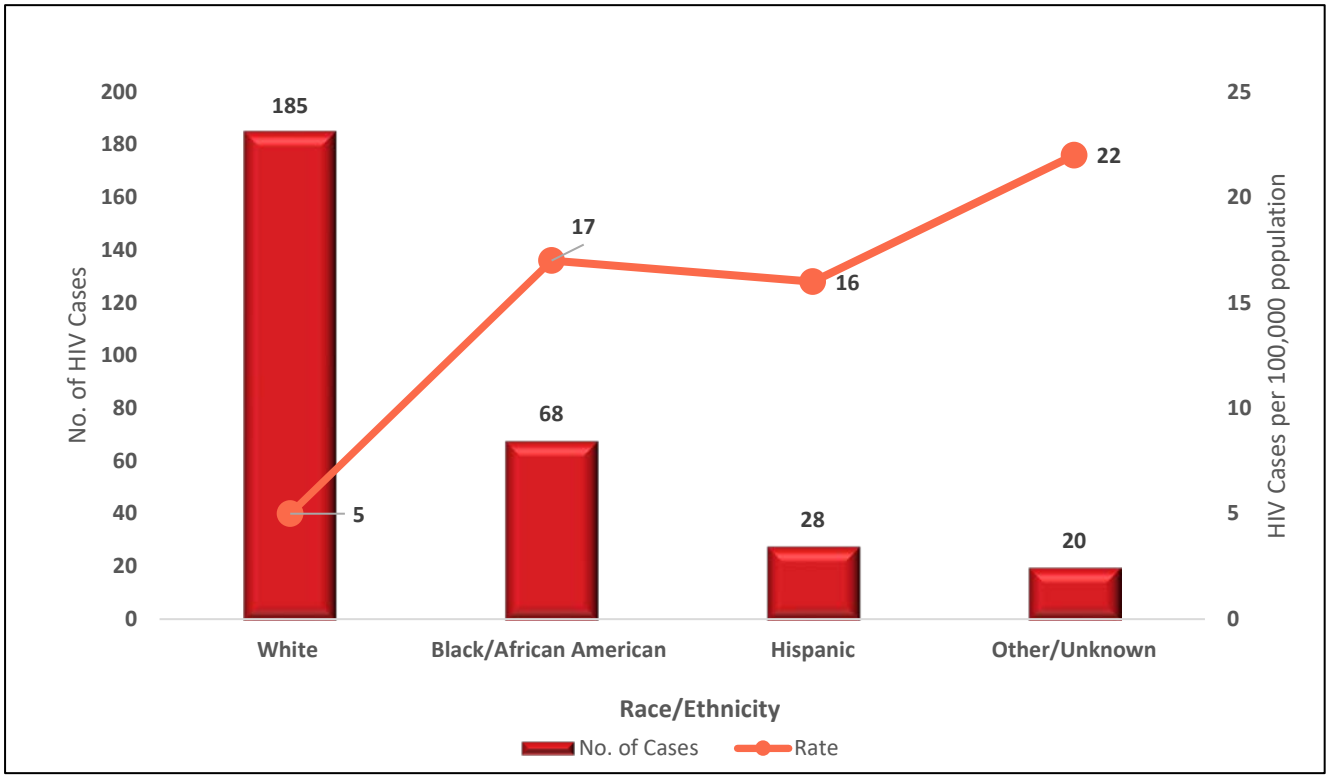
Table 14: Number and Rate of New HIV Diagnoses by Race/Ethnicity and Sex at Birth, 2020, Kentucky

Number and Rate of New HIV Diagnoses by Race Ethnicity and Sex at Birth						
Race/Ethnicity	Males		Females		Total	
	No. of Cases	Rate*	No. of Cases	Rate*	Total No. of Cases	Total Rate
Hispanic	24	25.0	4	†	28	15.6
Black/African American	57	28.5	11	5.5	68	16.9
White	157	8.4	28	1.4	185	4.9
Other	18	40.3	2	†	20	21.8
Total**	**256**	**11.6**	**45**	**2.0**	**301**	**6.7**

*Rate per 100,000 population based on census data for racial and gender distribution for Kentucky in 2020.
†Rates are not published when cell size is less than 10.
** Total cases and rate for the category.

Rates of new HIV diagnoses by race/ethnicity and sex are presented in Table 14 highlighting racial disparities. Although 61% of new HIV infections are reported among White Kentuckians, the rate of new HIV diagnosis among Hispanic populations and Black Kentuckians is much higher in comparison.

Figure 19: Number and Rate* of New HIV Diagnoses by Race/Ethnicity, 2020, Kentucky

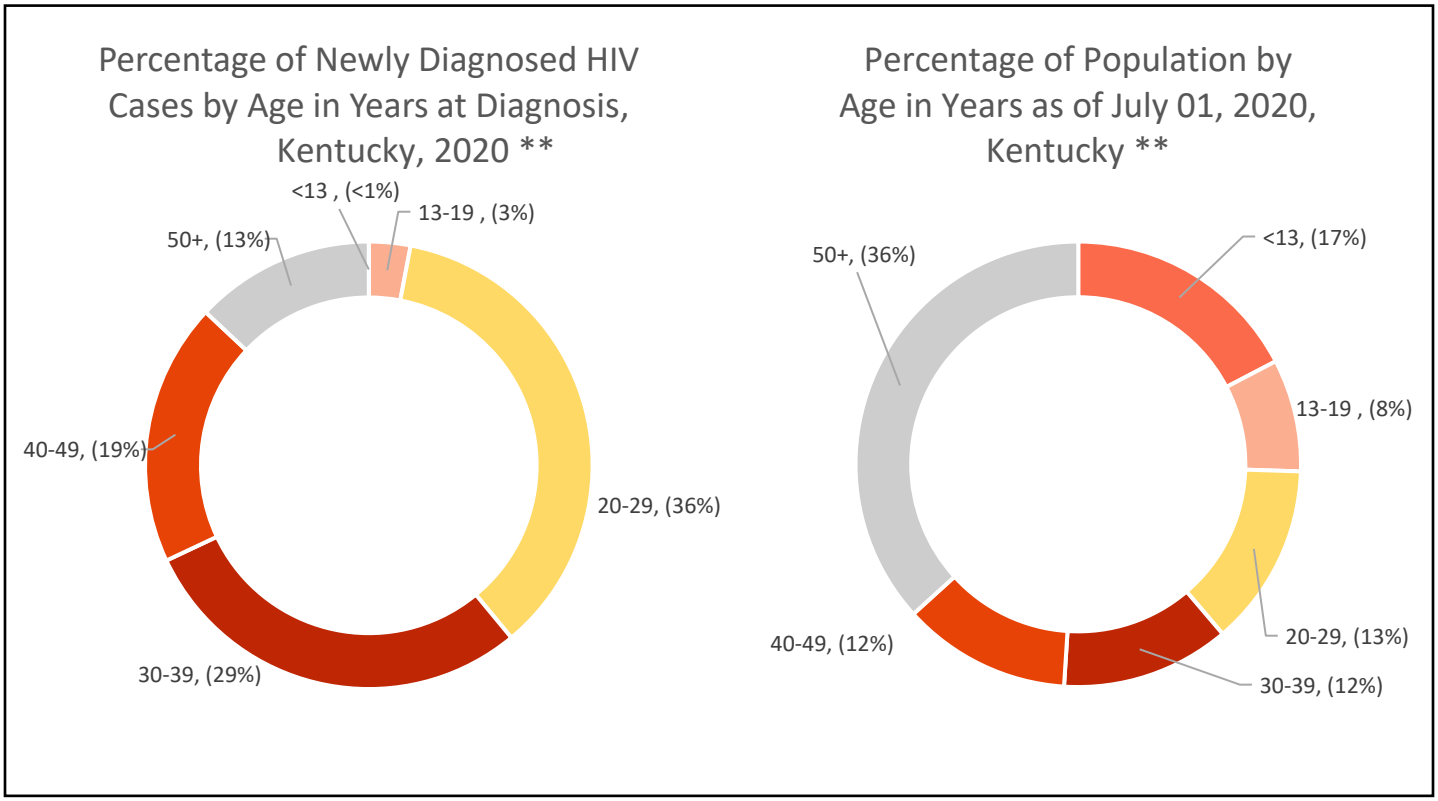


*Rate per 100,000 based on census data estimates for racial and gender distribution for Kentucky in 2020.

Age at Diagnosis

Figure 20 below shows the percentage by age at time of diagnosis of newly diagnosed HIV cases among Kentuckians in 2020. The figure also shows the age percentage distribution of Kentucky's population based on 2020 estimates, which can be directly compared to the percentages of newly diagnosed in 2020. The highest percentage of new diagnosis were reported among Kentuckians aged 20-29 years (36%). Kentuckians aged 30-39 and 40-49 years accounted for 29% and 19% of new cases, respectively. Kentuckians aged 50+ years accounted for 13% of new cases diagnosed in 2020. HIV related disparities by age are highlighted by these two graphs. Higher percentages of new diagnoses occurred among persons in age groups 20-29, 30-39, and 40-49 years in comparison to the proportion of these groups in the general population.

Figure 20: Percentage of Newly Diagnosed HIV Cases by Age in Years at Diagnosis, 2020 and Percentage of Population by Age in Years as of July 1, 2020, Kentucky



** Percentages may not total 100% due to rounding

Table 15 below, shows the rates of new diagnoses in 2020 were higher among Black populations across all age groups in comparison to White populations. These relative rates were highest among 20-year-olds at the time of diagnosis. However, the rates among Black/African Americans in all age groups were at least two times higher than the rates among their White counterparts of the same age group. Rates among Hispanic populations are not presented due to small numbers.

Table 15: Number and Rate of New HIV Diagnoses by Age at Diagnosis and Race/Ethnicity[§], 2020, Kentucky

Number and Rate of New HIV Diagnoses by Age at Diagnosis and Race/Ethnicity[§]				
Age at Diagnosis	White, Not Hispanic		Black, Not Hispanic	
	No.	Rate*	No.	Rate*
20-29	60	12.2	31	45.6
30-39	54	11.5	18	35.3
40-49	39	8.3	7	†
50+	28	1.9	7	†

§Rates among pediatric cases (<13 years), teens and Hispanics by age at diagnosis were not published due to small numbers.
*Rate per 100,000 population based on census data for racial and age distribution for Kentucky in 2020.
†Rates not published when cell size is less than 10.

Transmission Category

As of December 31, 2021, a total of 301 new HIV cases among Kentuckians were diagnosed and reported to HIV/AIDS Surveillance in 2020. Of the 256 male diagnoses, the majority were exposed through male-to-male sexual contact (58.9%). Of the 44 female diagnoses, the majority (38.6%) were exposed through heterosexual contact. Table 16 shows the number and percentage of new adult/adolescent HIV cases diagnosed in Kentucky during 2020 by sex at birth and category of HIV transmission.

Table 16: Number and Percentage of New Adult/Adolescent HIV Diagnosis by Sex at Birth and Transmission Category, 2020, Kentucky

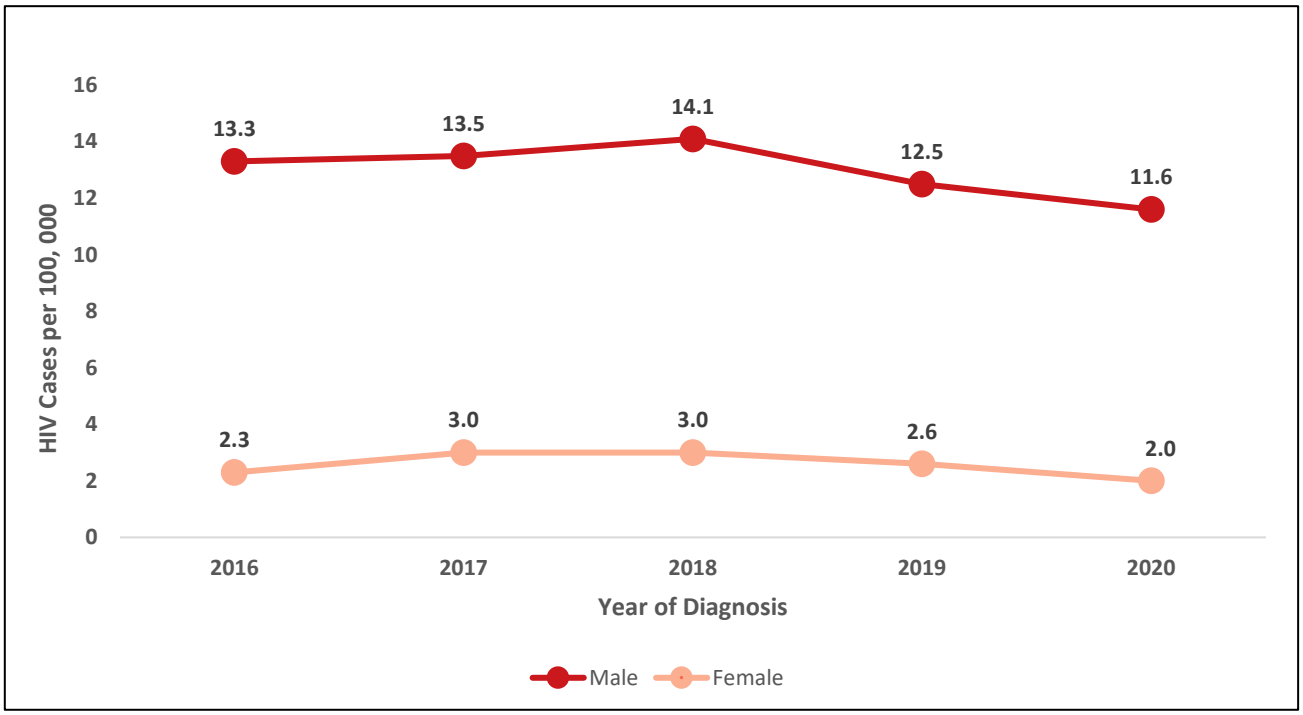
Number and Percentage of New Adult/Adolescent HIV Diagnosis by Sex at Birth and Transmission Category, 2020, Kentucky						
Transmission Category	Male		Female		Total	
	No.	%	No.	%	No.	%
MMSC	151	58.9%	0	0	151	50.3%
IDU	36	14.1%	11	25.0%	47	15.7%
MMSC/IDU	20	7.8%	0	0	20	6.7%
Heterosexual Contact	9	3.5%	17	38.6%	26	8.6%
Female Heterosexual	0	0	15	34.1%	15	5.0%
Undetermined	40	15.6%	1	2.3%	41	13.7%
Total	**256**	**100%**	**44**	**100%**	**300**	**100%**

Five Year HIV Trends

Sex Assigned at Birth

Males continue to carry the major burden of new HIV diagnosis in Kentucky and represent most of the new HIV cases diagnosed among Kentuckians. The yearly diagnosis rates among males have remained almost stable over the five-year period, with slight variation between 11.6 (2020) to 14.1 (2018) cases per 100,000 population. Female HIV diagnosis rates have also remained fairly stable over the most recent five years, between 2.0 and 3.0 cases per 100,000 population. The highest diagnosis rate for females between 2016 to 2020, was in 2017 and 2018 with 3.0 newly diagnosed HIV cases per 100,000. The HIV diagnosis rate among males in Kentucky fluctuated between 4.5 to 5.8 times higher than the rate for females. The HIV disease diagnosis rates by sex at birth are shown in Figure 21.

Figure 21: HIV Disease Diagnosis Rates by Sex at Birth, 2016-2020, Kentucky



Race/Ethnicity

Figure 22 shows the HIV diagnosis rates by race/ethnicity between 2016 to 2020. The HIV diagnosis rates for Black populations fluctuated between 3.5 to 6.6 times higher than White populations. The diagnosis rates for Hispanic populations were between 2.7 and 4.9 times higher than White populations over the five-year period. The trends among White populations have remained almost steady, while the rate for Black/African Americans decreased between 2016 and 2017, then slightly increased between 2017 and 2018, with another decrease between 2018 and 2020. The rates for Hispanic populations decreased between 2016 and 2018, then increased to rate of 18.3 in 2019, but decreased again to 15.6 cases per 100,000 in 2020.

Figure 22: HIV Disease Diagnosis Rates by Race/Ethnicity and Year of Diagnosis, 2016-2020, Kentucky

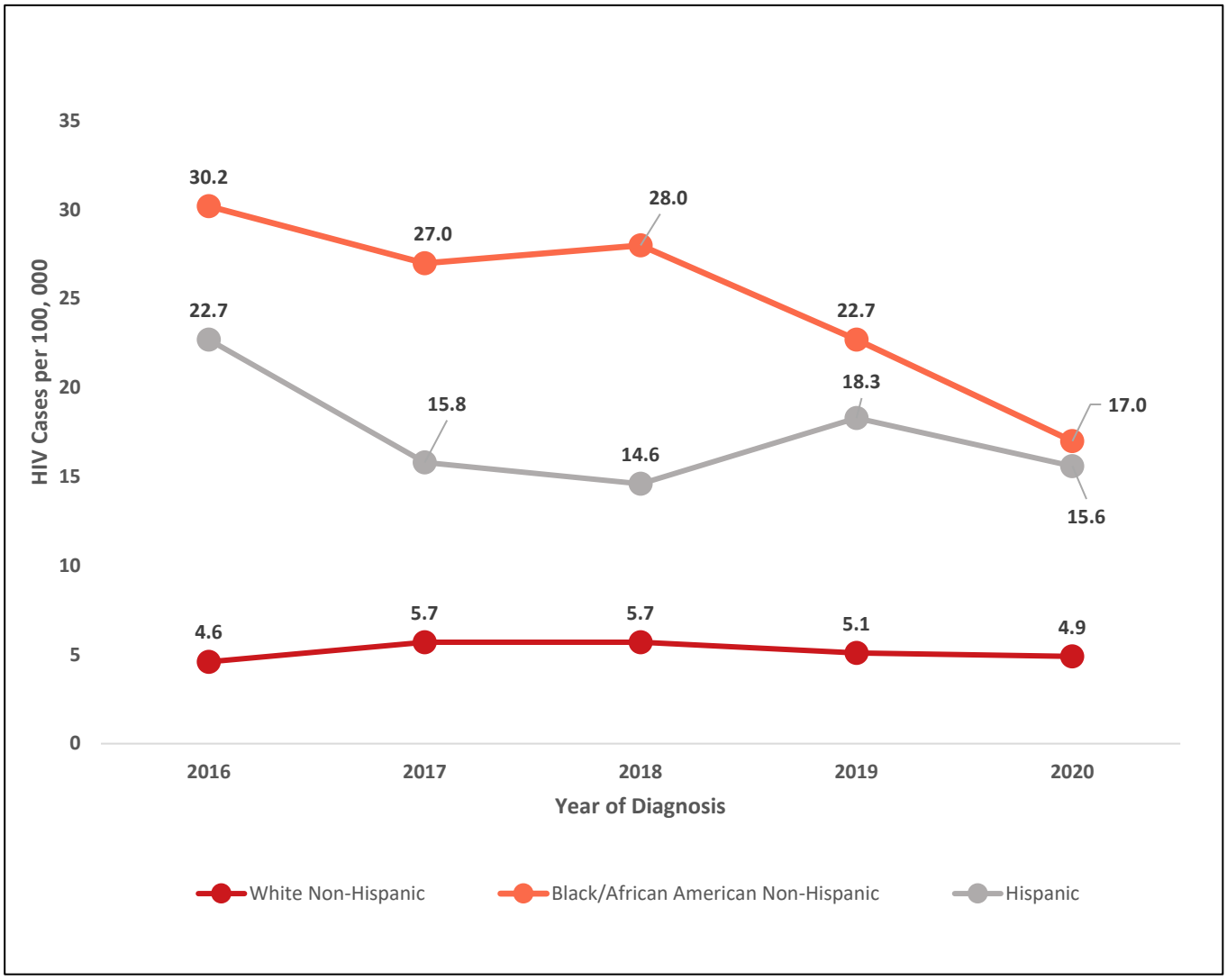
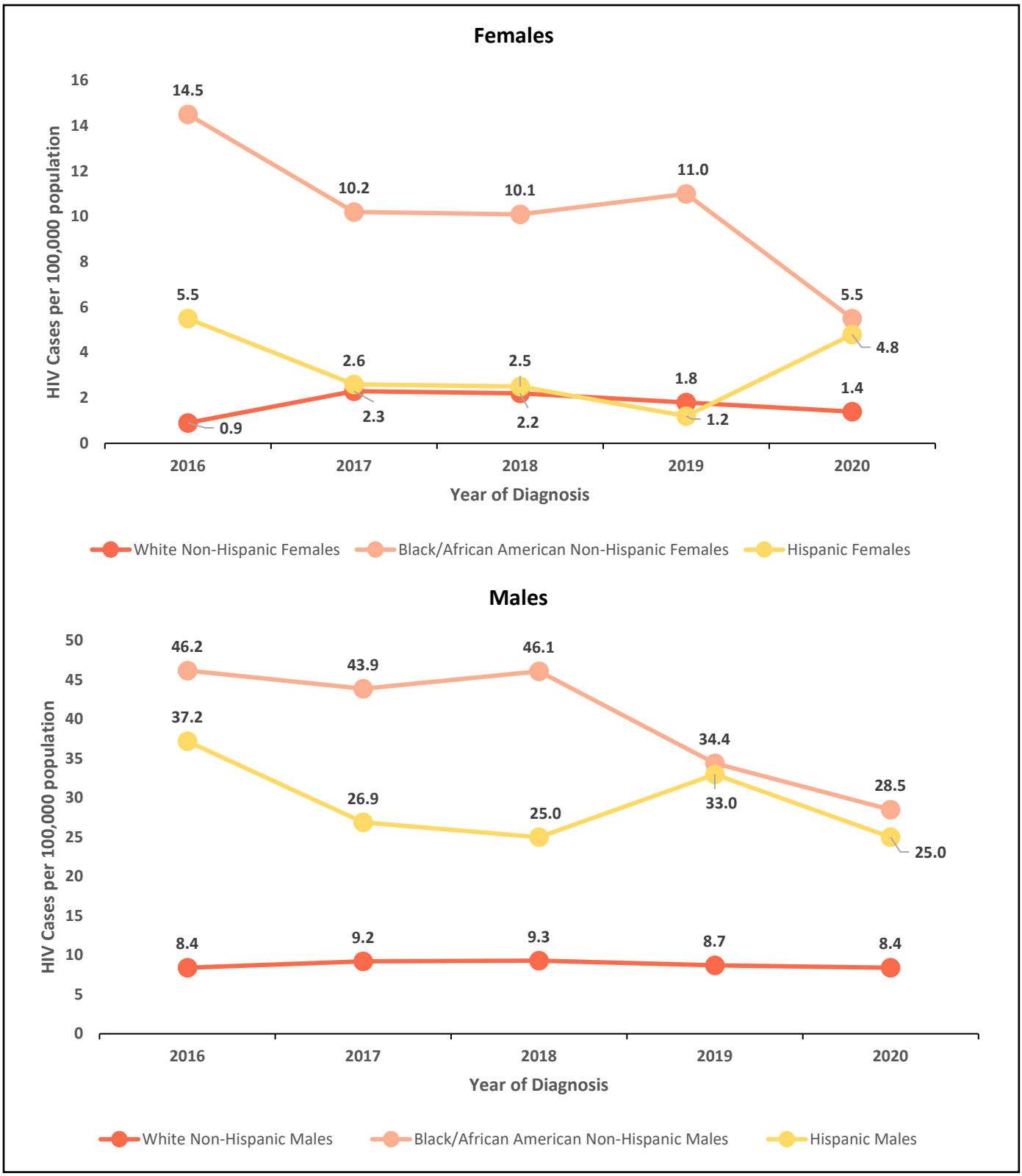


Figure 23 below shows the diagnosis rates from 2016 to 2020 for race/ethnicity by sex at birth. The data shows that both Black males, as well as females had consistently higher rates of new HIV diagnoses in comparison to their White counterparts. The HIV diagnosis rates among Black males fluctuated between 3.4 to 5.5 times higher than White males. The rates among Black females were 3.9 to 16.1 times higher than those of White females over the five-year period. The rates for Hispanic males and females were between the White and Black populations.

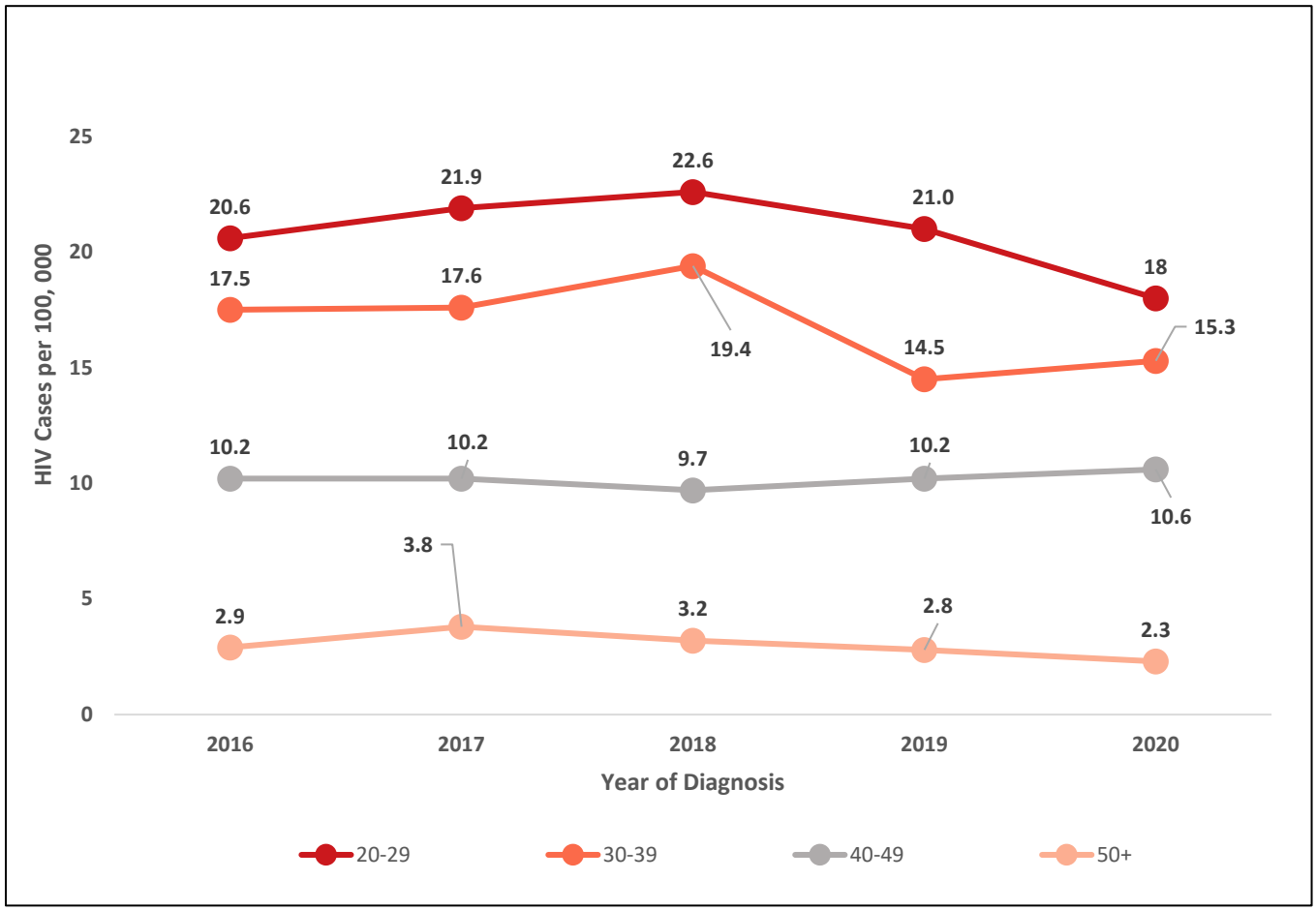
Figure 23: Annual HIV Disease Diagnosis Rates by Race/Ethnicity, Sex at Birth and Year of Diagnosis, 2016-2020, Kentucky



Age at HIV Diagnosis

Figure 24 shows the HIV diagnosis rates by age category over the most recent five years (2016-2020). The diagnosis rates among Kentuckians, 20-29 years old reveal an upward trend from 2016 to 2018, followed by downward trend from 2018 to 2020. The rates in the 30–39 year age group also increased from 2016 to 2018 and then decrease from 2018 to 2019, with slight increase in 2020. Between 2016 and 2017, the rate increased for 50+ year age group, followed by a decrease between 2017 and 2020. The rate for the 40–49 year age group has stayed almost stable between 2016 and 2020. The 20–29 year age group continues to have a higher rate of new HIV infections when compared to the other age group categories.

Figure 24: HIV Disease Diagnosis Rates by Age* at Time of Diagnosis, 2016-2020, Kentucky**



* Due to the small numbers of HIV cases reported, rates are not presented for age groups 0-12 and 13-19 years old.
**Data for 2021 are not included in trend analyses since they are considered provisional due to reporting delays.

Table 17 shows the mean ages and actual age ranges at the time of HIV diagnosis from 2016-2019. The mean age for Kentuckians at time of HIV diagnosis in the five-year period ranged between 34.1 to 35.6 years old (age range 0-84 years).

Table 17: Mean Age at Time of HIV Diagnosis, Kentucky, 2016-2020

Mean Age at Time of HIV Diagnosis		
HIV Diagnosis Year	Mean Age	Age Range
2016	34.6	1-71
2017	35.6	0-70
2018	34.1	15-84
2019	34.3	0-73
2020	35.0	0-77

Transmission Category

Figure 25 shows the number of Kentucky's adult/adolescent female HIV cases by transmission route and year of diagnosis. The largest number of new female cases reported FHC as their primary route of transmission followed by IDU over the five-year period. In 2020, heterosexual contact and FHC combined account for the largest mode of HIV transmission for females in Kentucky. The number of new female cases reporting IDU as the primary route of transmission varied from 17.6% in 2016 to 38.8% in 2017. IDU as route of transmission among females decreased between 2017 and 2020.

Figure 25: Adult/Adolescent HIV Disease Cases by Transmission Route and Year of Diagnosis – Females, 2016-2020, Kentucky

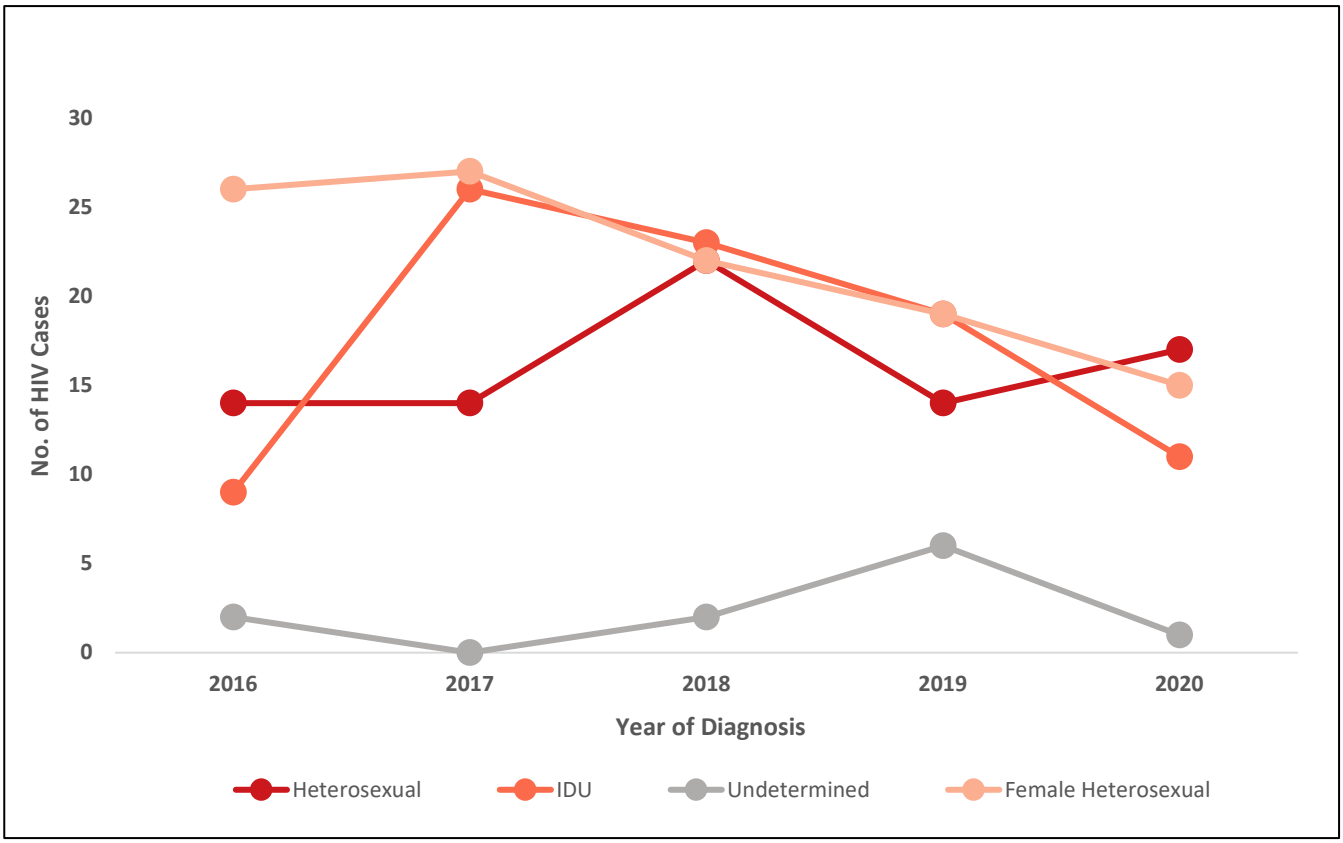


Figure 26: Adult/Adolescent HIV Disease Cases by Transmission Route and Year of Diagnosis – Males, 2016-2020, Kentucky

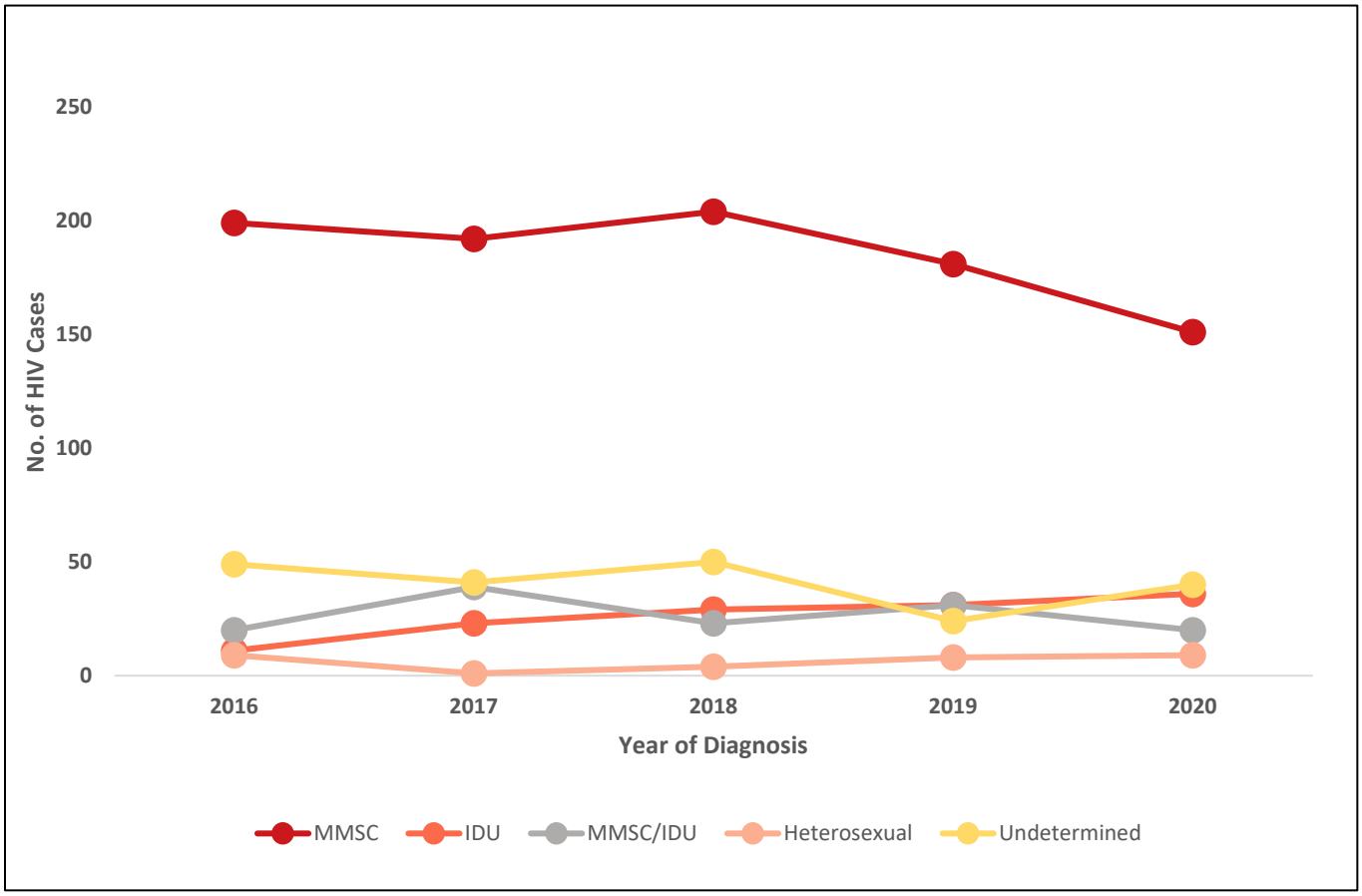


Figure 26 depicts trends for adult/adolescent males by transmission route, the largest number of cases diagnosed each year from 2016 to 2020 reported MMSC as their primary risk factor. The number of males reporting IDU as a risk factor increased from 2016 to 2020. MMSC/IDU cases increased between 2016 to 2017, decreased between 2017 to 2018, but increased between 2018 to 2019, and decreased again in 2020.

Area Development Districts

During 2016 to 2020, the most recent five years during which the data is considered complete, 1,302 of the total 1,719 newly diagnosed HIV cases for Kentucky were reported from the three ADDs of Bluegrass which includes Lexington, KIPDA which includes the city of Louisville, and Northern Kentucky. Figure 27 highlights the number of new HIV infections by ADD in Kentucky from 2016 to 2020. KIPDA has the highest number of new HIV cases (795), while Buffalo Trace just had a total of ten cases.

Figure 27: 2016 - 2020 HIV Infection by ADD, Kentucky

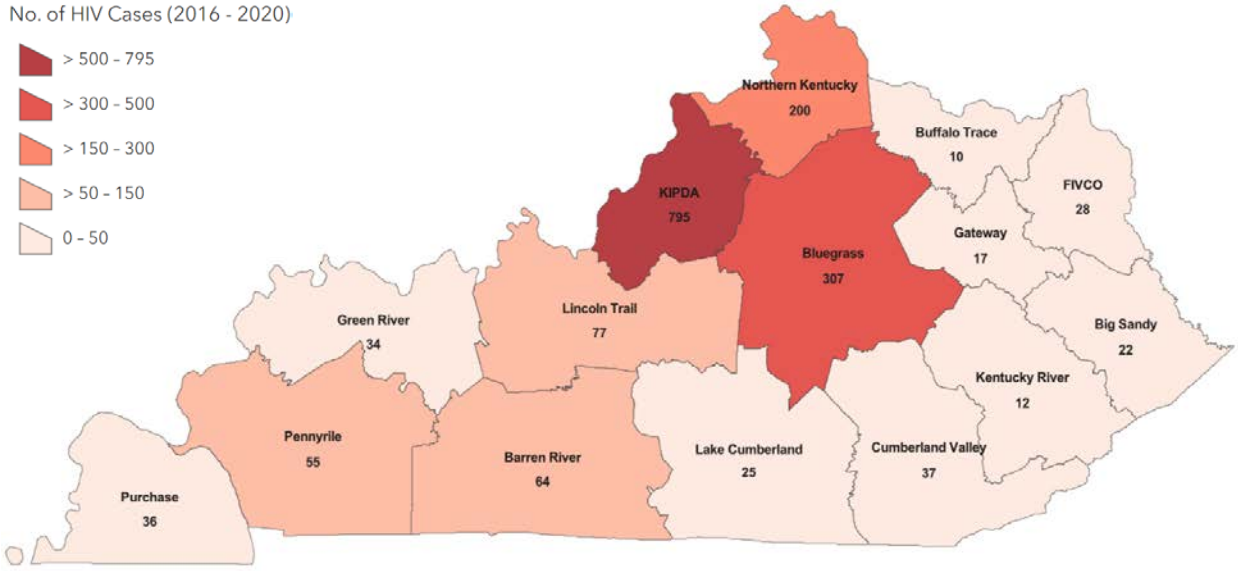


Figure 28 highlights the percentage of new HIV infections by ADD in Kentucky diagnosed during 2016 to 2020. The data shows that three out of every four (75%) newly diagnosed HIV cases for Kentucky during 2016 to 2020, were reported from the three ADDs of KIPDA, Bluegrass, and Northern Kentucky. The data further shows that about half (46%) of the newly diagnosed cases during the five-year time period came from KIPDA, while 18% of the new cases were diagnosed in the Bluegrass ADD. Buffalo Trace, Big sandy, Gateway, Kentucky River and Lake Cumberland only contributed one percent of cases each.

Figure 28: 2016 - 2020 HIV Infection Percentage by ADD, Kentucky

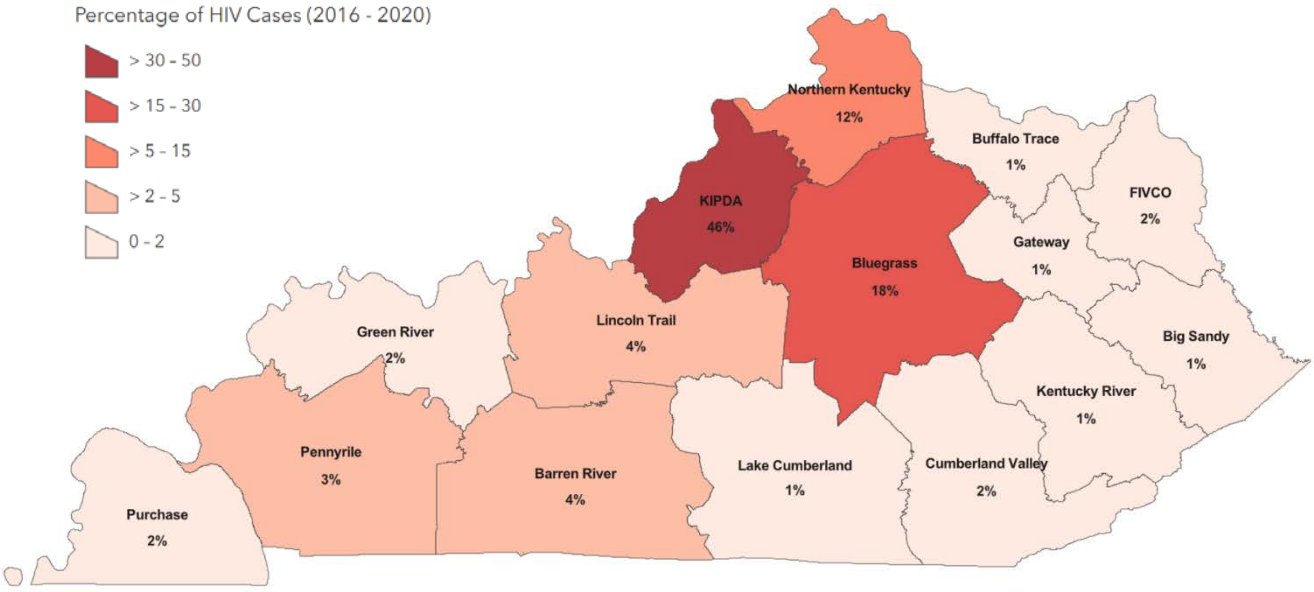


Table 18 shows newly diagnosed HIV infections and diagnosis rates by year of HIV diagnosis and ADD of residence at the time of HIV diagnosis. The rate of HIV infection in KIPDA ADD at 14.7 per 100,000 population is higher than the national average of 9.2 cases per 100,000. KIPDA includes the city of Louisville and borders Indiana.

Table 18: No. of New HIV Diagnoses and Rates of Diagnoses by Year of HIV Diagnosis and ADD at Time of Diagnosis, 2016-2020, Kentucky

ADD	Cases and Rates[1]	1982-2015*	2016	2017	2018	2019	2020	2021[2]	Total Cases[3]	% Total
Barren River	Cases	345	15	13	14	13	9	9	418	4%
	Rate per 100,000		5.0	4.3	4.6	4.2				
Big Sandy	Cases	70	5	5	6	4	2	3	95	1%
	Rate per 100,000									
Bluegrass	Cases	1,898	65	66	79	47	50	60	2,265	19%
	Rate per 100,000		8.0	8.0	9.6	5.7	6.0			
Buffalo Trace	Cases	53	3	0	4	1	2	0	63	1%
	Rate per 100,000									
Cumberland Valley	Cases	186	10	10	6	6	5	10	233	2%
	Rate per 100,000		4.3	4.3						
FIVCO	Cases	134	5	8	4	8	3	2	164	1%
	Rate per 100,000									
Gateway	Cases	97	3	4	5	5	0	5	119	1%
	Rate per 100,000									
Green River	Cases	290	3	8	7	8	8	7	331	3%
	Rate per 100,000									
Kentucky River	Cases	83	1	5	1	3	2	5	100	1%
	Rate per 100,000									
KIPDA	Cases	4,713	164	159	168	155	149	189	5,697	48%
	Rate per 100,000		16.4	15.8	16.7	15.4	14.7			
Lake Cumberland	Cases	165	3	11	3	5	3	4	194	2%
	Rate per 100,000			5.3						
Lincoln Trail	Cases	301	16	11	23	13	14	14	392	3%
	Rate per 100,000		5.9	4.0	8.3	4.7	5.0			
Northern Kentucky	Cases	805	25	46	49	42	38	22	1,027	9%
	Rate per 100,000		5.5	10.0	10.6	9.0	8.1			
Pennyrile	Cases	311	18	12	4	13	8	11	377	3%
	Rate per 100,000		8.4	5.6		6.1				
Purchase	Cases	311	5	6	6	11	8	9	356	3%
	Rate per 100,000					5.6				
Total Cases[3]		**9,762**	**341**	**364**	**379**	**334**	**301**	**350**	**11,831**	**100%**

(1) Rates are only listed for years of diagnosis 2016-2020. Data for 2021 are provisional due to reporting delays and are subject to change. Due to the small numbers of HIV cases reported in some ADDs, please interpret the corresponding rates with caution. Rates are not published when cell size is less than 10.

(2) Data reported as of December 31, 2021. Rates are not published for 2021 because data are not complete.

(3) Total HIV disease cases both living and deceased, regardless of progression to AIDS. Total HIV cases reported are 11,832— 1 HIV case had unknown residential information.

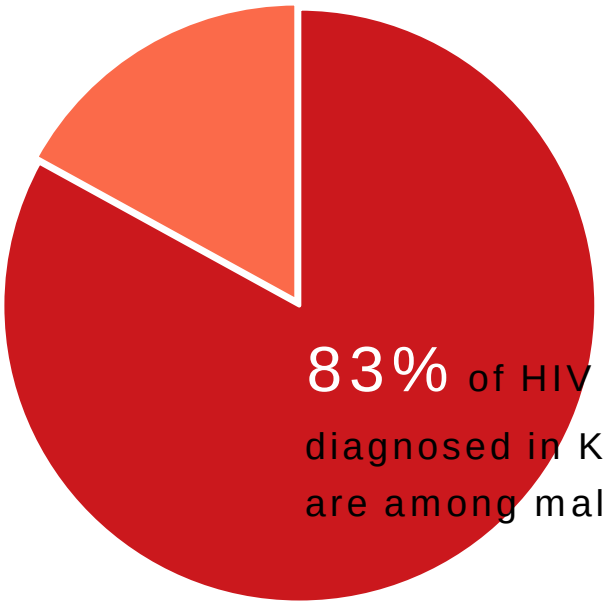
*Rates are not published due to multi-year aggregation of data.

Cumulative and Living HIV Infections, Kentucky

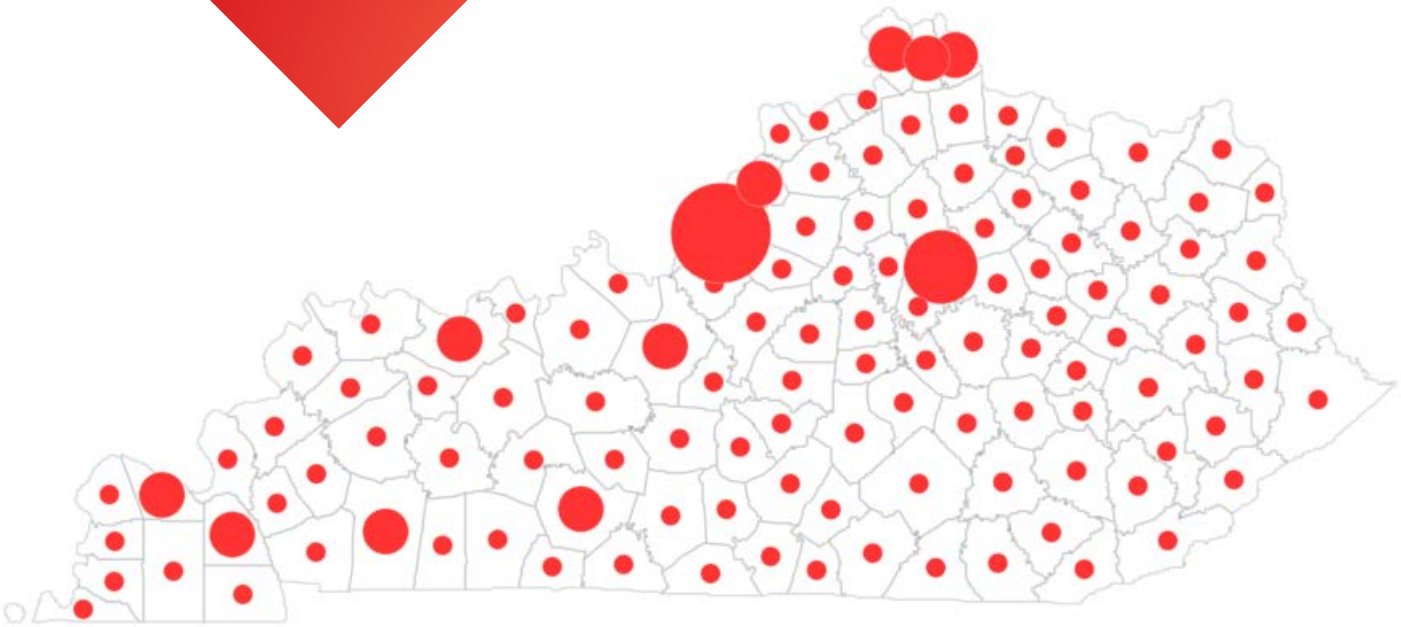
11,832 HIV CASES

diagnosed among Kentuckians.

HIV diagnosis rate decreased from 7.5 in 2019 to 6.7 cases per 100,000 population in 2020.



83% of HIV cases diagnosed in Kentucky are among males.



Cumulative HIV Cases

As of December 31, 2021, a total of 11,832 HIV diagnoses among Kentuckians (11,737 among adult/adolescents and 95 pediatric) have been reported to Kentucky Department for Public Health's HIV/AIDS reporting to the KDPH HIV/AIDS Surveillance Program started in 1982. Since 1990, the number of HIV diagnoses reported each year has fluctuated between 268 to 383. KDPH has received a yearly average of 294 new HIV diagnoses between 1982 and 2020. Over the years there has been no significant change in the number of new HIV infections diagnosed each year.

Figure 29: Number of New HIV Cases by Year of Diagnosis and Cumulative HIV Diagnosis, 1982-2020, Kentucky

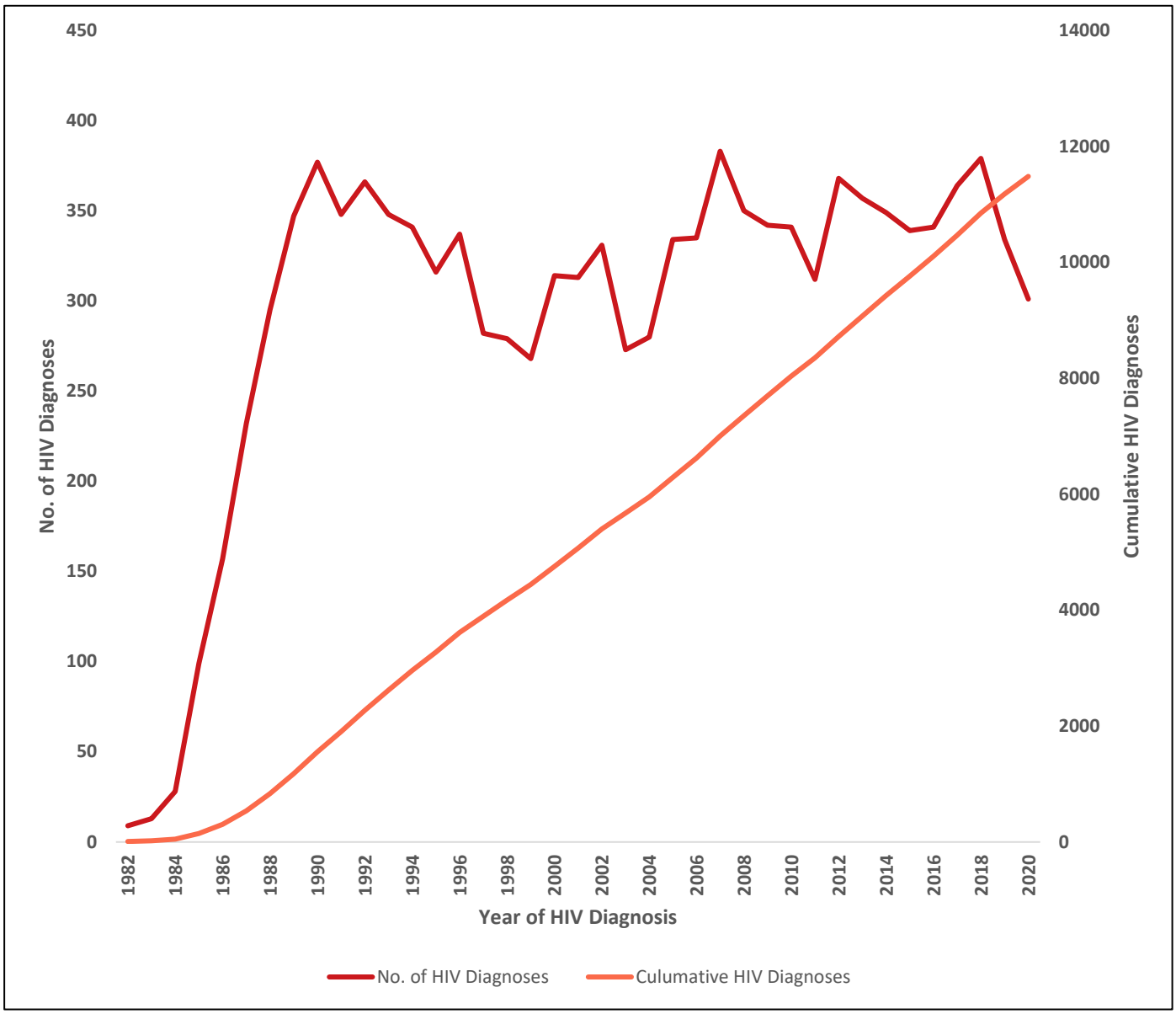
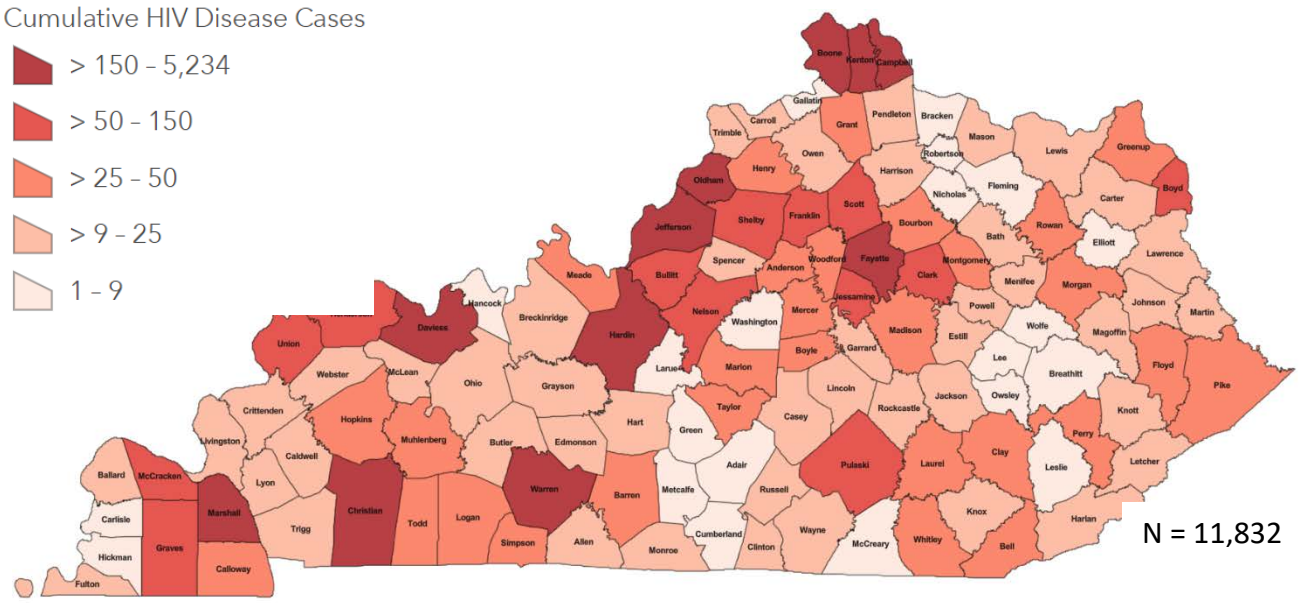
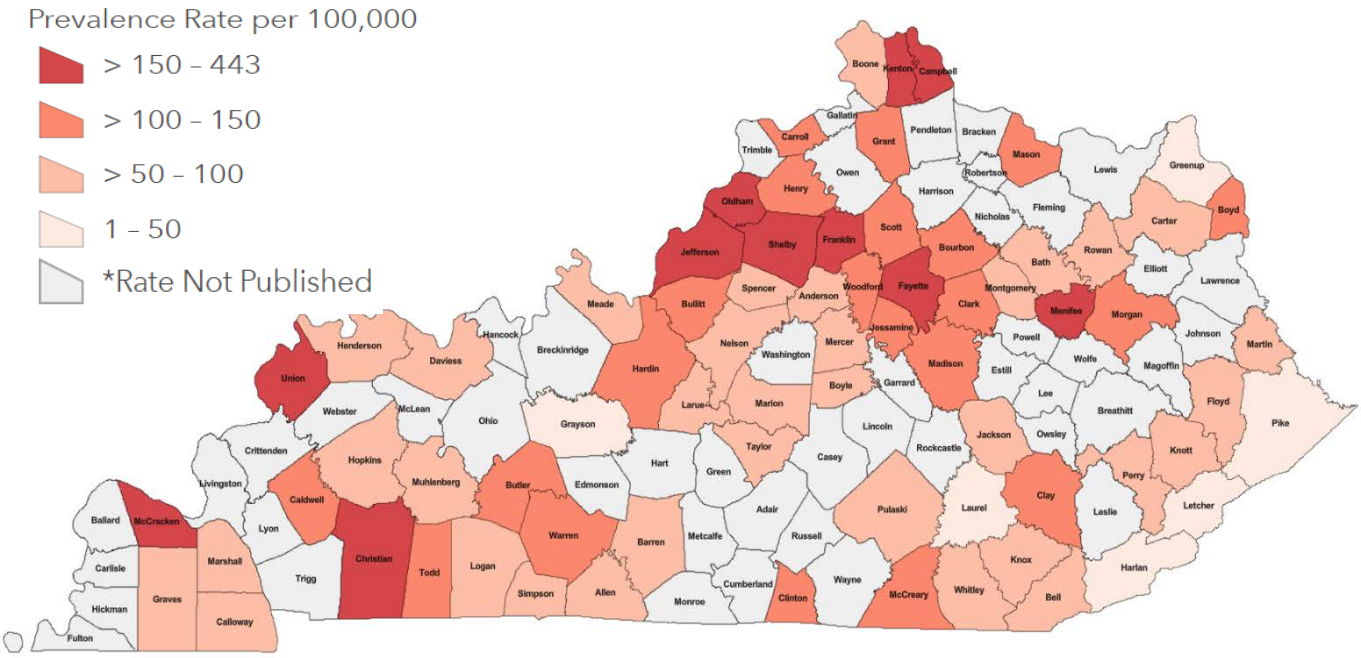


Figure 30: Cumulative HIV Disease Cases Diagnosed by Residential County at Time of Diagnosis as of December 31, 2021, Kentucky*



*One case was missing residential county at time of diagnosis.

Figure 31: HIV Disease Prevalence Rates by Residential County at Time of Diagnosis as of December 31, 2021, Kentucky*



*Rates not published when cell size is less than 10.

Figure 30 shows the cumulative HIV infections among Kentuckians diagnosed by county of residence at time of diagnosis through December 31, 2021. The map highlights that the burden of cumulative HIV diagnosis in Kentucky counties varies from less than ten cumulative cases for counties like Robertson, Pendleton, Gallatin etc., to more than five thousand cases for Jefferson County. One person was missing county of residence at time of HIV diagnosis.

Figure 31 shows the HIV prevalence rate by county of residence at time of HIV diagnosis as of December 31, 2021. The prevalence rate shows the living HIV cases per 100,000 population. The county of residence at time of HIV diagnosis is used to calculate the prevalence rate. The data from the Kentucky Data Center at the University of Louisville is used as source of population data. The map shows that prevalence is not calculated for a large number of counties as the numerator is less than ten. Jefferson County has the highest prevalence rate of 443 cases per 100,000 population.

Table 19 presents a breakdown of cumulative HIV diagnoses by year of diagnosis and demographic characteristics among adults/adolescents. 2021 data are considered preliminary and therefore not included in trends. New diagnoses over the most recent years for which data are complete, 2016-2020, have been predominantly among males, White populations, and males reporting sexual contact with other males. Cumulatively, the majority of adult/adolescent infections are predominantly among males (83%), White populations (60%), and MMSC transmission. New HIV cases over the five-year period (2016-2020) were highest among those 20-29 years old in comparison to other age groups. This also shows a change in trends as compared to total cases, where highest number of cases are among the 30-39 years old group.

It is worth noting that the percentage of HIV cases with IDU as the category of transmission has increased from 6% in 2016 to 16% in 2020. This is in contrast to the cumulative percentage of IDU cases at 11%. The increase in the percentage of cases with IDU as category of transmission is concerning as it is more challenging to respond to an HIV cluster with IDU as category of transmission compared to other categories.

Table 19: Cumulative Adult/Adolescent[1] HIV[#] Infections by Year of HIV Diagnosis, Sex, Age at Diagnosis, Race/Ethnicity, and Transmission Route, Kentucky

Cumulative Adult/Adolescent HIV[#] Infections by Year of HIV Diagnosis, Kentucky																
Characteristics	1982-15		2016		2017		2018		2019		2020		2021[2]		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%[3]
Sex at Birth																
Male	8,021	83	288	85	296	82	310	82	275	82	256	85	284	81	9,730	83
Female	1,652	17	51	15	67	18	69	18	58	18	44	15	66	19	2,007	17
TOTAL[3]	**9,673**	**100**	**339**	**100**	**363**	**100**	**379**	**100**	**333**	**100**	**300**	**100**	**350**	**100**	**11,737**	**100**
Age at Diagnosis*																
13-19	372	4	13	4	13	4	28	7	23	7	9	3	10	3	468	4
20-29	2,954	31	125	37	134	37	138	36	128	38	109	36	114	33	3,702	32
30-39	3,315	34	98	29	98	27	108	28	81	24	86	29	117	33	3,903	33
40-49	2,098	22	57	17	57	16	54	14	56	17	58	19	60	17	2,440	21
50+	934	10	46	14	61	17	51	13	45	14	38	13	49	14	1,224	10
TOTAL[3]	**9,673**	**100**	**339**	**100**	**363**	**100**	**379**	**100**	**333**	**100**	**300**	**100**	**350**	**100**	**11,737**	**100**
Race/Ethnicity																
White	5,821	60	174	51	217	60	216	57	195	59	184	61	200	57	7,007	60
Black/African American	3,114	32	115	34	105	29	110	29	90	27	68	23	104	29	3,706	32
Hispanic	418	4	36	11	26	7	25	7	32	10	28	10	28	8	593	5
Other/Unknown*	320	3	14	4	15	4	28	7	16	5	20	7	18	5	431	4
TOTAL[3]	**9,673**	**100**	**339**	**100**	**363**	**100**	**379**	**100**	**333**	**100**	**300**	**100**	**350**	**100**	**11,737**	**100**
Transmission category																
MMSC[4]	5,419	56	199	59	192	53	204	54	181	54	151	50	149	43	6,495	55
IDU[5]	1,012	10	20	6	49	14	52	14	50	15	47	16	66	19	1,296	11
MMSC/IDU	571	6	20	6	39	11	23	6	31	9	20	7	21	6	725	6
Heterosexual[6]	1,327	14	23	7	15	4	26	7	22	7	26	9	15	4	1,454	12
Female Heterosexual[7]	320	3	26	8	27	7	22	6	19	6	15	5	20	6	449	4
Other[8]	119	1	0	0	0	0	0	0	0	0	0	0	0	0	119	1
Undetermined[9]	905	9	51	15	41	11	52	14	30	9	41	14	79	23	1,199	10
TOTAL[3]	**9,673**	**100**	**339**	**100**	**363**	**100**	**379**	**100**	**333**	**100**	**300**	**100**	**350**	**100**	**11,737**	**100**

HIV disease cases include both persons with HIV and those who have progressed to AIDS.

*Age at time of initial HIV diagnosis.

(1) Case s are classified as Adult/Adolescent if they were 13 years of age or older at time of diagnosis.

(2) Data reported as of December 31, 2021. Data from 2021 are not used in trend analyses due to reporting delays.

(3) Percentages may not total 100% due to rounding.

(4) MMS C = Male to Male Sexual Contact.

(5) IDU = Injection Drug Use.

(6) Heterosexual includes persons who have had heterosexual contact with a person with HIV or at risk for HIV.

(7) Female Heterosexual refers to female not reporting drug use but reporting sex with male. See terminology on page 20 for additional definition.

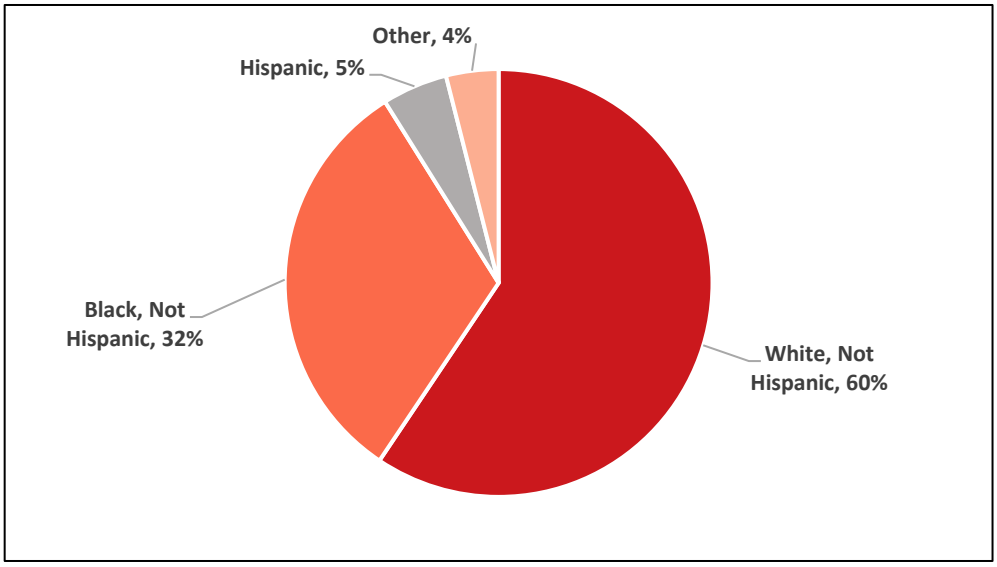
(8) Other includes persons who had exposure through hemophilia/coagulation disorder, transfusion/transplant, or perinatal diagnosed as an adult.

(9) Undetermined refers to persons whose route of exposure to HIV is unknown. This includes persons who are under investigation, deceased, lost to investigation, refused interview, and persons whose route of exposure remains undetermined after investigation.

Race/Ethnicity

Figure 32 shows that 60% of cumulative HIV cases diagnosed in Kentucky are among White populations, 32% are in Black populations, and 5% are in Hispanic populations.

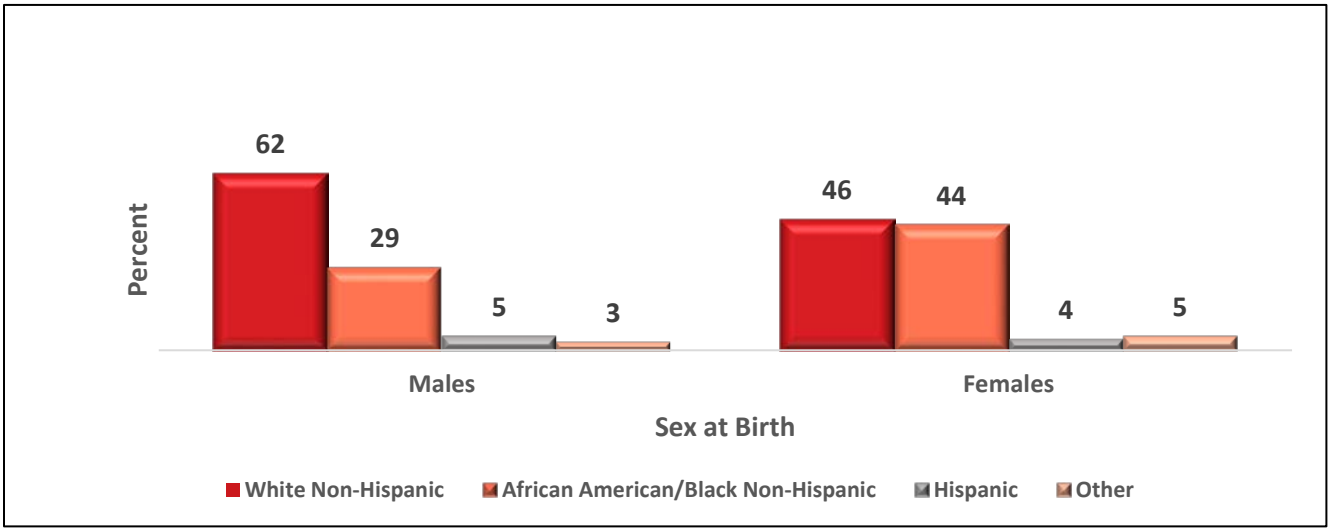
Figure 32: Percentage of Cumulative Adult/Adolescent HIV Disease Cases by Race/Ethnicity as of December 31, 2021, Kentucky*



*Percentages may not total 100% due to rounding

Figure 33 shows the percentages of cumulative HIV cases within each sex group by race/ethnicity. Among males, the majority are White (62%) with Black males accounting for 29% of cumulative cases. Males account for majority of the HIV cases across all race and ethnic groups. Among females, there is almost an even percentage of White (46%) and African American (44%) female cumulative HIV cases.

Figure 33: Percentage of Cumulative HIV Disease Cases by Race/Ethnicity and Sex at Birth as of December 31, 2021, Kentucky



Age at HIV Diagnosis

In terms of age at time of diagnosis, more male HIV cases were diagnosed at ages 30-39 (3,249 or 33%) than any other age groups. Among White males, the highest percentage of cumulative cases was aged 30-39 years at the time of diagnosis (35%). Among Black males, 36% of cases were aged 20-29 years and 29% were aged 30-39 years at time of diagnosis. The percentage of Hispanic males aged 20-29 at time of diagnosis (40%) was higher when compared to Black (36%) and White (29%) males. Conversely, Hispanic males had the lowest percentage of cases diagnosed at ages 40-49 years (14%) as compared to Black males and White males (19% and 22% respectively). Six percent of Black males were teenagers at time of diagnosis compared to 2% of White males and 2% of Hispanic males.

Table 20: Cumulative[1] HIV Disease Cases by Age at Diagnosis[2], Race/Ethnicity, and Sex at Birth as of December 31, 2021, Kentucky

Cumulative[1] HIV Disease Cases by Age at Diagnosis[3], Race/Ethnicity, and Sex as of December 31, 2021, Kentucky											
Age Group[2]		White		Black/African American		Hispanic		Other Unknown		Total	
		No.	%	No.	%	No.	%	No.	%	No.	%
Male	<13	26	<1	30	1	0	0	2	<1	58	<1
	13-19	146	2	180	6	9	2	21	8	356	4
	20-29	1,743	29	1,022	36	200	40	139	40	3,104	32
	30-39	2,152	35	822	29	185	37	90	26	3,249	33
	40-49	1,370	22	544	19	72	14	56	17	2,042	21
	50+	663	11	251	9	40	8	25	9	979	10
	Total	**6,100**	**100**	**2,849**	**100**	**506**	**100**	**333**	**100**	**9,788**	**100**
Female	<13	12	1	20	2	3	3	2	2	37	2
	13-19	47	5	57	6	5	6	3	3	112	5
	20-29	267	28	262	29	39	43	30	29	598	29
	30-39	315	33	286	32	20	22	33	32	654	32
	40-49	184	19	174	19	16	18	24	24	398	19
	50+	120	13	108	12	7	8	10	10	245	12
	Total	**945**	**100**	**907**	**100**	**90**	**100**	**102**	**100**	**2,044**	**100**

(1) Includes HIV disease cases diagnosed from the beginning of the epidemic as of December 31, 2021.
(2) Age at initial HIV diagnosis.
(3) Percentages may not total 100% due to rounding.

Similar patterns exist among females with HIV disease. More females were diagnosed with HIV disease at ages 30-39 (654 or 32%) than in any other age category. For female cases, age at diagnosis was nearly identical across age groups for Black and White females, while Hispanic females were most often identified in the 20–29-year age group (43%).

Figure 34: Percentage of Cumulative HIV Disease Cases by Age at HIV Diagnosis as of December 31, 2021, Kentucky

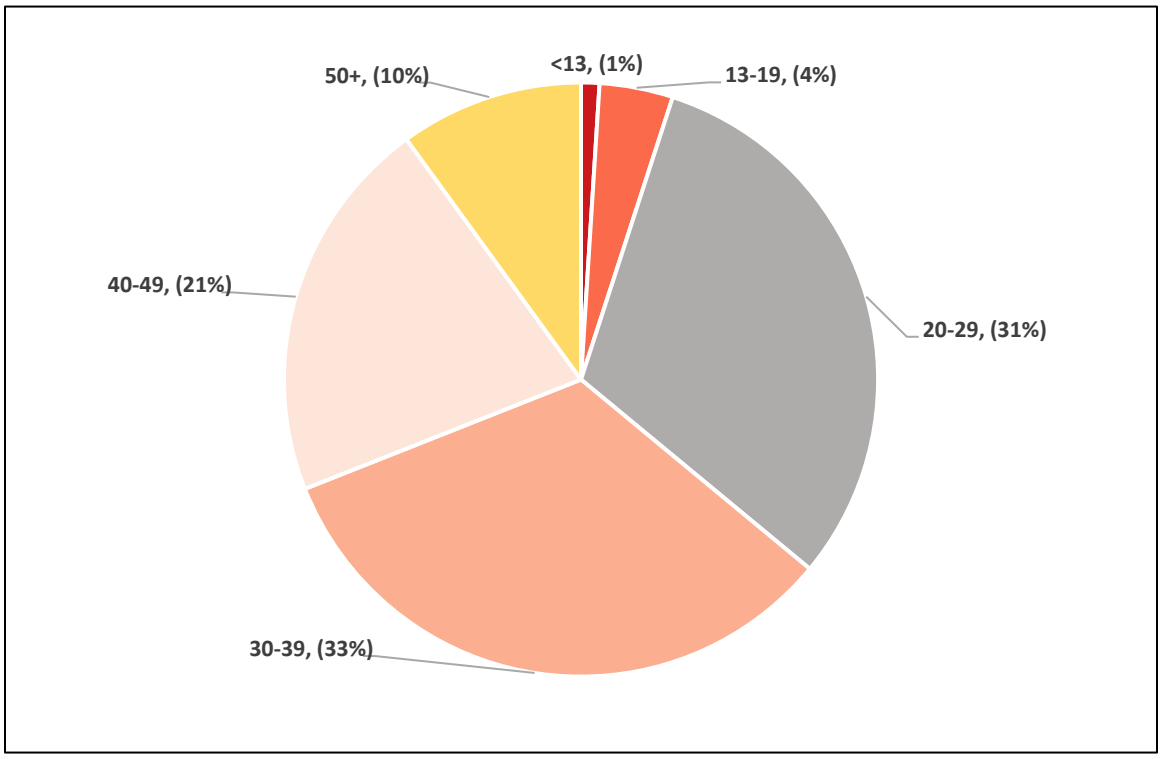
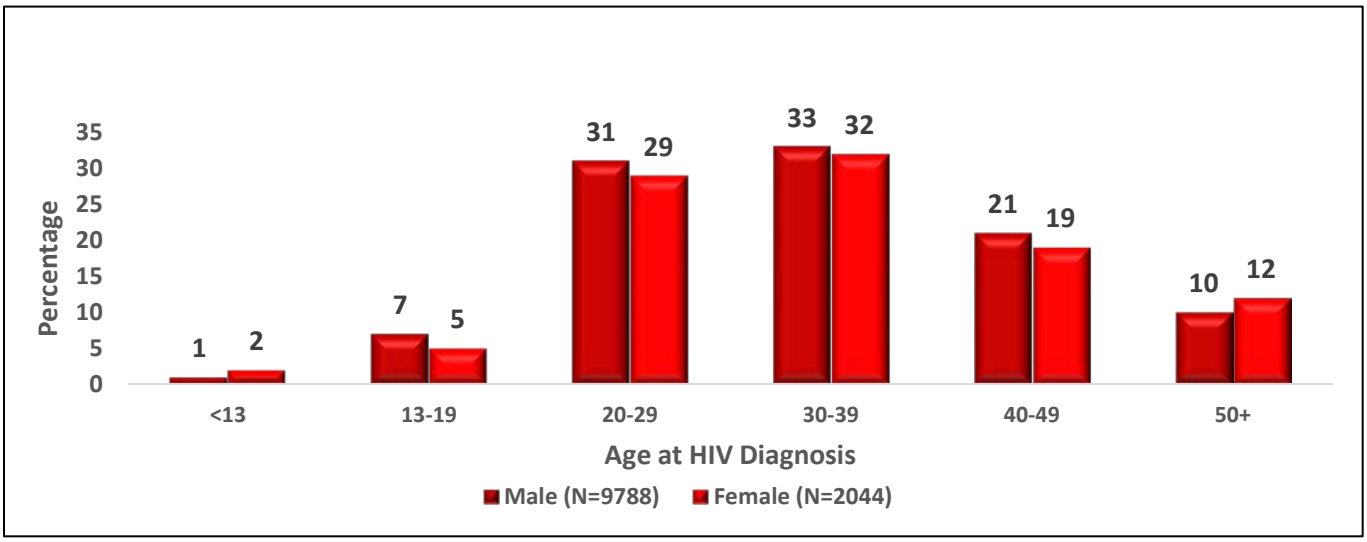


Figure 34 shows the distribution of cumulative Kentucky HIV cases by age at diagnosis. One-third (33%) of cumulative HIV cases in Kentucky were aged 30-39 years at time of diagnosis. Persons aged 20-29 years also account for almost a third of cumulative cases (31%). Children (aged <13 years at diagnosis) and teenagers (aged 13-19 years) account for the smallest percentages of cases at less than 5% each.

Figure 35: Percentage of Cumulative HIV Disease Cases by Sex and Age at HIV Diagnosis as of December 31, 2021, Kentucky



Transmission Category

Among adult/adolescent males, the majority of cumulative HIV cases reported the primary route of exposure as MMSC (67%), while among adult/adolescent women most (47%) were exposed through heterosexual contact with a person with HIV or at high risk for HIV infection (e.g., PWID). Adult/adolescent minority males (12% of Black males and 7% of Hispanic males) reported higher percentages of IDU as the route of transmission in comparison to non-minority adult/adolescents (7% of White populations). Conversely, a higher percentage of adult/adolescent White males (71%) reported MMSC as the primary route of transmission as compared to 57% of all adult/adolescent Black males and 62% of all adult/adolescent Hispanic males.

Table 21: Cumulative[1] Adult/Adolescent[2] HIV Disease Cases by Transmission Route, Race/Ethnicity, and Sex as of December 31, 2021, Kentucky

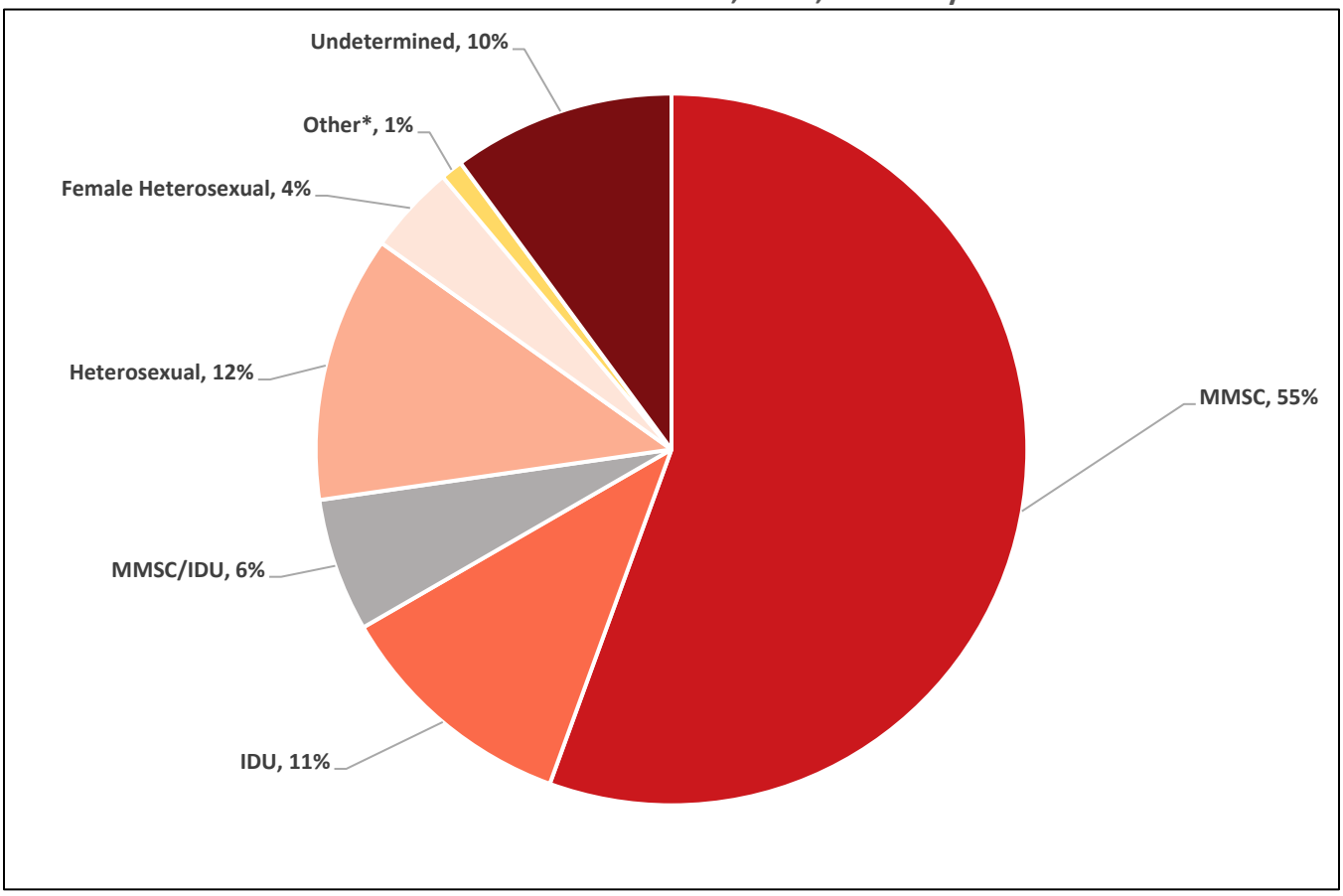
Cumulative[1] Adult/Adolescent[2] HIV Disease Cases by Transmission Route, Race/Ethnicity, and Sex as of December 31, 2021, Kentucky											
Transmission Category		White		Black/African American		Hispanic		Other Unknown		Total	
		No.	%	No.	%	No.	%	No.	%	No.	%
Male	MMSC[3]	4,341	71	1,616	57	316	62	222	67	6,495	67
	IDU[4]	420	7	342	12	35	7	19	6	816	8
	MMSC/IDU	513	8	175	6	18	4	19	6	725	7
	Heterosexual[5]	217	4	225	8	46	9	22	7	510	5
	Other[6]	87	1	15	1	0	-	0	-	102	1
	Undetermined[7]	496	8	446	16	91	18	49	15	1,082	11
	Total[8]	**6,074**	**100**	**2,819**	**100**	**506**	**100**	**331**	**100**	**9,730**	**100**
Female	IDU[4]	287	31	167	19	12	14	14	14	480	24
	Heterosexual[5]	419	45	421	47	50	57	54	54	944	47
	Female Heterosexual[9]	159	17	242	27	21	24	27	27	449	22
	Other[6]	12	1	4	<1	0	0	1	1	17	1
	Undetermined[7]	56	6	53	6	4	5	4	4	117	6
	Total[8]	**933**	**100**	**887**	**100**	**87**	**100**	**100**	**100**	**2,007**	**100**

(1) Includes HIV disease cases diagnosed from the beginning of the epidemic as of December 31, 2021.
(2) Cases are classified as adult/adolescent if they were 13 years of age or older at time of HIV diagnosis.
(3) MMSC = male to male sexual contact.
(4) IDU = injection drug use.
(5) Heterosexual includes persons who have had heterosexual contact with a person with HIV or at risk for HIV.
(6) Other includes persons who had a transfusion/transplant, hemophilia/coagulation disorder, or pediatric cases diagnosed as adults.
(7) Undetermined refers to persons whose mode of exposure to HIV is unknown. This includes persons who are under investigation, deceased, lost to investigation, refused interview, and persons whose mode of exposure remains undetermined after investigation.
(8) Percentages may not total 100% due to rounding.
(9) Female Heterosexual refers to female not reporting drug use but reporting sex with male. See terminology on page 20 for additional definition.

The most reported risk factor for adult/adolescent female cases in each racial/ethnic group was heterosexual contact. When including female heterosexual contact as a risk category, only 6% of adult/adolescent females have undetermined routes of transmission compared to 11% of adult/adolescent males. Adult/adolescent Hispanic males (18%) and Black males (16%) have higher percentages of cases without an identified risk factor than adult/ adolescent White males (8%). The existence of large percentages of cases without known routes of transmission poses a barrier to the provision of effective responses to the epidemic within these groups. Risk factor information forms the basis for program planning, service provision, and guides resource allocation.

Figure 36 shows that in Kentucky, 55% of cumulative adult/adolescent HIV cases identified their primary transmission route as MMSC. Twelve percent (12%) of adult/adolescent HIV cases reported heterosexual contact as their primary transmission route, 11% reported IDU, and 6% reported both MMSC and IDU. Ten percent (10%) of cumulative adult/adolescent HIV cases were reported without a risk factor identified. Cumulative adult/adolescent HIV case frequencies for each route of exposure are displayed in Table 22.

Figure 36: Percentage of Cumulative Adult/Adolescent HIV Disease Cases by Transmission Route as of December 31, 2021, Kentucky



*Other includes persons with transfusion/transplant, hemophilia/coagulation, and persons with perinatal exposure, but who were diagnosed as an adult.

Table 22: Cumulative Adult/Adolescent HIV Disease Cases by Transmission Route as of December 31, 2021, Kentucky

Cumulative Adult/Adolescent HIV Disease Cases by Transmission Route		
Transmission Category	**No.**	**Percentage**
MMSC	6,495	55%
IDU	1,296	11%
MMSC/IDU	725	6%
Heterosexual	1,454	12%
Female Heterosexual	449	4%
Other*	119	1%
Undetermined	1,199	10%
Total	11,737	100%

*Other includes persons with transfusion/transplant, hemophilia/coagulation, and persons with perinatal exposure, but who were diagnosed as an adult.

Persons Living with HIV Disease (PLWH)

As of December 31, 2021 there are 7,778 persons living with HIV infection diagnosed in Kentucky, regardless of current residence, at a prevalence rate of 174 cases per 100,000 population. Figure 37 displays the geographic distribution of living HIV infections diagnosed in Kentucky by county. Table 23 shows living HIV cases diagnosed through December 31, 2021 by demographic and behavioral characteristics. The distribution of behavioral characteristics varied by race/ethnicity and sex, but the majority of Kentucky males living with HIV contracted the disease through MMSC (69%), whereas the majority of Kentucky females contracted HIV through heterosexual contact (47%). An additional 25% of females reported female heterosexual contact which is different than heterosexual contact in that the behavioral risk or sero-status of the male partner is unknown.

Figure 37: Living HIV Infections Diagnosed in Kentucky by County of Residence at Time of Diagnosis through December 31, 2021, Kentucky

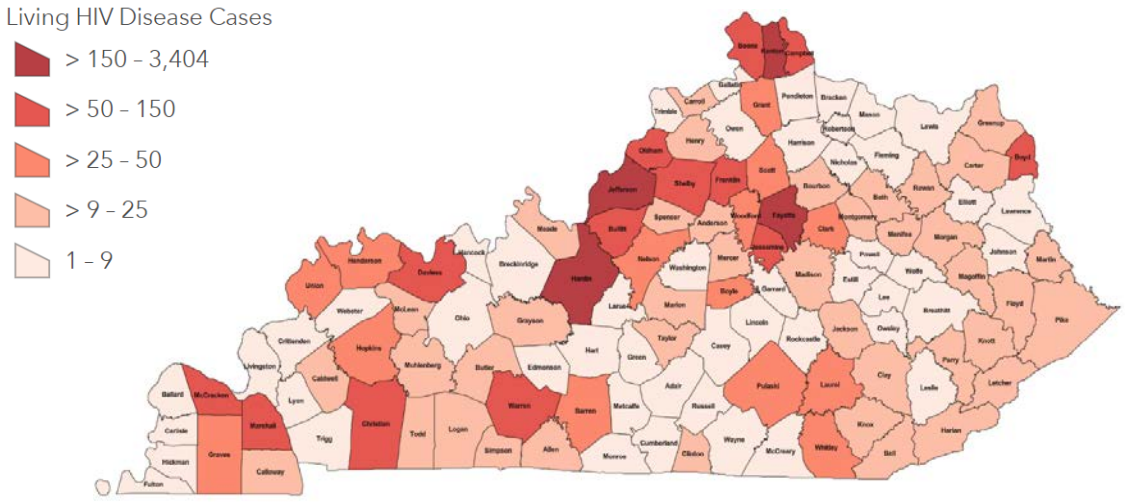


Table 23: Living with HIV Disease by Transmission Category, Race/Ethnicity, and Sex as of December 31, 2021, Kentucky[1]

Transmission Category		White		Black/African American		Hispanic		Other/ Unknown		Total	
		No.	%	No.	%	No.	%	No.	%	No.	%
Male	MMSC[2]	2,733	72	1,161	62	288	64	205	69	4,387	69
	IDU[3]	234	6	135	7	22	5	12	4	403	6
	MMSC/IDU	333	9	85	5	15	3	15	5	448	7
	Heterosexual[4]	117	3	131	7	42	9	21	7	311	5
	Perinatal	13	<1	22	1	0	0	2	1	37	1
	Other[5]	14	<1	3	<1	0	0	0	0	17	<1
	Undetermined[6]	338	9	310	17	80	18	44	15	772	12
	Male Subtotal[7]	**3,782**	**100**	**1,847**	**100**	**447**	**100**	**227**	**100**	**6,375**	**100**
Female	IDU[3]	197	31	74	12	7	9	11	13	289	21
	Heterosexual[4]	282	44	287	48	47	60	42	49	658	47
	Female Heterosexual[8]	117	18	196	33	18	23	26	30	357	25
	Perinatal	8	1	14	2	3	4	2	2	27	2
	Other[5]	0	0	1	<1	0	0	1	1	2	<1
	Undetermined[6]	33	5	30	5	3	4	4	5	70	5
	Female Subtotal	**637**	**100**	**602**	**100**	**78**	**100**	**86**	**100**	**1,403**	**100**
All Living	MMSC[2]	2,733	62	1,161	47	288	55	205	53	4,387	56
	IDU[3]	431	10	209	9	29	6	23	6	692	9
	MMSC/IDU	333	8	85	4	15	3	15	4	448	6
	Heterosexual[4]	399	9	418	17	89	17	63	16	969	12
	Female Heterosexual[8]	117	3	196	8	18	3	26	7	357	5
	Perinatal	21	<1	36	1	3	1	4	1	64	1
	Other[5]	14	<1	4	<1	0	0	1	<1	19	<1
	Undetermined[6]	371	8	340	14	83	16	48	12	842	11
	Total[7]	**4,419**	**100**	**2,449**	**100**	**525**	**100**	**385**	**100**	**7,778**	**100**

(1) Includes living HIV disease cases diagnosed from beginning of the epidemic as of December 31, 2021.
(2) MMSC = Male to Male Sexual Contact.
(3) IDU = Injection Drug Use.
(4) Heterosexual includes persons who have had heterosexual contact with a person with HIV or at risk for HIV.
(5) Other includes persons who had exposure through hemophilia/coagulation disorder, transfusion/transplant or pediatric cases diagnosed as adults.
(6) Undetermined refers to persons whose route of exposure to HIV is unknown. This includes persons who are under investigation, dead, lost to investigation, refused interview, and persons whose route of exposure remains undetermined after investigation.
(7) Percentages may not total 100% due to rounding.
(8) Female Heterosexual includes a female who does not report drug use as an exposure but does report sex with male.

Cumulative and Living HIV Disease Cases by Residential ADD and County

Table 24: Cumulative and Living HIV Disease Cases by Residential ADD and County at Time of Diagnosis as of December 31,2021, Kentucky[1]

Cumulative and Living HIV Disease Cases by Residential ADD and County at Time of Diagnosis					
ADD/County	**Total HIV Disease Cases[2]**	**Total Living with HIV Disease[3]**	**ADD/County**	**Total HIV Disease Cases[2]**	**Total Living with HIV Disease[3]**
Barren River	**418**	**265**	**Buffalo Trace**	**63**	**39**
Allen	23	13	Bracken, Fleming, and Robertson*	17	10
Barren	49	28	Lewis	16	7
Butler	15	13	Mason	30	22
Edmonson and Metcalfe*	19	12			
Hart	13	5	**Cumberland Valley**	**233**	**144**
Logan	30	18	Bell	26	18
Monroe	16	9	Clay	34	24
Simpson	26	17	Harlan	24	11
Warren	227	150	Jackson	17	11
Big Sandy	**95**	**59**	Knox	24	17
Floyd	28	19	Laurel	50	30
Johnson and Magoffin*	17	8	Rockcastle	12	7
Martin	11	10	Whitley	46	26
Pike	39	22	**FIVCO**	**164**	**98**
Pike	39	22	Boyd	97	58
Bluegrass	**2,265**	**1,606**	Carter	23	16
Anderson	35	22	Elliott and Lawrence*	18	7
Bourbon	34	25	Greenup	26	17
Boyle	41	29	**Gateway**	**119**	**81**
Clark	58	41	Bath	15	11
Estill	11	7	Menifee	12	11
Fayette	1,551	1,094	Montgomery	29	21
Franklin	115	82	Morgan	34	16
Garrard	14	9	Rowan	29	22
Harrison	13	9	**Green River**	**331**	**203**
Jessamine	87	67	Daviess	162	94
Lincoln	16	9	Hancock and Webster*	19	12
Madison	129	101	Henderson	69	39
Mercer	37	19	McLean	11	8
Nicholas	7	6	Ohio	14	9
Powell	12	7	Union	56	41
Scott	65	50			
Woodford	40	29			

(1) One case was missing residential county at time of diagnosis.
(2) Total cases with HIV disease regardless of progression to AIDS, both living and deceased.
(3) Living cases regardless of current residence.
* Cases combined due to confidentiality guidelines.

Cumulative and Living HIV Disease Cases by Residential ADD and County (continued)

Table 24 (continued): Cumulative and Living HIV Disease Cases by Residential ADD and County at Time of Diagnosis as of December 31,2021, Kentucky[1]

Cumulative and Living HIV Disease Cases by Residential Area Development District (ADD) and County at Time of Diagnosis					
ADD/County	**Total HIV Disease Cases[2]**	**Total Living with HIV Disease[3]**	**ADD/County**	**Total HIV Disease Cases[2]**	**Total Living with HIV Disease[3]**
Kentucky River	**100**	**61**	**Northern Kentucky**	**1,027**	**700**
Breathitt and Owsley*	9	5	Boone	171	122
Knott	17	13	Campbell	213	149
Lee, Leslie, and Wolfe*	17	9	Carroll	18	13
Letcher	23	10	Gallatin and Owen*	14	11
Perry	34	24	Grant	40	27
KIPDA/North Central	**5,697**	**3,693**	Kenton	561	370
Bullitt	114	87	Pendleton	10	8
Henry	32	23	**Pennyrile**	**322**	**215**
Jefferson	5,234	3,404	Caldwell	25	14
Oldham	200	94	Christian	177	118
Shelby	93	72	Crittenden and Lyon	28	8
Spencer and Trimble*	24	13	Hopkins	49	26
Lake Cumberland	**194**	**135**	Livingston	15	7
Adair and Cumberland*	12	7	Muhlenberg	39	21
Casey	11	7	Todd	28	13
Clinton	14	11	Trigg	16	8
Green	8	6	**Purchase**	**356**	**212**
McCreary	22	20	Ballard and Carlisle*	15	8
Pulaski	70	45	Calloway	42	24
Russell	15	9	Fulton	12	9
Taylor	27	22	Graves	60	35
Wayne	15	8	Hickman	9	7
Lincoln Trail	**392**	**266**	Marshall	31	19
Breckinridge	19	8	McCracken	187	110
Grayson	19	10			
Hardin	235	167			
Laue	9	8			
Marion	22	13			
Meade	27	18			
Nelson	52	36			
Washington	9	6			

(1) One case was missing residential county at time of diagnosis.
(2) Total cases with HIV disease regardless of progression to AIDS, both living and deceased.
(3) Living cases regardless of current residence.
* Cases combined due to confidentiality guidelines.

Pediatric HIV Cases

There have been 95 pediatric (less than 13 years of age) HIV cases reported to the Kentucky HIV/AIDS surveillance program (Table 25 and Table 26) since reporting began in 1982. The majority of reported pediatric cases (79%) were due to perinatal transmission through an HIV-infected mother, 11 cases were reported with a primary exposure route of pediatric hemophilia or coagulation disorders, and two cases were due to pediatric transfusion or transplant (Table 25). Since 1991, there have been no pediatric HIV cases with hemophilia or coagulation disorders reported as the route of exposure. The two pediatric cases reported with pediatric transfusion or transplant as the risk factor were diagnosed in 1987 or earlier. Eighty-six percent (86%) of the 50 pediatric HIV cases among Black pediatric cases were due to perinatal exposure as compared to 66% of the 38 pediatric White HIV cases. The majority (54%) of the 79 cumulative perinatal exposures from a mother with HIV were in Black populations.

Table 25: Number and Percentage of Cumulative Pediatric HIV Disease Cases by Transmission Route and Race/Ethnicity as of December 31, 2021, Kentucky

Number and Percentage of Cumulative Pediatric[1] HIV Disease Cases by Transmission Route and Race/Ethnicity								
Transmission Category	White Non-Hispanic		Black/African American		Other[2]		Total	
	No.	%	No.	%	No.	%	No.	%
Pediatric Hemophilia/Coagulation Disorder	10	26	1	2	0	0	11	12
Perinatal Exposure, Mother with HIV	25	66	43	86	7	100	75	79
Pediatric Transfusion/Transplant	2	5	0	0	0	0	2	2
Pediatric Risk not Identified or Reported	1	3	6	12	0	0	7	7
Total[3]	**38**	**100**	**50**	**100**	**7**	**100**	**95**	**100**

(1) Cases are classified as pediatric if they are less than 13 years of age at time of diagnosis.
(2) Other includes Hispanic populations and persons of other races.
(3) Percentages may not total 100% due to rounding.

Table 26 shows disease progression to AIDS as of December 31, 2021. Ninety (95%) of the cumulative 95 pediatric cases in Kentucky were diagnosed prior to 2015. Two or fewer new pediatric HIV cases have been reported during each of the most recent five years.

Table 26: Number and Percentage of Cumulative Pediatric[1] HIV Disease Cases by Disease Status and Year of Diagnosis, Kentucky[2]

Number and Percentage of Cumulative Pediatric[1] HIV Disease Cases by Disease Status and Year of Diagnosis																
Disease Status	1982-2015		2016		2017		2018		2019		2020		2021		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
HIV Infection **without** AIDS	40	44	2	100	1	100	0	0	0	0	1	100	0	0	44	46
HIV Infection **with** AIDS	50	56	0	0	0	0	0	0	1	100	0	0	0	0	51	54
Total[3]	**90**	**100**	**2**	**100**	**1**	**100**	**0**	**0**	**1**	**100**	**1**	**100**	**0**	**0**	**95**	**100**

(1) Cases are classified as pediatric if they are less than 13 years of age at time of diagnosis.
(2) Data reported as of December 31, 2021.
(3) Percentages may not total 100% due to rounding.

AIDS Cases

AIDS is the most advanced stage of HIV (Stage 3). People with AIDS have badly damaged immune systems. Persons with AIDS are vulnerable to a number of severe illnesses, called opportunistic infections. People receive an AIDS diagnosis when they develop an opportunistic infection, or their CD4 cell count drops below 200 cells per milliliter of blood.

Table 27 shows the number of HIV infections that progressed to AIDS from 2012-2021. Since 2012, a total of 3,482 HIV infections have been diagnosed, of which, 1,059 (30.4%) progressed to AIDS as of December 31, 2021. The percentage of HIV Infections that progressed to AIDS has steadily decreased.

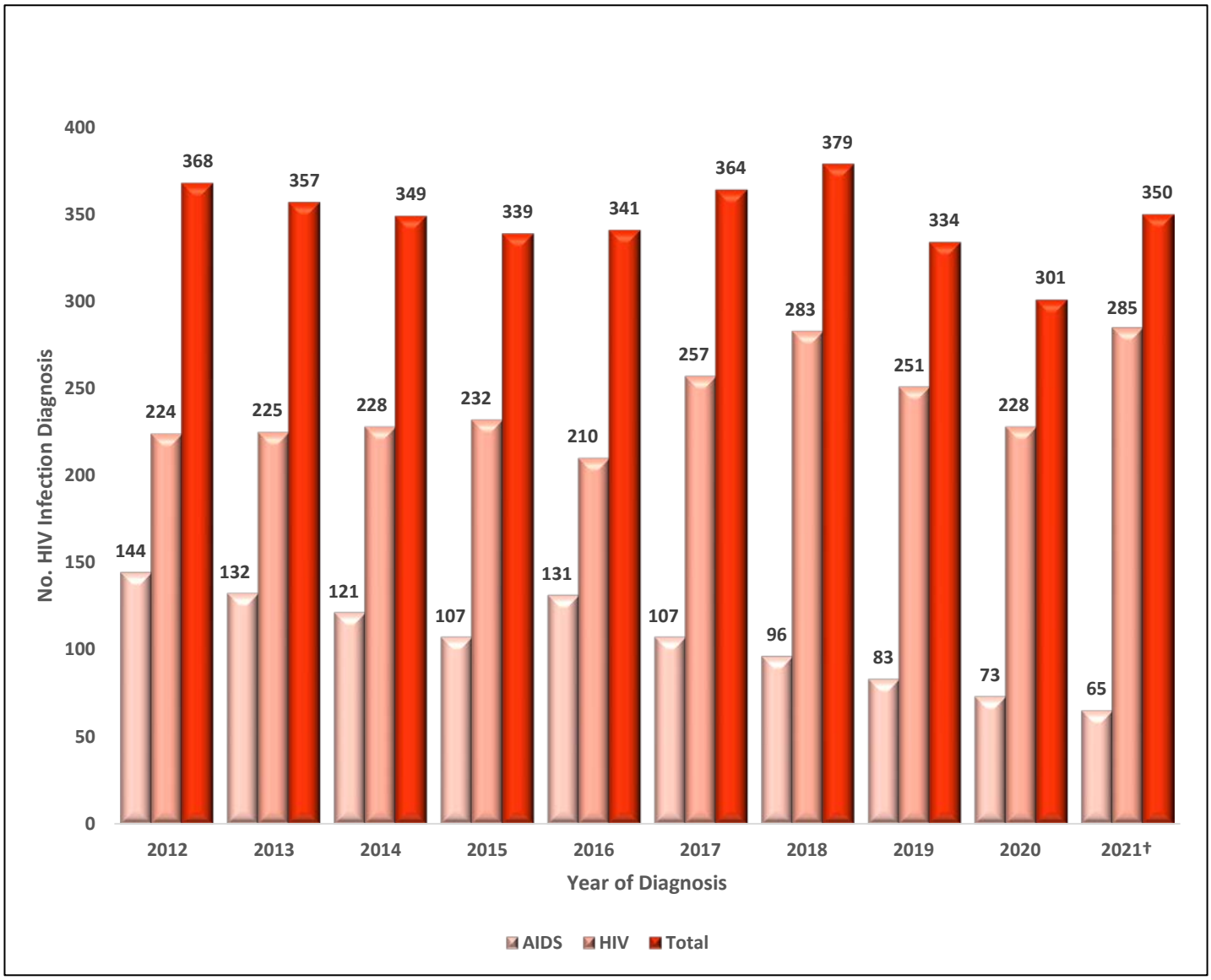
Table 27: Number of HIV Infections per Year of Diagnosis (2012-2021†) and Percentage that Progressed to AIDS in the Course of Illness as of December 31, 2021, Kentucky

Number of HIV Infections per Year of Diagnosis (2012-2021†) and Percentage that Progressed to AIDS in the Course of Illness as of December 31, 2021			
Year of HIV Diagnosis	Total HIV/AIDS Cases*	Number that Progressed to AIDS	Percentage that Progressed to AIDS†
	No.	No.	%
2012	368	144	39%
2013	357	132	37%
2014	349	121	35%
2015	339	107	32%
2016	341	131	28%
2017	364	107	29%
2018	379	96	25%
2019	334	83	25%
2020	301	73	24%
2021†	350	65	19%
Total	**3,482**	**1,059**	**30.4%**

*Total HIV infections regardless of disease progression.
†Data reported as of December 31, 2021.

Figure 38 shows new HIV cases, and cases that progressed to AIDS in Kentucky each year from 2012 to 2021, as of December 31, 2021.

Figure 38: Number of HIV Infections (2012-2021), and progressed to AIDS per Year of Diagnosis, as of December 31, 2021, Kentucky



2021 data are considered preliminary.

Table 28 below shows a breakdown of adult/adolescent HIV diagnoses that have progressed to AIDS by year of initial HIV diagnosis and demographic characteristics. Diagnosed cases that had progressed to AIDS as of December 31, 2021, were predominantly male, White, and males reporting sexual contact with other males.

Table 28:Adult/Adolescent HIV Disease Cases with AIDS† by Year of Initial HIV Diagnosis, Sex, Age at Diagnosis, Race/Ethnicity, and Transmission Category, Kentucky

Adult/Adolescent[1] HIV Disease Case with AIDS by Year of HIV Diagnosis, Sex, Age, Race/Ethnicity, and Transmission Kentucky																
Characteristics	1982-15		2016		2017		2018		2019		2020		2021[2]		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%[3]
Sex at Birth																
Male	5,416	84	111	85	91	85	81	84	67	82	56	77	54	83	5,876	84
Female	1,058	16	20	15	16	15	15	16	15	18	17	23	11	17	1,152	16
Total[3]	**6,474**	**100**	**131**	**100**	**107**	**100**	**96**	**100**	**82**	**100**	**73**	**100**	**65**	**100**	**7,028**	**100**
Age at Diagnosis*																
13-19	191	3	4	3	1	1	5	5	3	4	0	0	0	0	204	3
20-29	1,784	28	27	21	23	22	26	27	19	23	14	19	10	15	1,903	27
30-39	2,407	37	43	33	30	28	25	26	21	26	27	37	15	23	2,568	37
40-49	1,440	22	28	21	28	26	19	20	18	22	15	21	23	35	1,571	22
50+	652	10	29	22	25	23	21	22	21	26	17	23	17	26	782	11
Total[3]	**6,474**	**100**	**131**	**100**	**107**	**100**	**96**	**100**	**82**	**100**	**73**	**100**	**65**	**100**	**7,028**	**100**
Race/Ethnicity																
White	3,969	61	70	53	69	64	58	60	50	61	46	63	38	58	4,300	61
Black/African American	2,028	31	46	35	22	21	23	24	13	16	14	19	16	25	2,162	31
Hispanic	286	5	12	9	9	8	6	6	9	11	7	10	10	15	339	5
Other/Unknown*	191	3	3	2	7	7	9	9	10	12	6	8	1	2	227	3
Total[3]	**6,474**	**100**	**131**	**100**	**107**	**100**	**96**	**100**	**82**	**100**	**73**	**100**	**65**	**100**	**7,028**	**100**
Transmission category																
MMSC[4]	3,578	55	64	49	48	45	49	51	36	44	30	41	23	35	3,828	55
IDU[5]	804	12	9	7	10	9	13	14	8	10	14	19	4	6	862	12
MMSC/IDU	415	6	4	3	13	12	3	3	6	7	4	5	4	6	415	6
Heterosexual[6]	966	15	10	8	5	5	3	3	11	13	10	14	4	6	1,009	14
Female Heterosexual[7]	150	2	10	8	10	9	7	7	4	5	4	5	7	11	192	3
Other[8]	114	2	0	0	0	0	0	0	0	0	0	0	0	0	114	2
Undetermined[9]	447	7	34	26	21	20	21	22	17	21	11	15	23	35	574	8
Total[3]	**6,474**	**100**	**131**	**100**	**107**	**100**	**96**	**100**	**82**	**100**	**73**	**100**	**65**	**100**	**7,028**	**100**

†HIV disease cases that have progressed to AIDS include only persons reported with an AIDS diagnosis as of December 31, 2021.
*Age at time of initial HIV diagnosis.
(1) Cases are classified as Adult/Adolescent if they were 13 years of age or older at time of diagnosis.
(2) Data reported as of December 31, 2021. Data for 2021 are considered preliminary and not used in trend analyses due to reporting delays.
(3) Percentages may not total 100% due to rounding.
(4) MMSC = Male to Male Sexual Contact.
(5) IDU = Injection Drug Use.
(6) Heterosexual includes persons who have had heterosexual contact with a person with HIV or at risk for HIV.
(7) Female Heterosexual refers to female not reporting drug use but reporting sex with male.
(8) Other includes persons who had exposure through hemophilia/coagulation disorder, transfusion/transplant, or perinatal diagnosed as an adult.
(9) Undetermined refers to persons whose route of exposure to HIV is unknown. This includes persons who are under investigation, deceased, lost to investigation, refused interview, and persons whose route of exposure remains undetermined after investigation.

HIV Infections Diagnosed Concurrently with AIDS

During the most recent 10-year period for which data are available (January 1, 2012, to December 31, 2021), a total of 3,482 HIV disease cases were diagnosed among Kentuckians. Of these, 1,059 (30%) had progressed to AIDS as of December 31, 2021.

Table 29: AIDS Cases Diagnosed within the 10-Year Period January 1, 2012 to December 31, 2021, by Time (in days) from HIV Diagnosis to AIDS Diagnosis, Kentucky

Time to AIDS Diagnosis (Days)	No.	%
< 30 Days	737	69.6
31-60 Days	66	6.2
61-90 Days	35	3.3
91-365 Days	90	8.5
> 365 Days	131	12.4
Total	1,059	100

During the most recent 10-year period, 737 (21.2%) of the 3,482 newly diagnosed HIV cases were diagnosed with AIDS within 30 days of the initial HIV diagnosis - also known as a concurrent diagnosis.

The distribution of progression to AIDS (in days) for the 1,059 AIDS cases is shown in Table 29. About 70% of the 1,059 AIDS cases diagnosed in the most recent 10 years were diagnosed with AIDS within 30 days of the initial HIV diagnosis.

According to the CDC late testers are those who have an AIDS diagnosis within one year of initial HIV diagnosis. During the presented time period, 928 (26.7%) of the 3,482 Kentuckians diagnosed with HIV disease were late testers.

Only 12% of the 1,059 AIDS cases diagnosed in the most recent 10 years were diagnosed with AIDS after a year of the initial HIV diagnosis.

Table 30: HIV Infection Diagnosed with the Most Recent 10-Year Period (January 1, 2012 – December 31, 2021) that were Diagnosed Concurrently with AIDS and those without a Concurrent Diagnosis by Sex, Age at Diagnosis, Race/Ethnicity, and Transmission Category, Kentucky

Characteristics		HIV with Concurrent AIDS Diagnosis*		HIV Without Concurrent AIDS Diagnosis**		Total HIV Disease Diagnoses***	
		No.	%[1]	No.	%[1]	No.	%[1]
Sex							
Male		608	83	2,277	83	2,885	83
Female		129	18	468	17	597	17
Age at Diagnosis							
<13		1	<1	18	1	19	1
13-19		10	1	144	5	154	4
20-29		140	19	1,124	41	1,264	36
30-39		195	26	716	26	911	26
40-49		189	26	447	16	636	18
50+		202	27	296	11	498	14
Race/Ethnicity							
Female	White, Not Hispanic	58	45	255	54	313	52
	Black, Not Hispanic	58	45	177	38	235	39
	Hispanic	7	5	14	3	21	4
	Other/Unknown	6	5	22	5	28	5
Male	White	372	61	1,280	56	1,652	57
	African American/Black	136	22	690	30	826	29
	Hispanic	66	11	175	8	241	8
	Other/Unknown	34	6	132	6	166	6
Transmission Category							
MMSC[2]		347	47	1,564	57	1,911	55
IDU[3]		62	8	292	11	354	10
MMSC/IDU		28	4	198	7	226	6
Heterosexual[4]		67	9	178	6	245	7
Female Heterosexual[5]		66	9	172	6	238	7
Perinatal		1	<1	15	<1	16	<1
Other[6]		1	<1	2	<1	3	<1
Undetermined[7]		165	22	324	12	486	14
Total		**737**	**100**	**2,745**	**100**	**3,482**	**100**

*Concurrent is defined as being diagnosed with both HIV and AIDS within a 30-day period.
**Without AIDS diagnosis 30 days after initial HIV diagnosis. Includes both HIV (non-AIDS) cases and those with an AIDS diagnosis.
more than 30 days after initial HIV diagnosis.
***Total diagnoses January 1, 2012, through December 31, 2021, with HIV, regardless of AIDS diagnosis status.
(1) Percentages may not total to 100% due to rounding.
(2) MMSC = Male to Male Sexual Contact.
(3) IDU = Injection Drug Use.
(4) Heterosexual includes persons who have had heterosexual contact with a person with HIV or at risk for HIV.
(5) Female Heterosexual refers to a female not reporting drug use but reporting sex with male.
(6) Other includes persons who had exposure through hemophilia, transfusion/transplant, or perinatal diagnosed as an adult.
(7) Undetermined refers to persons whose route of exposure to HIV is unknown. This includes persons who are under investigation, deceased, lost to investigation, refused interview, and persons whose route of exposure remains undetermined after investigation.

Table 30 examines the distribution of HIV cases among Kentuckians diagnosed between January 1, 2012 and December 31, 2021 by sex, age at diagnosis, race/ethnicity, and transmission route. Data are presented for cases diagnosed concurrently with AIDS (diagnosed with AIDS within a 30-day period after an initial HIV diagnosis), cases without a concurrent HIV/AIDS diagnosis (anyone who did not have an AIDS diagnosis within 30 days of the initial HIV diagnosis, whether they developed AIDS or not), and for all cases diagnosed with HIV (regardless of AIDS diagnosis status) within the 10-year period.

Of the 3,482 Kentuckians diagnosed with HIV disease during the 10-year period, about a quarter (737 or 21.1%) were diagnosed with HIV and AIDS concurrently (within 30 days).

During the 10-year period presented, males consistently represent the highest number of diagnosed cases of HIV, with (83%) and without (83%) a concurrent AIDS diagnosis.

The distribution by age at diagnosis differs between the two groups, with the highest percentages of concurrent cases aged 50+ years (27%), while the highest percentages among non–concurrently diagnosed cases were aged 20-29 years (41%).

The racial/ethnic distribution of cases diagnosed concurrently with AIDS differs by sex. Among females, the highest percentage of concurrent diagnoses were the same among Black and White females at 45%, followed by Hispanic females at 5%. However, among males, the majority of concurrent diagnoses were among White males (61%). Twenty-two percent (22%) of concurrently diagnosed cases in males were among Black males and 11% were among Hispanic males. The percentages of concurrent diagnoses among Hispanic males and Hispanic females are comparable. Caution should be taken when interpreting the data for the other and unknown race/ethnicity categories as the numbers of cases are small.

Data by route of transmission show HIV cases diagnosed concurrently with AIDS have a similar distribution to those without a concurrent diagnosis, with the majority of cases among those with a concurrent diagnosis reporting MMSC as the mode of transmission (47%), followed by persons reporting heterosexual exposure (9%), female presumed heterosexual (9%) and IDU at 8%. Twenty-two percent (22%) 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.

Deaths among Persons Diagnosed with HIV/AIDS

As of December 31, 2021, a total of 4,054 deaths (mortality rate: 90 deaths per 100,000 population) have been reported among persons with HIV infection in Kentucky. Death data include deaths reported among persons diagnosed with HIV infection regardless of cause of death. The mortality rate was higher among males (154 per 100,000 population) than females (28 per 100,000 population), which is consistent with the higher proportions of infections being male shown in Table 31. African Americans had a higher mortality rate compared to White populations (both males and females). The mortality rate among African Americans females was 9 times higher than White females. Similarly, the mortality rate for Black males was 4 times higher than their White counterparts. Hispanic populations, as an ethnic/racial group had the lowest mortality rate in comparison to other racial and ethnic groups.

Table 31: Cumulative Number of Deaths among Persons with HIV and Death Rates, by Race/Ethnicity and Sex, as of December 31, 2021, Kentucky

	Males			Females			Total		
Race/Ethnicity	No.	%	Rate*	No.	%	Rate*	No.	%	Rate*
White, Not Hispanic	2,318	68	124	308	48	16	2,626	65	69
Black, Not Hispanic	1,002	29	501	305	48	151	1,307	32	325
Hispanic	59	2	61	12	2	14	71	2	39
Other	34	1	76	16	2	33	50	1	54
Total	**3,413**	**100**	**154**	**641**	**100**	**28**	**4,054**	**100**	**90**

Figure 39 presents the percentages of deaths by age at diagnosis. Of the 4,054 total deaths among persons with HIV as of December 31, 2021, 37% were aged 30 – 39 years at the time of diagnosis, 24% were aged 20-29, and 23% were aged 40 – 49 years at time of diagnosis.

Figure 39: Percentage of Deaths Among Persons with HIV by Age at HIV Diagnosis as of December 31, 2021, Kentucky

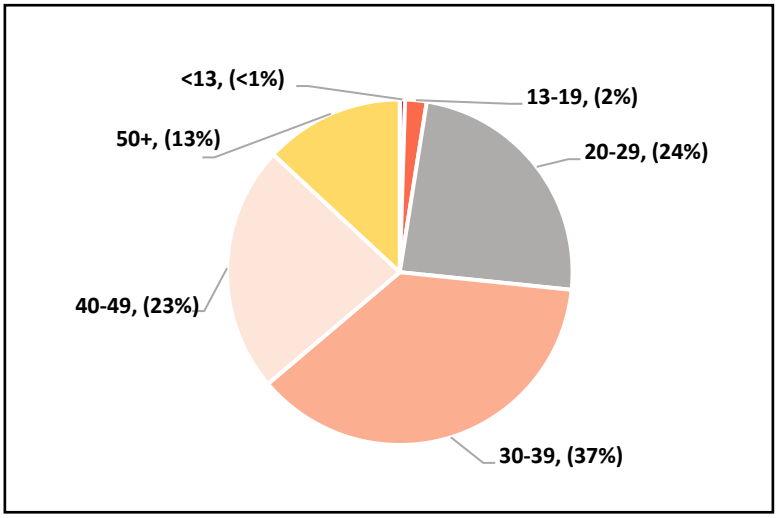


Table 32: Vital Status for HIV Cases by Year of Diagnosis as of December 31, 2021, Kentucky

Year of Diagnosis	Vital Status		Total
	Living	Deceased	
1982	2	7	9
1983	3	10	13
1984	4	24	28
1985	25	74	99
1986	27	130	157
1987	51	181	232
1988	52	243	295
1989	69	278	347
1990	105	272	377
1991	84	264	348
1992	105	261	366
1993	115	233	348
1994	139	202	341
1995	133	183	316
1996	191	146	337
1997	137	145	282
1998	161	118	279
1999	161	107	268
2000	200	114	314
2001	218	95	313
2002	216	115	331
2003	206	67	273
2004	214	66	280
2005	248	86	334
2006	266	69	335
2007	302	81	383
2008	277	73	350
2009	299	43	342
2010	293	48	341
2011	260	52	312
2012	322	46	368
2013	309	48	357
2014	311	38	349
2015	313	26	339
2016	316	25	341
2017	339	25	364
2018	360	19	379
2019	322	12	334
2020	283	18	301
2021	340	10	350

Vital Status data as of December 31, 2021.
2021 data are considered preliminary.

HIV Clusters

HIV cluster signifies increased HIV transmission among a group of people in an area or in a sexual or social network. This can indicate gaps in HIV prevention or care for that group of people. Transmission clusters can represent recent and ongoing HIV transmission in a population where prevention efforts could prevent new infections.

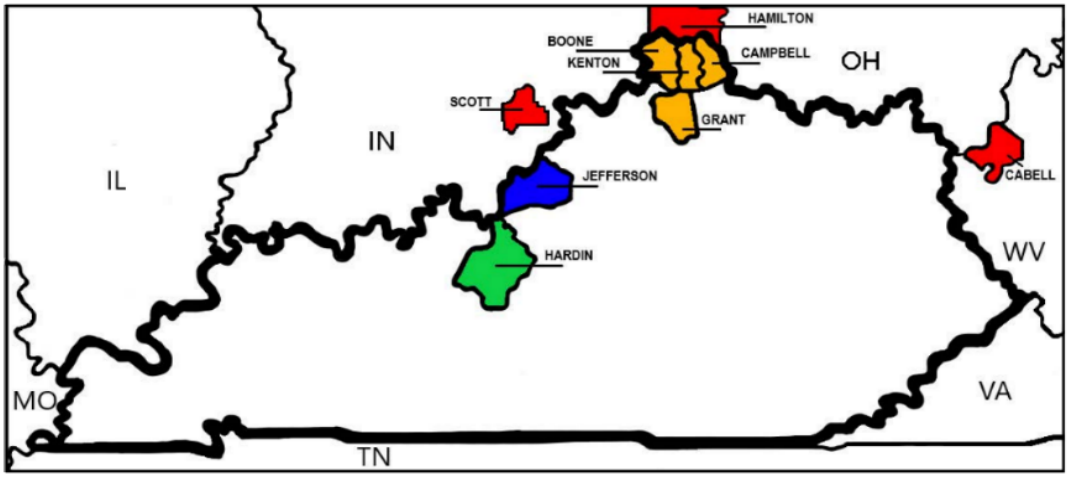
- For detection of time-space clusters, along with the CDC provided "Time-space Alert Program," Kentucky has adopted the strategy of enhanced surveillance due to the large number of counties with very small numbers of cases per year. KDPH HIV Surveillance uses a KDPH developed SAS code to conduct biweekly county level analysis for enhanced surveillance.
- Newly reported cases are closely examined by category of transmission, sex at birth, age at diagnosis, and race/ethnicity to monitor for any change in trends. Kentucky uses the average for the last five years as a baseline to compare for any change in trends.

A molecular cluster is a group of persons with diagnosed HIV infection who have genetically similar HIV strains. The genetic sequence of HIV accumulates changes over time, sometimes rapidly. Immediately following transmission of HIV between two people, the genetic sequence of the HIV strain in the recipient will be nearly identical to strains found in the transmitting person. As time passes, however, the strains infecting each person will change independently of one another and will look different.

- Molecular sequence analysis is conducted on a monthly basis.
- Kentucky uses the CDC criteria for three (3) cases linked at 0.5% genetic diversity for vulnerable populations or areas of high concern for an HIV outbreak (e.g., rural counties in eastern Kentucky, cluster members of younger age, belong to vulnerable population [homeless population], PWID, identified health disparities) or five cases linked at 0.5% diagnosed within the last 12 months from date of analysis to identify a molecular cluster.

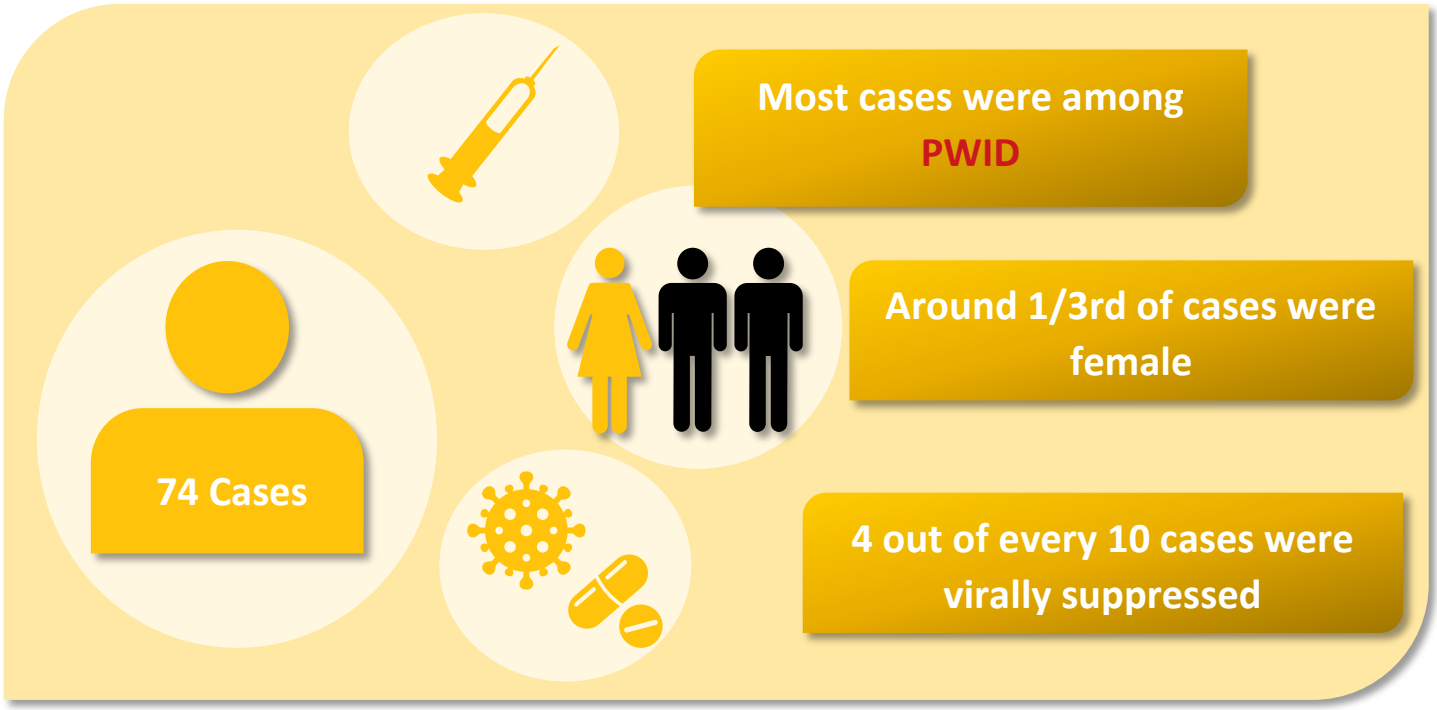
Figure 40 below shows the counties in Kentucky and surrounding states, where major HIV clusters have been detected.

Figure 40: Major Historical HIV Clusters in Kentucky, and Surrounding States (2014-2022)

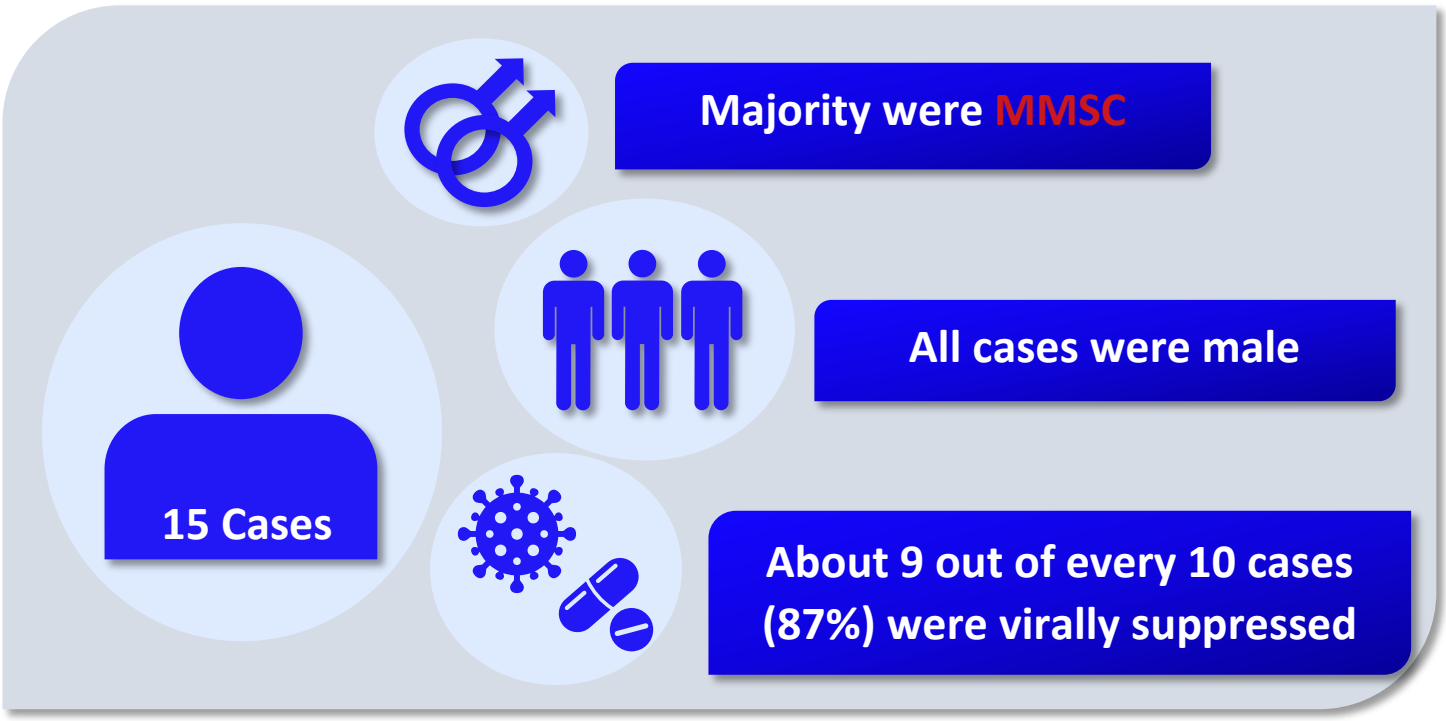


Historical Clusters

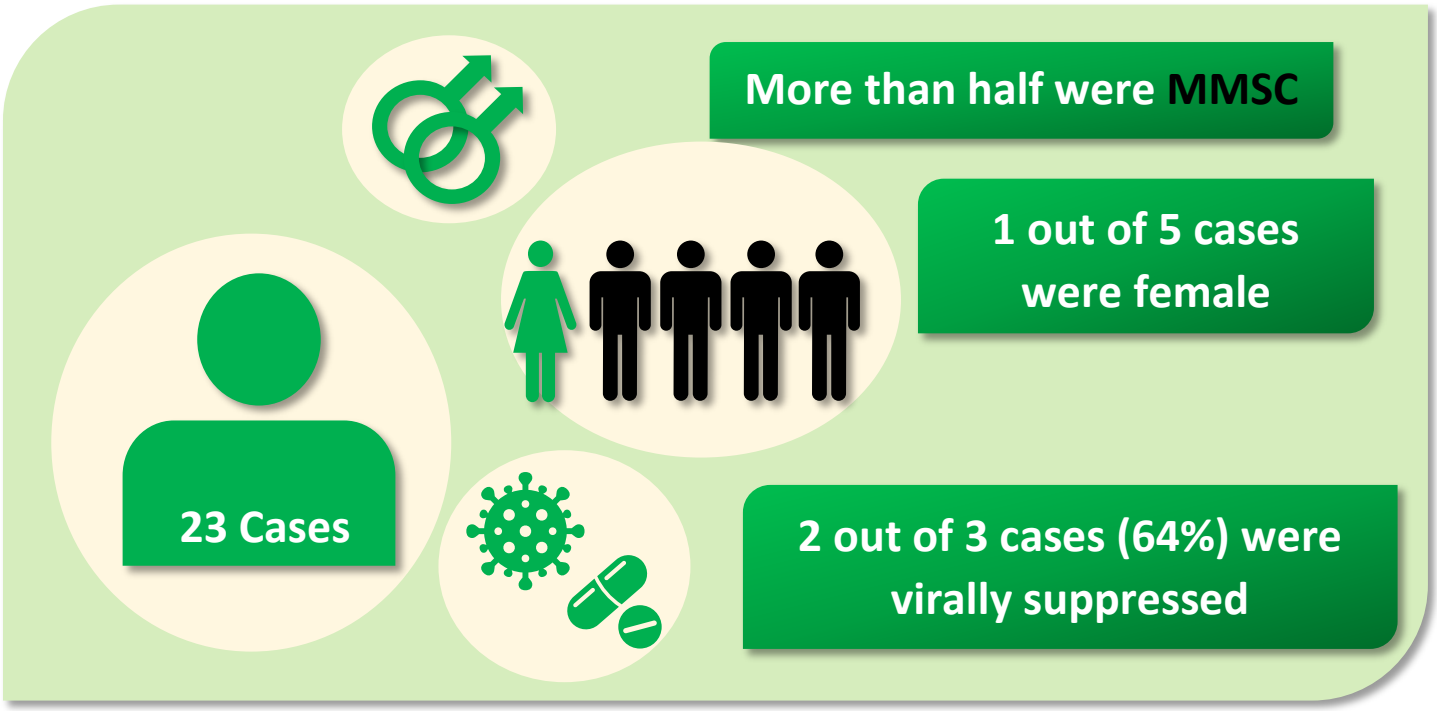
Northern Kentucky Time Space Cluster (January 2017 – December 2019)



Jefferson County Molecular Cluster (January 2018 – December 2019)

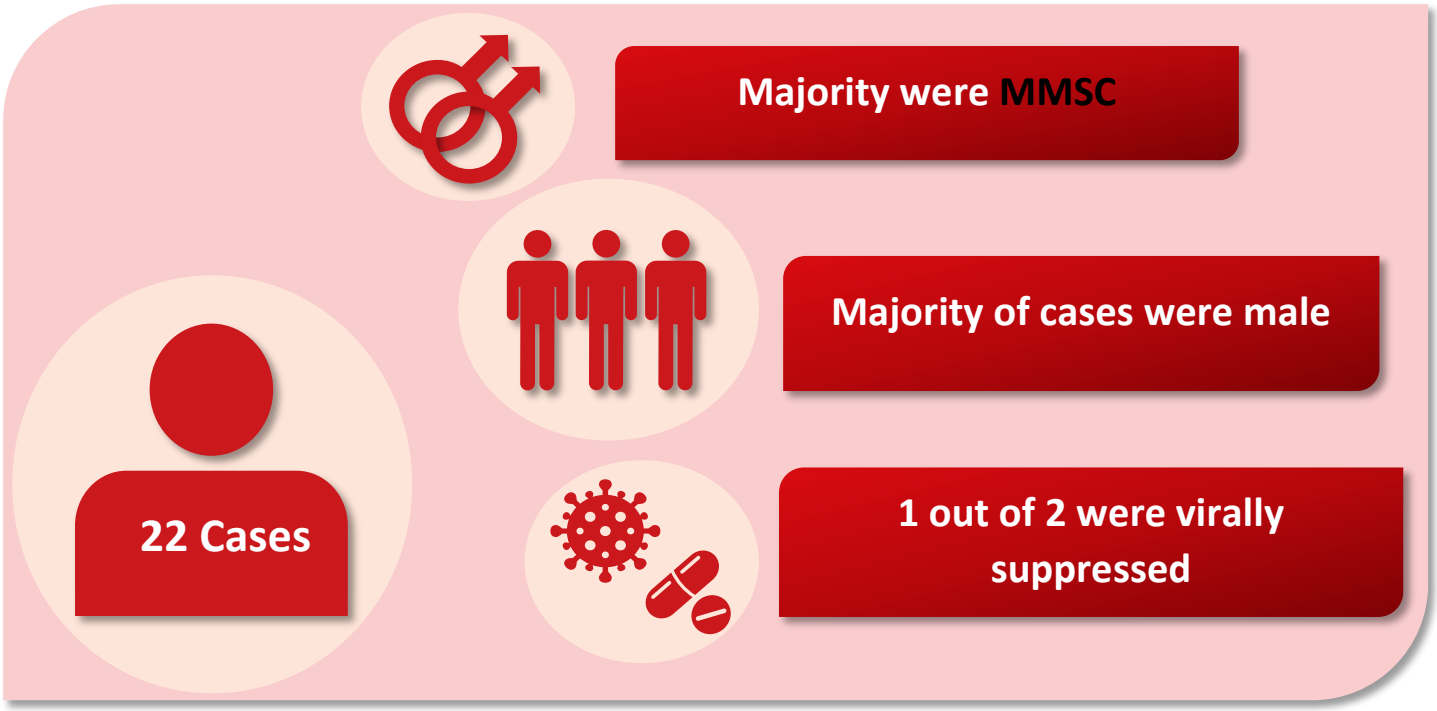


Hardin County Time Space Cluster (January 2018 – December 2018)

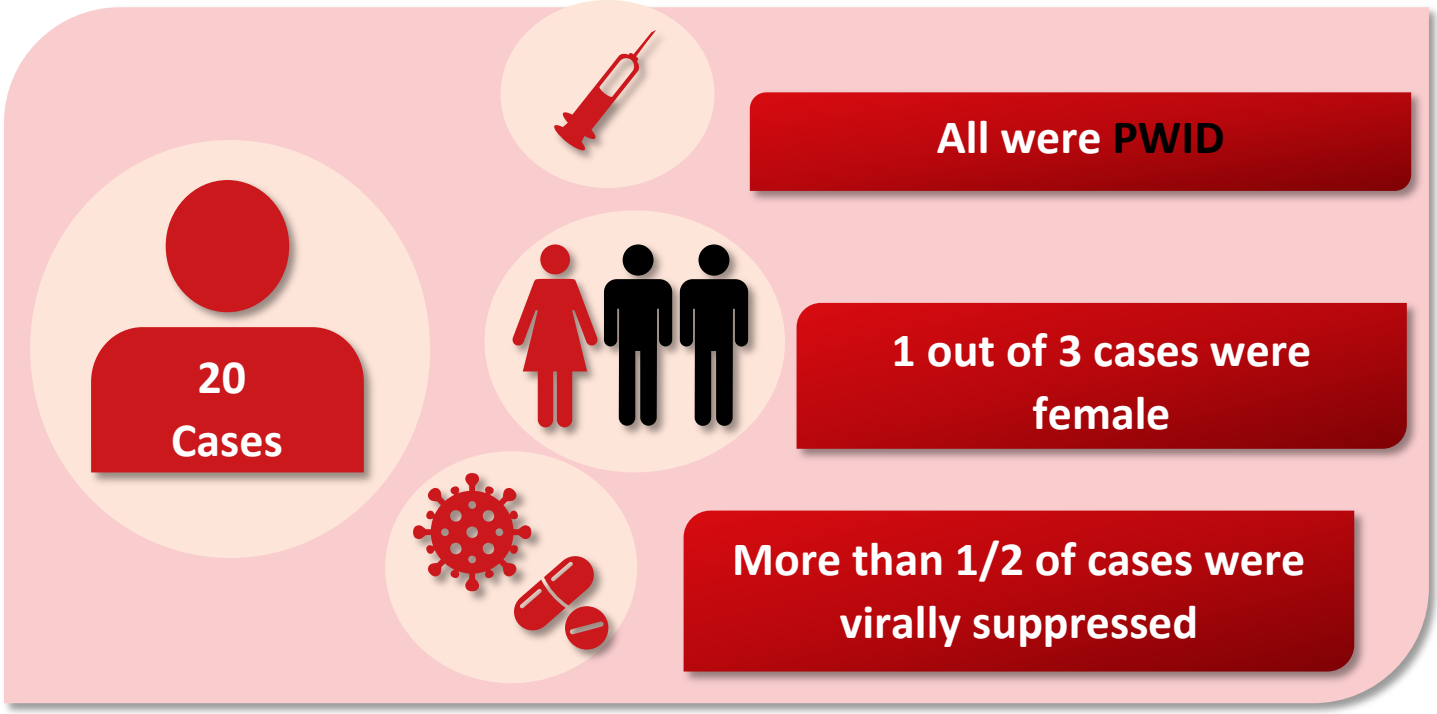


Recent Clusters

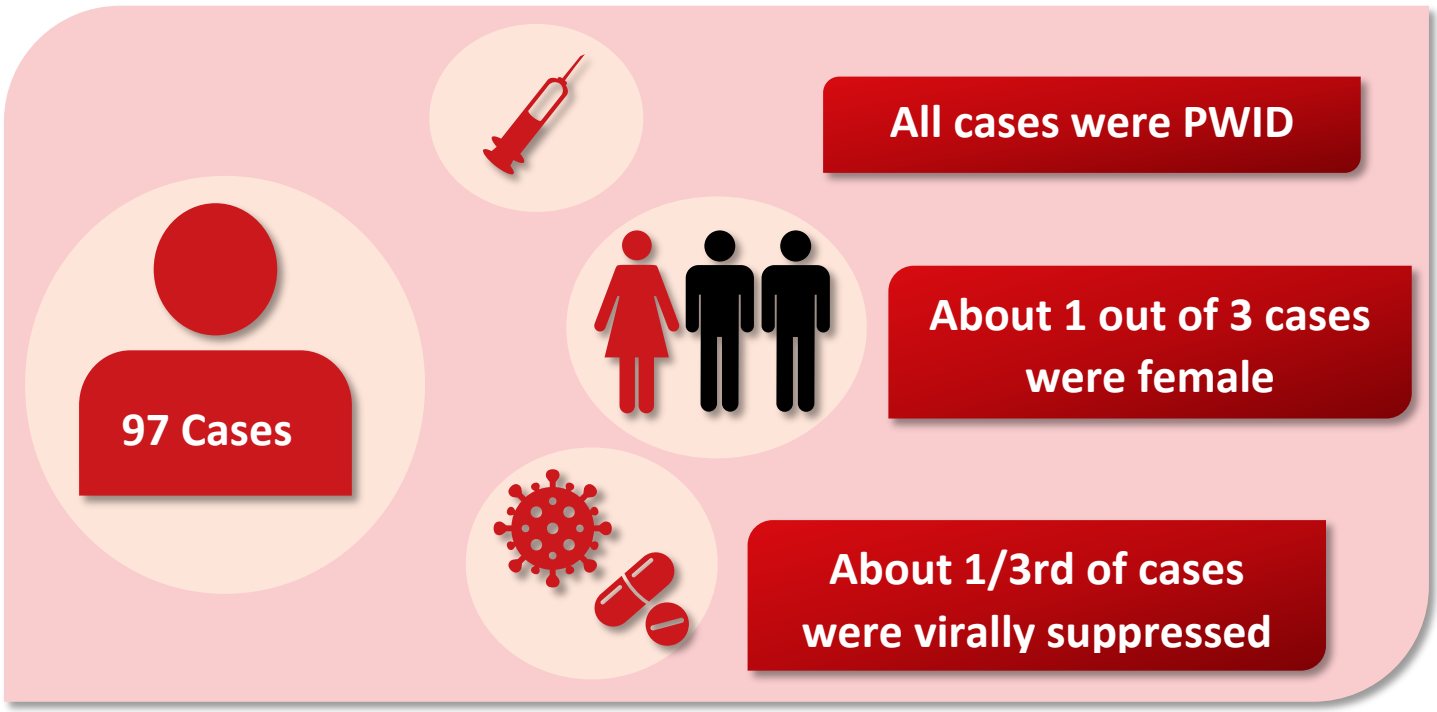
Jefferson County Molecular Cluster (March 2021 – December 2022)



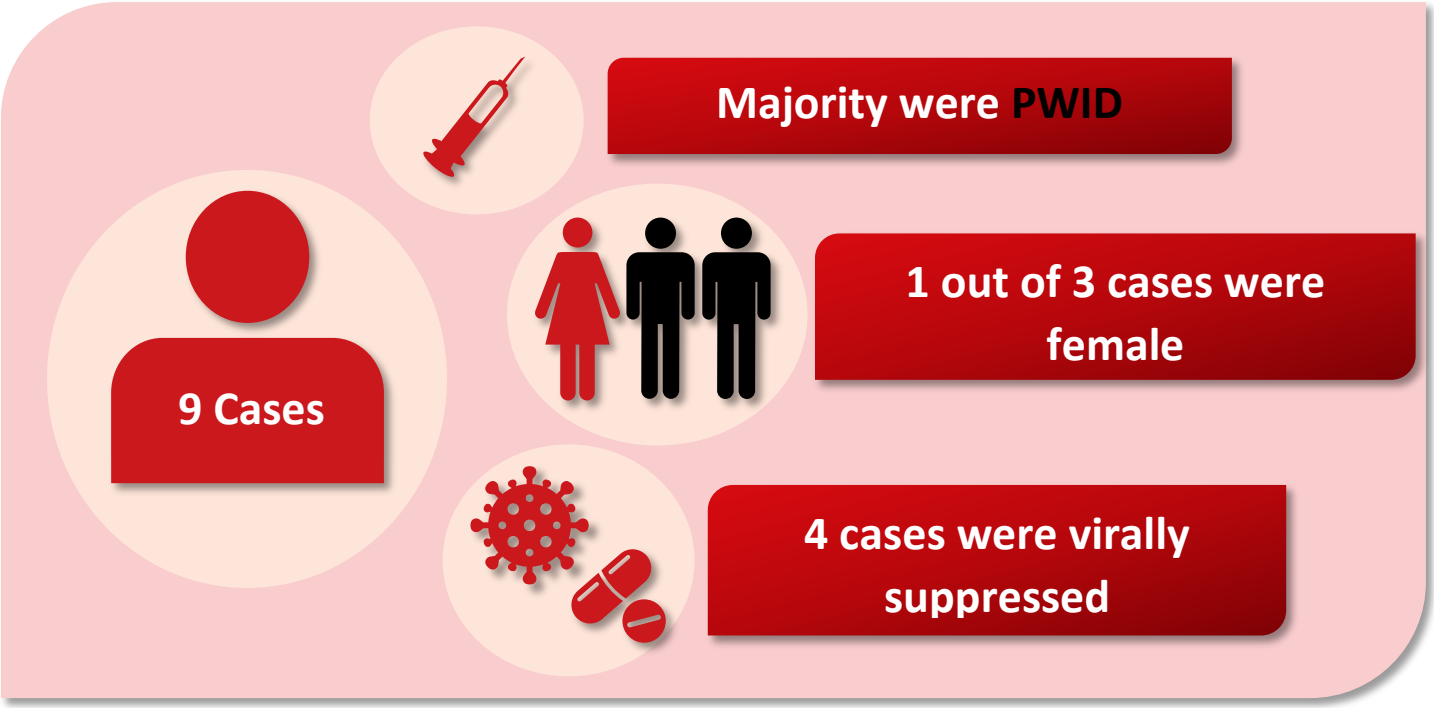
Jefferson County Molecular Cluster (June 2021 – December 2022)



Jefferson County Time Space Cluster (June 2021 – December 2022)



Jefferson County Molecular Cluster (August 2022 – December 2022)



Comorbidities

HIV and Hepatitis C Coinfections

In 2020, a total of 4,798 cases of acute HCV were reported in the U.S. to the CDC.[28] People with HIV infection are at increased risk for HCV as they share common routes of transmission. The most common mode of HCV transmission is injection drug use through sharing of drug-injection equipment. Other modes of transmission can include mother to infant, sexual intercourse, sharing contaminated personal items, unregulated tattooing or body piercings, healthcare exposures and extremely rarely blood transfusions and organ transplants. At the end of 2020, there were 535 HIV and HCV coinfections reported in Kentucky. The time of initial HCV infection is unknown. Of the 535 coinfections reported, 73% were male, 62% were among White persons, and 42% had IDU as mode of HIV transmission. Thirty one percent (31%) of coinfections each were among 20-29 years old and 30-39 years old age category at time of HIV diagnosis.

Figure 41 shows the percentage of HIV/HCV coinfection cases by sex at birth in Kentucky as of December 31, 2020. The figure shows that about three out of every four HIV/HCV coinfections in Kentucky are among males.

Figure 41: Percentage of HIV/HCV Coinfection Cases by Sex at Birth as of December 31, 2020, Kentucky

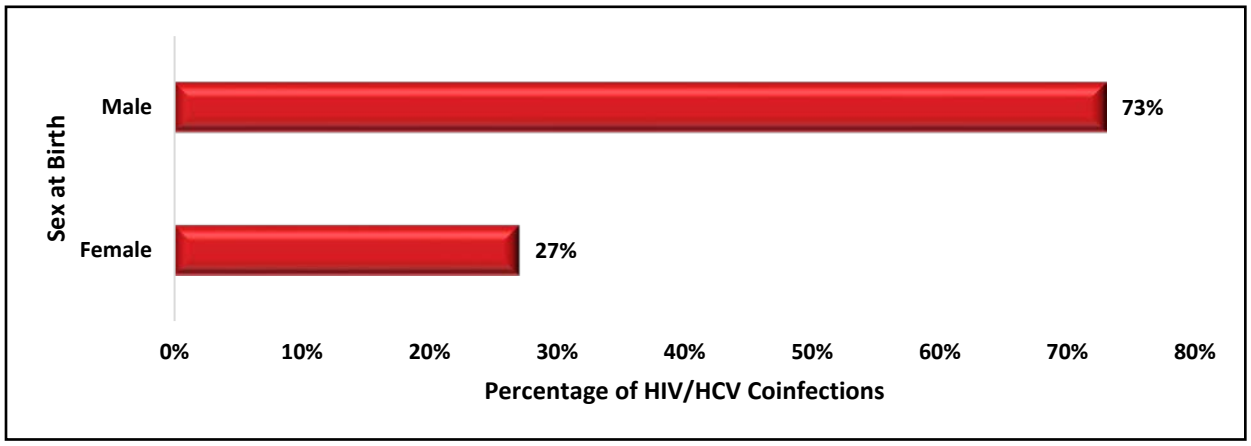
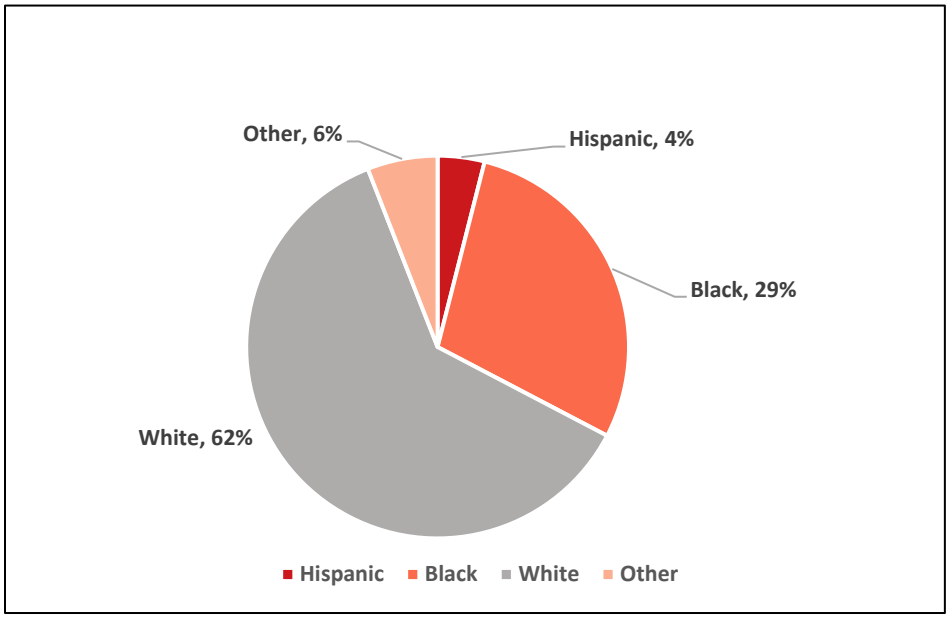


Figure 42 shows the HIV/HCV coinfections among Kentuckians by race and ethnicity. It shows that 62% of coinfection cases are among White populations, 29% of the cases are among Black populations, 4% are among Hispanic populations and 6% of the coinfection cases are among individuals within the other race and ethnicity category.

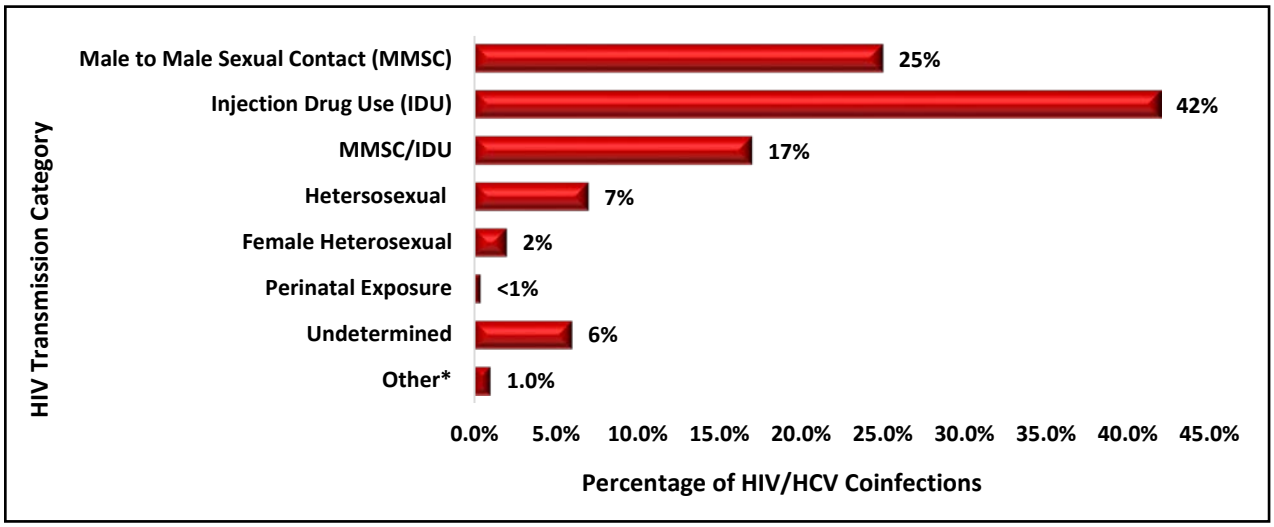
Figure 42: Percentage of HIV/HCV Coinfection Cases by Race/Ethnicity, Kentucky**



** Percentages may not total 100% due to rounding.

Figure 43 represents the category of HIV transmission for HIV/HCV coinfection cases for 2020 in Kentucky. The figure shows that IDU as category of HIV transmission constituted 42% of coinfection cases, followed by MMSC at 25%. MMSC/IDU category represented 17% of the coinfection cases. Six percent (6%) of the cases had the category of HIV transmission as undetermined.

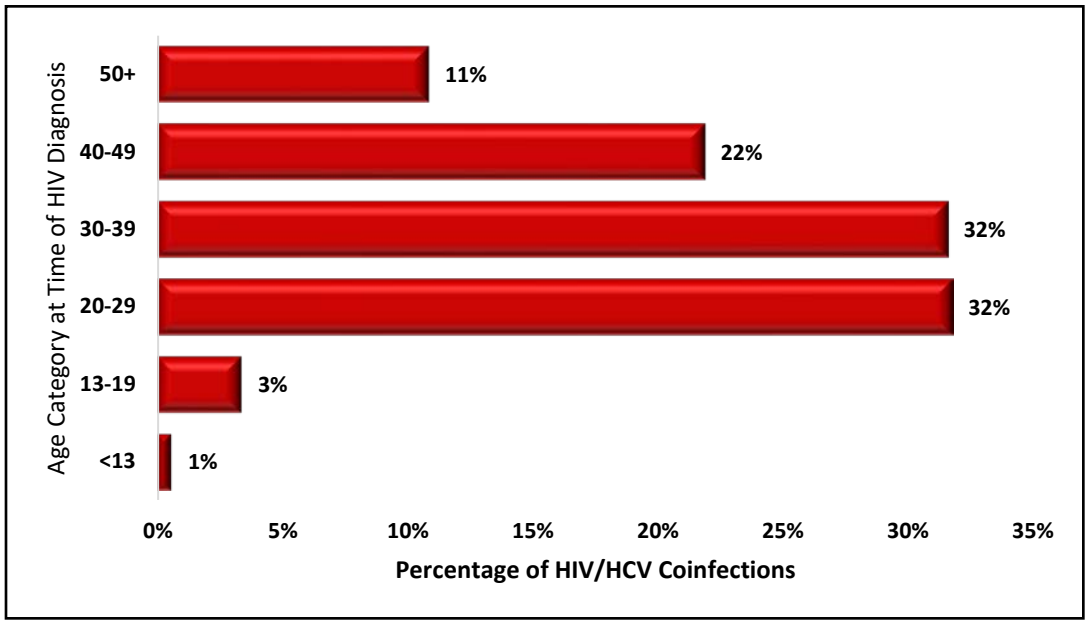
Figure 43: Percentage of HIV/HCV Coinfection Cases by HIV Transmission Category, Kentucky**



**Percentages may not total 100% due to rounding.
*Other includes pediatric and adult hemophilia.

Figure 44 displays the age category at time of HIV diagnosis for HIV/HCV coinfections in Kentucky for 2020. The figure shows that 32% of coinfections each were diagnosed with HIV when they were 20-29 or 30-39 years old. The category of 40-49 years old constituted 22% of coinfection cases. Eleven percent (11%) of cases were 50+ years old at time of HIV diagnosis. The age categories 13-19 and less than 13 years old constituted 3% and 1% of cases respectively.

Figure 44: Percentage of HIV/HCV Coinfection Cases by Age at Time of HIV Diagnoses, Kentucky**



** Percentages may not total 100% due to rounding.

Question 2.2: What is the distribution of social determinants of health that exacerbate HIV-related disparities among people with HIV in Kentucky?

HIV Infection and Social Determinants of Health

Geographic Disparities

Kentucky predominantly represents two different HIV disease patterns: urban and rural. Geographically, the southeastern areas/counties have higher unemployment, poverty rates, and are economically distressed. Food insecurity is also higher in the southeastern counties of Kentucky. The southeastern areas/counties are mostly part of the Appalachian region. However, most HIV cases in Kentucky are centered around Jefferson and Fayette counties, and in the Northern Kentucky ADD. Figure 45 displays the total number of HIV infections (3,482) diagnosed during the last ten years between January 1, 2012, and December 31, 2021, by ADD of residence at time of HIV diagnosis. About half of HIV cases (1,597 or 46%) were diagnosed among residents of the KIPDA ADD, which includes the city of Louisville. One out of every five new HIV cases (697 or 20%) resided in the Bluegrass ADD, which includes the city of Lexington.

Although there is a small number of HIV cases diagnosed in the southeastern area of Kentucky, there is a higher percentage of HIV cases with concurrent diagnosis of AIDS. Figure 46 displays the percentage of total HIV cases within each ADD that were diagnosed concurrently with AIDS (AIDS diagnosis within 30 days of initial HIV diagnosis), between January 1, 2012, and December 31, 2021. The percentage of concurrent HIV and AIDS diagnoses within each ADD ranged from 7% to 41%. Cumberland Valley ADD (41%) had the highest percentage of concurrent diagnosis, followed by Kentucky River ADD (36%). Living in a rural area is associated with presenting with more advanced disease at the time of HIV diagnosis.

One the factors that may lead to this phenomenon in rural areas is lack of local medical providers. According to the Health Disparities in Appalachia, the supply of primary care physicians per 100,000 population in the Appalachian Region is 12% lower than the national average leading to lower availability of primary medical care in the community.[34] Access to medical care is essential for the Appalachian region in Kentucky to prevent HIV and concurrent AIDS diagnosis.

Lack of available transportation in rural areas is one of the major reasons for limited healthcare access. It is also noted that, in general, the greater the distance from a major city, the greater the chances for lack of healthcare opportunities. Kentucky needs to address this gap in healthcare services in order to provide optimal HIV testing and medical care for individuals living in rural areas.

Figure 45: Number of New HIV Cases by ADD of Residence at Time of HIV Diagnosis for January 1, 2012 to December 31, 2021, Kentucky

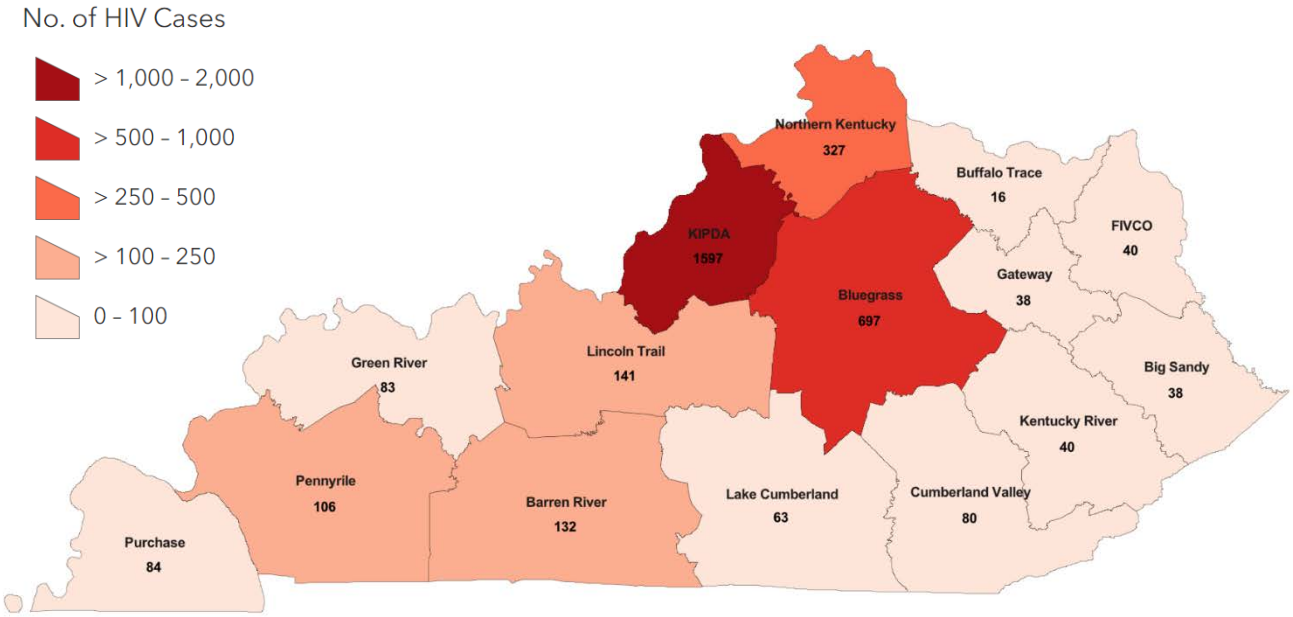
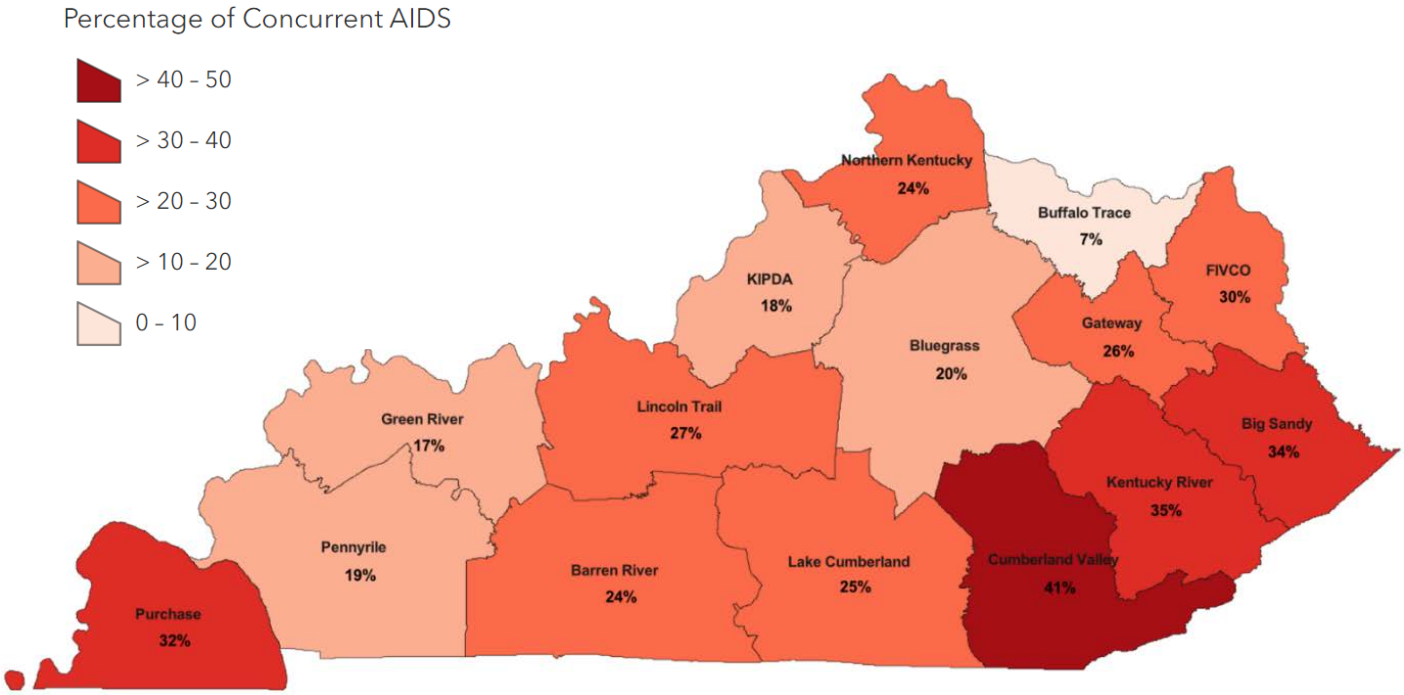


Figure 46: Percentage of All HIV Disease Diagnoses within each ADD of Residence at Time of Diagnosis, who have Concurrent Diagnosis of AIDS, for the Most Recent 10 Years, January 1, 2012 to December 31, 2021, Kentucky



Note: The percentages presented in Figure 46 represent the proportion of concurrent diagnoses out of the total for each individual ADD. Totals for each ADD are presented in Figure 45.

Injection Drug Use and Harm Reduction

In the U.S., 10% of HIV infections diagnosed in 2018 were attributed to non-prescription IDU or MMSC/IDU. Research has shown that individuals who use drugs have a higher risk for acquiring HIV.[29] IDU can lead to new HIV Infections if contaminated syringes are shared. It's important to understand contributing factors affecting those who use drugs and are also diagnosed with HIV in Kentucky to prevent further HIV transmission. Between 2015 – 2020, a total of 235 new HIV diagnosis with a transmission category of IDU were reported in Kentucky. During that same time period, 155 HIV diagnosis were reported with the transmission category of MMSC/IDU. The number of cases with IDU and MMSC/IDU transmission categories has increased over the 5-year period. Table 33 and figure 47 show the total number of HIV cases diagnosed in Kentucky, and cases with IDU and MMSC/IDU as category of HIV transmission from 2015 to 2020.

Table 33: Number of HIV Diagnosis by IDU and MMSC/IDU Transmission Category, Kentucky, 2015-2020†

Year of HIV Diagnosis	Transmission Category			Total HIV Cases	Percentage of PWID Cases
	IDU	MMSC/IDU	PWID (IDU+MMSC/IDU)		
2015	17	22	39	339	11.5
2016	20	20	40	341	11.7
2017	49	39	88	364	24.2
2018	52	23	75	379	19.8
2019	50	31	81	334	24.3
2020	47	20	67	301	22.3
Total	**235**	**155**	**390**	**2,058**	**18.9**

†Data reported as of December 31, 2021.

Figure 47: Number of HIV Diagnosis with IDU and MMSC/IDU by Year of Diagnosis, 2015 – 2020, Kentucky

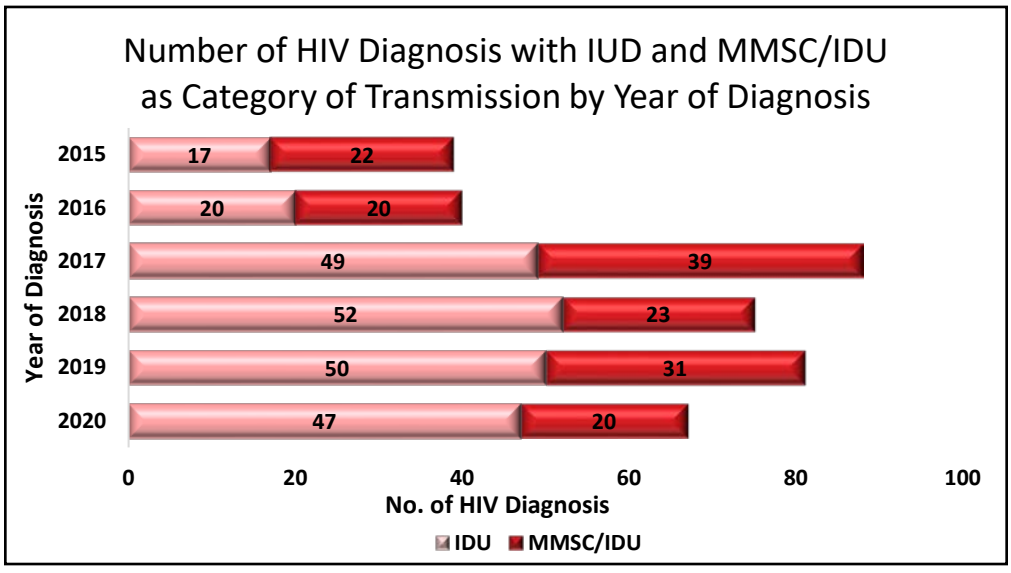
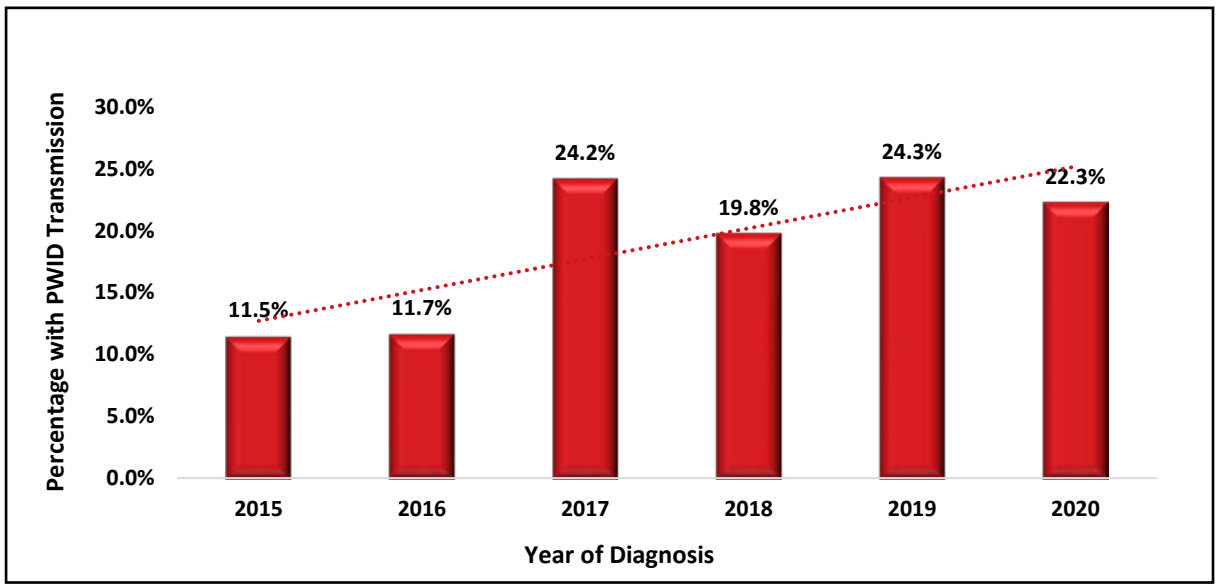


Figure 48 displays the percentage of cases among PWID (IDU + MMSC/IDU) as a percentage of total HIV cases for the particular year. The figure shows a dramatic increase in the percentage of cases among PWID from 2016 to 2017, where the percentage increased from 11.7% to 24.2%. During 2018, one out of every five HIV cases diagnosed in Kentucky was among PWID. In 2019 about one-fourth of the newly diagnosed HIV cases were among PWID. PWID constituted 22.3% of the total cases in 2020.

Figure 48: Percentage of HIV Diagnosis with PWID Transmission Category by Year of Diagnosis, Kentucky, 2015-2020



Harm reduction is a set of ideas aimed at reducing negative consequences associated with substance misuse for individuals, their families, and communities by meeting people where they are. The practice extends to many services including disease prevention, syringe services, safer use practices, and linking people to housing, food access, insurance, medical care, substance use treatment and behavioral health services. The KDPH Harm Reduction Program is positioned under the Preparedness Branch in the Division of Public Health Protection and Safety.

Harm reduction services are provided at many LHDs in Kentucky. These programs are a great resource to obtain harm reduction supplies such as sterile syringes, naloxone, wound care kits, and fentanyl test strips. Additionally, these programs provide linkages to critical services and programs, including substance use treatment, HIV and viral hepatitis screening, vaccinations, social and behavioral health services, employment opportunities and other clinical and social programs.

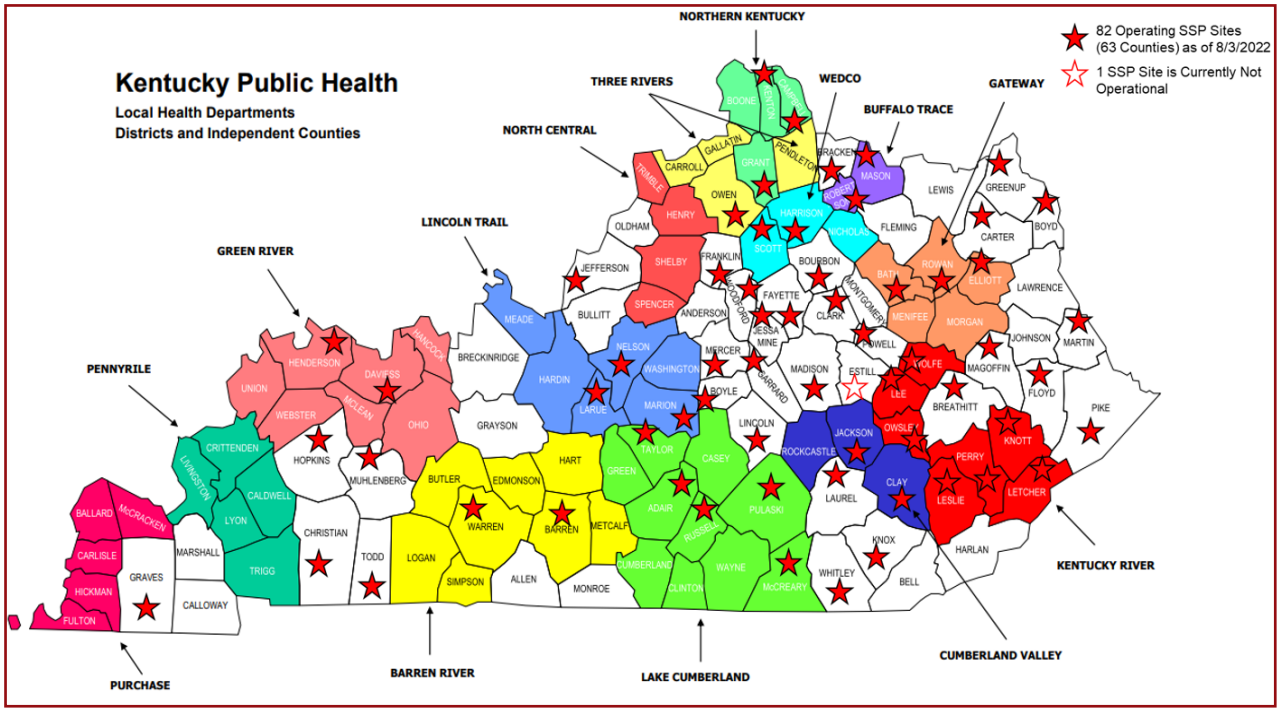
Research has shown that comprehensive SSPs are safe, effective, and cost saving, do not increase illegal drug use or crime, and play an important role in reducing the transmission of viral hepatitis, HIV, and other infections[29,30,31,32,33].

SSPs in Kentucky provide participants with access to critical services and programs, such as:

- substance use disorder treatment programs
- overdose prevention education
- screening, care and treatment for HIV and viral hepatitis
- prevention of mother-to-child transmission
- hepatitis A and B vaccination
- screening for other sexually transmitted diseases and tuberculosis
- partner services
- other medical, social, and mental health services

In 2015, the CDC released a study identifying 220 U.S. counties with conditions that could lead to an outbreak of HIV/HCV coinfections among PWID. Fifty-four (54) of the 220 counties identified in the CDC report are located in Kentucky. Since the report, Kentucky initiated legislation providing for the local establishment of SSPs. As of September 2022, Kentucky has 82 SSP sites operating in 63 counties, which corresponds to one of the highest number of open SSPs in any state. The HIV Section continues to promote increased access to SSPs for PWID with direct support to the LHDs, CBOs, and partnerships with the Viral Hepatitis and Harm Reduction Programs. SSPs are locally controlled and operate out of LHDs. Figure 49 shows location of the 82 SSP sites in Kentucky as of August 3, 2022.

Figure 49: Location of SSPs in Kentucky



Domain 3: HIV Care and Treatment

Question 3.1: What HIV care and treatment services are available in Kentucky?

HIV Care and Treatment Services

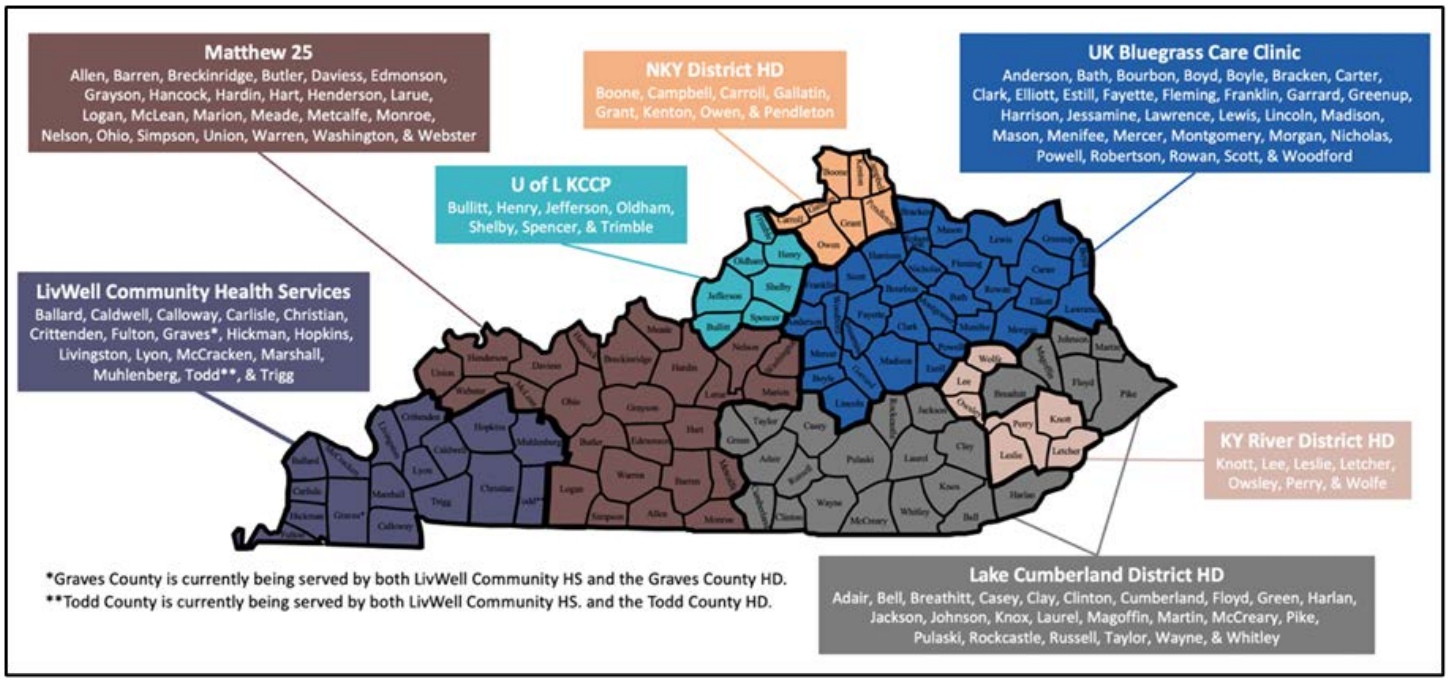
Ryan White Part B Program

The Kentucky HIV/AIDS Services Program is funded through the Ryan White HIV/AIDS Treatment Modernization Act of 2006. The Ryan White Part B Program is a federal mandate that was created to address healthcare and service needs of people living with HIV/AIDS. This program facilitates provision of care and services to HIV infected individuals across a continuum of care. The Kentucky Ryan White HIV/AIDS Program includes KHCCP, KADAP, KHICP, and the Linkage Navigation Program.

Kentucky HIV/AIDS Care Coordinator Program (KHCCP)

KHCCP under Kentucky Ryan White Part-B, helps provide prompt, consistent, and continued quality care and services to HIV-infected individuals and their families. Care coordinators in seven regional sites assess needs and provide services for PWH across Kentucky. These regions ensure statewide access to local services. Figure 50 shows the HIV Care Coordinator regions in Kentucky.

Figure 50: Kentucky HIV Care Coordinator Regions with Counties



KHCCP assistance includes helping clients locate and access a system of referrals to HIV medical care, emergency financial assistance for utilities, food bank home delivered meals, 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.

The traditional KHCCP service network consists of nine regional subrecipients. The subrecipients are responsible for providing HIV medical care, including all laboratory testing. Four of the agencies provide HIV clinical care directly and five agencies work with area clinical providers experienced in treating HIV. All nine subrecipients provide an array of other core medical and support services to meet the needs of PWH in their service areas.

- Graves County Health Department
- Kentucky River District Health Department
- Lake Cumberland District Health Department
- LivWell Community Health Services
- Matthew 25
- Northern Kentucky District Health Department
- Todd County Health Department
- University of Kentucky Bluegrass Care Clinic
- University of Louisville KCCP

Kentucky AIDS Drug Assistance Program (KADAP)

This program helps eligible low-income Kentuckians purchase AIDS-related, FDA-approved medications. Participants receive formulary medications through mail-order service provided by the Kentucky Clinic Pharmacy in Lexington. With the addition of EHE grant funding the income eligibility requirement has been removed for any HIV positive clients residing in Kentucky.

Kentucky Health Insurance Continuation Program (KHICP)

This program 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.

Linkage Navigation Program

The Kentucky Ryan White Part B Program began implementing the Linkage Navigation Program in 2017. There are currently 11 full-time Linkage Navigators located across the state. The KHCCP Program Administrator oversees the program. Each Linkage Navigator has a region of counties they cover. The navigators work in two roles: (1) linking newly diagnosed, or Ryan White Part B clients who have been lost to care, back into the program; and (2) working with the Data to Care Program to engage people who have tested positive for HIV but do not show any care markers for more than 12 months.

University-Affiliated HIV Care Clinics

There are two university-affiliated HIV care clinics in Kentucky who are direct recipients of Ryan White HIV/AIDS Program funding. These clinical providers operate in partnership with the traditional KHCCP. The University of Kentucky Bluegrass Care Clinic receives both direct funding and Part B KHCCP funding. University-affiliated HIV care clinics include:

- University of Kentucky Bluegrass Care Clinic - Lexington, KY
- University of Louisville 550 Kentucky Care Coordinator Program - Louisville, KY

Housing and Urban Development Housing Opportunities for Persons with AIDS (HOPWA) Program

The HOPWA Program is the only federal program dedicated to the housing needs of PWH. Under the HOPWA Program, HUD makes funding available to local communities, states, and nonprofit organizations for projects which benefit low-income PWH and their families. HOPWA grants are funded statewide from HUD to Kentucky Housing Corporation and to Lexington-Fayette Urban County Government. Subrecipients include:

- AVOL - Lexington, KY
- House of Ruth - Louisville, KY
- LivWell Community Health Services - Paducah, KY
- Matthew 25 - locations in Henderson, Owensboro, Evansville, and Bowling Green, KY
- Volunteers of America - Louisville, KY

Research shows that a stable home is critical for the well-being of PWH, results in better health outcomes, and reduced transmission of HIV. In addition to housing assistance, these local programs will provide access to supportive services such as case management, mental health services, substance abuse services, and employment training. The combination of housing assistance and supportive services are critical in sustaining housing stability, promoting better health outcomes, and increasing quality of life, which promotes self-sufficiency efforts for those able to transition to the private housing market.[3] HOPWA funding provides: (1) short-term housing assistance for PWH, (2) long-term housing subsidies for PWH, (3) supportive services, (4) utility assistance, and (5) case management.

Dental Services

All Ryan White HIV/AIDS Program Parts may support oral health services. Additionally, Part F dental grants include the Dental Reimbursement Program and the Community-Based Dental Partnership Program. The following dental entities focus on providing dental care to PWH in Kentucky:

- University of Kentucky Dental Program (Part F recipient)
- University of Louisville School of Dentistry (Part B subrecipient)

Federally Qualified Health Centers (FQHC)

FQHCs provide healthcare services to some of the most resource limited populations and geographical areas in Kentucky. Regardless of someone's ability to pay, FQHC services range from routine and preventive care to substance abuse, mental health, and oral healthcare services which allows the care focus to be on the patients. There are more than 200 FQHC locations throughout the state of Kentucky, all of which provide primary and preventive healthcare to eliminate health disparities to the medically underinsured. FQHCs receiving HIV-focused funding include:

- Kentucky Mountain Health Alliance, Inc. (Little Flower Clinic) - Hazard, KY
- Mountain Comprehensive Care Center, Inc. - locations in Prestonsburg, Salyersville, and Pikeville, KY
- Grace Community Health Center – locations in Laurel, Knox, Whitley, Leslie, Bell and Clay County, KY
- Park DuValle Community Health Center - locations in Louisville, Taylorsville, and New Castle, KY
- Pennyroyal Center - locations in Hopkinsville, Central City, Greenville, Princeton, and Madisonville, KY
- Regional Health Care Affiliates DBA (Health First Community Health Center) - locations in Henderson, Calhoun, Clay, Earlington, Morganfield, Owensboro, Princeton, and Providence, KY
- Shawnee Christian Health Center - Louisville, KY

Emergent Community Partners

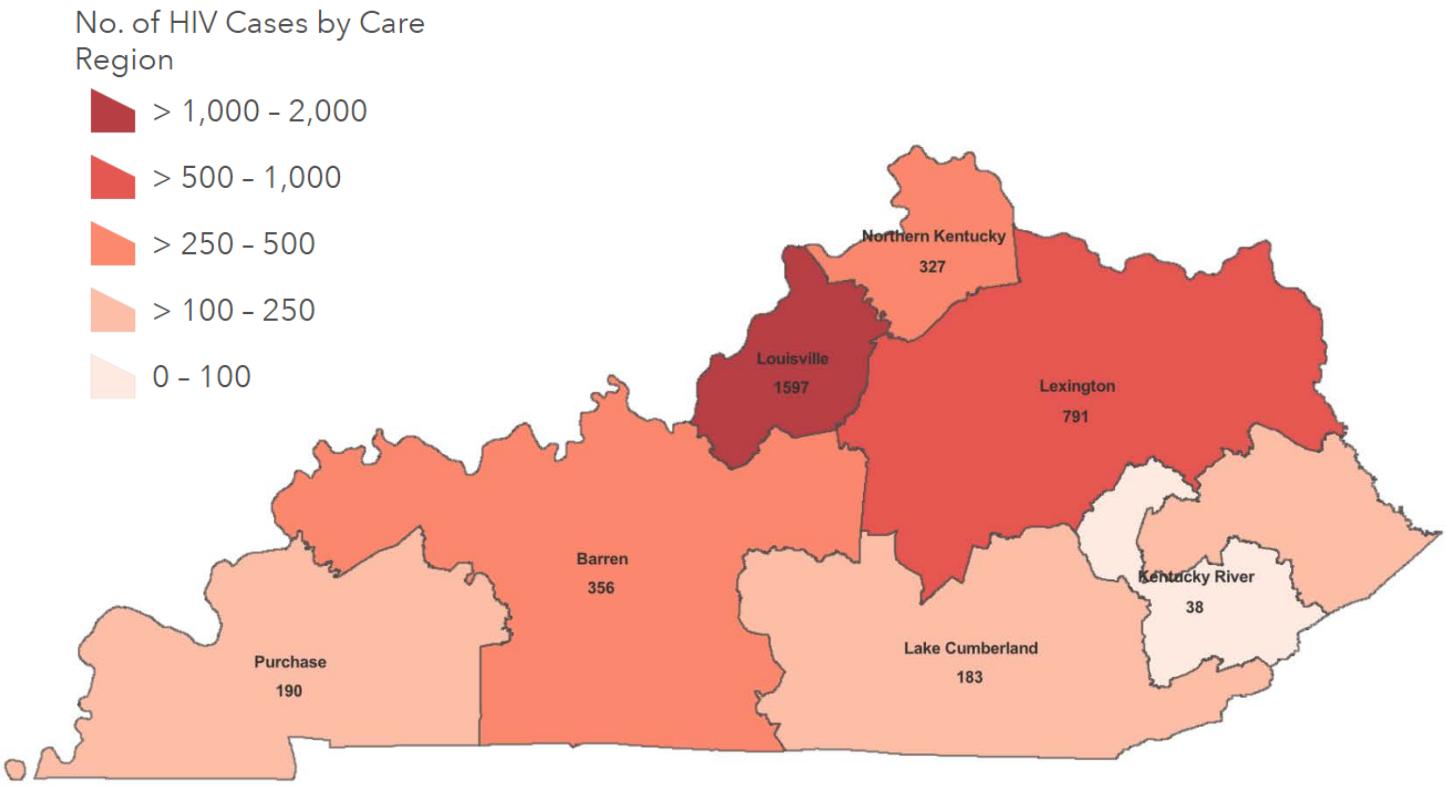
Louisville, KY has been an area of previous and ongoing cluster outbreaks. In an effort to reduce future outbreaks, while also ensuring that the area is adequately served with prevention and care resources, partnerships with four community partners have been fostered. These partnerships serve the Metropolitan Statistical Area, which includes Louisville and five counties in Indiana. Services at these entities include housing support, legal services, emergency financial assistance, transportation, food bank, case management, and health insurance cost sharing. These Ryan White HIV/AIDS Program Part B funded subrecipient emergent community partners include:

- Hoosier Hills AIDS Coalition - Jeffersonville, IN
- House of Ruth - Louisville, KY
- Kentuckiana AIDS Alliance - Louisville, KY
- Legal Aid Society, Inc. - Louisville, KY

HIV and Care Coordinator Regions in Kentucky

Figure 51 shows the total number of new HIV infections (regardless of disease progression status) diagnosed between January 1, 2012, and December 31, 2021, by Care Coordinator Region based on place of residence at time of HIV diagnosis. The highest number of cases (1,597 or 46%) diagnosed during this period occurred among residents of the Louisville region. The next highest burden region at 791 (23%) new cases were diagnosed in residents of the Lexington region.

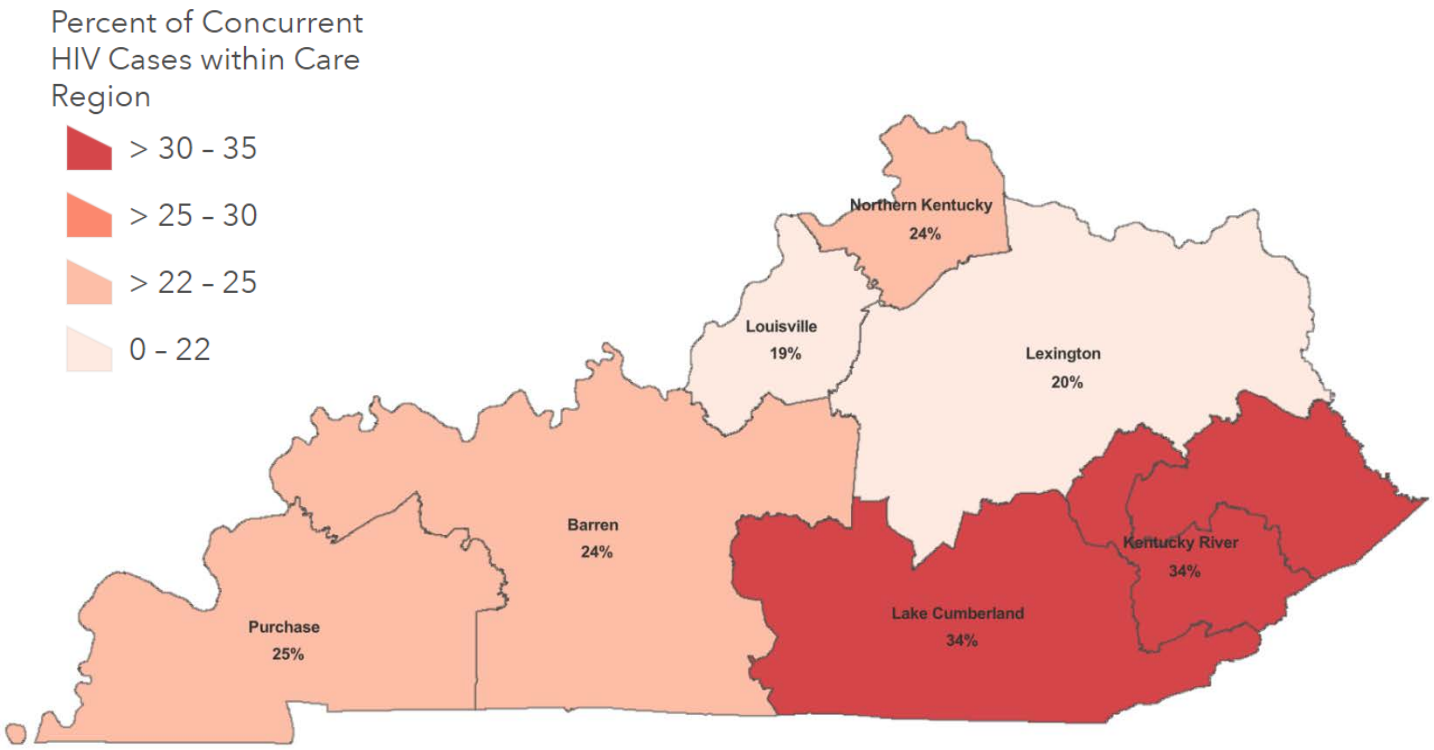
Figure 51: Number of New HIV Disease Diagnoses within each Care Coordinator Region of Residence at Time of Diagnosis, for the Most Recent 10 years, Kentucky, January 1, 2012 – December 31, 2021



Note: The total number of HIV infections for each individual region are presented in Figure 51.
Owsley County is currently being served by both the Lake Cumberland and KY River District Health Departments.
Owsley County is included only in the KY River District Health Department, and Graves and Todd Counties are included in Purchase District Health Department.

Figure 52 shows the percentage of total HIV cases within each Care Coordinator Region that were concurrently diagnosed with AIDS (within 30 days of an initial HIV diagnosis) between January 1, 2012, and December 31, 2021. In all regions, approximately one-fifth or more of cases diagnosed within each jurisdiction were concurrent diagnoses with the highest proportions of concurrent HIV and AIDS cases residing in the Lake Cumberland and Kentucky River Region (34%), and Purchase Region (25%). Earlier diagnosis of HIV leads to improved health for PWH, and reduced HIV transmission to others. The figure shows the increased need for testing and medical care services for eastern parts of Kentucky with higher rates for concurrent diagnosis.

Figure 52: Percentage of New HIV Cases with Concurrent Diagnosis with each Care Coordinator Region of Residence at Time of Diagnosis, for the Most Recent 10 years, Kentucky, January 1, 2012 – December 31, 2021



Note: The percentages presented in Figure 52 represent the proportion of concurrent diagnoses out of the total for each individual region.
Owsley County is currently being served by both the Lake Cumberland and KY River District Health Departments.
Owsley County is included only in the KY River District Health Department, and Graves and Todd Counties are included in Purchase District Health Department.

Kentucky HIV/AIDS Care Coordinator Program (KHCCP) Service Enrollments

In 2020, KHCCP provided Ryan White services to 4,932 individuals diagnosed with HIV/AIDS. The data provided for individuals utilizing KHCCP services was obtained from the Recipient Services Report, 2020. The data shows that the majority of the participants for KHCCP were males, White, and had MMSC as the category of HIV transmission.

Figure 53 shows the individuals enrolled in KHCCP during 2020 by sex at birth. The figure shows that 3,923 (80%) of the program participants were males and 1,009 (20%) females.

Figure 53: KHCCP Service Enrollments by Sex at Birth, 2020

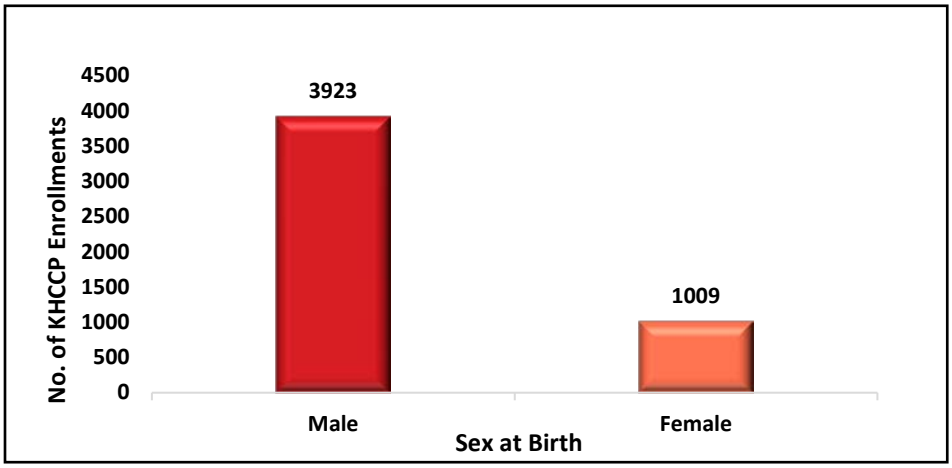


Figure 54 shows the KHCCP participants by gender. The figure shows that 78% of participants were male, while 20% of the participants were female. Two percent (2%) of the participants were transgender (male to female).

Figure 54: KHCCP Service Enrollments by Gender, 2020

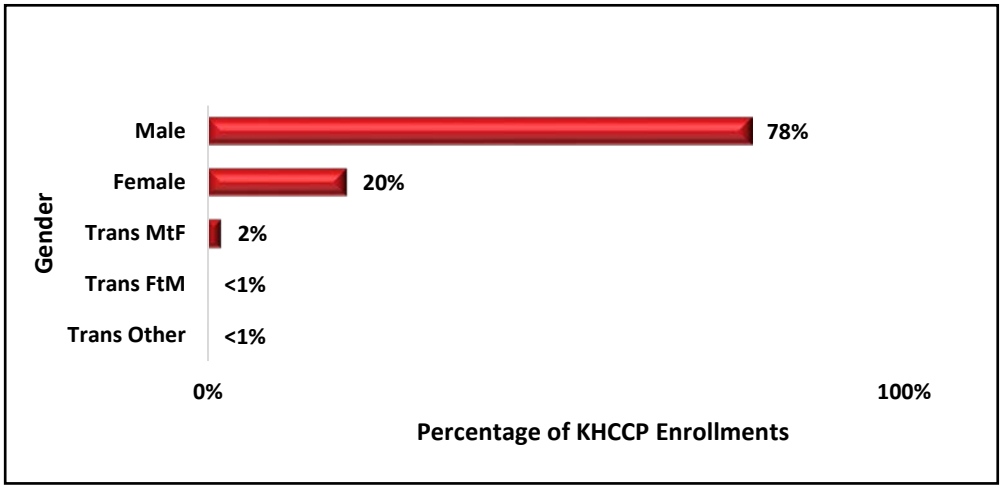


Figure 55 represents KHCCP participants for 2020 by race. The data shows that 63% of the program participants were White, followed by 35% African Americans, and 1% each for Asians and others.

Figure 55: KHCCP Service Enrollments by Race, 2020

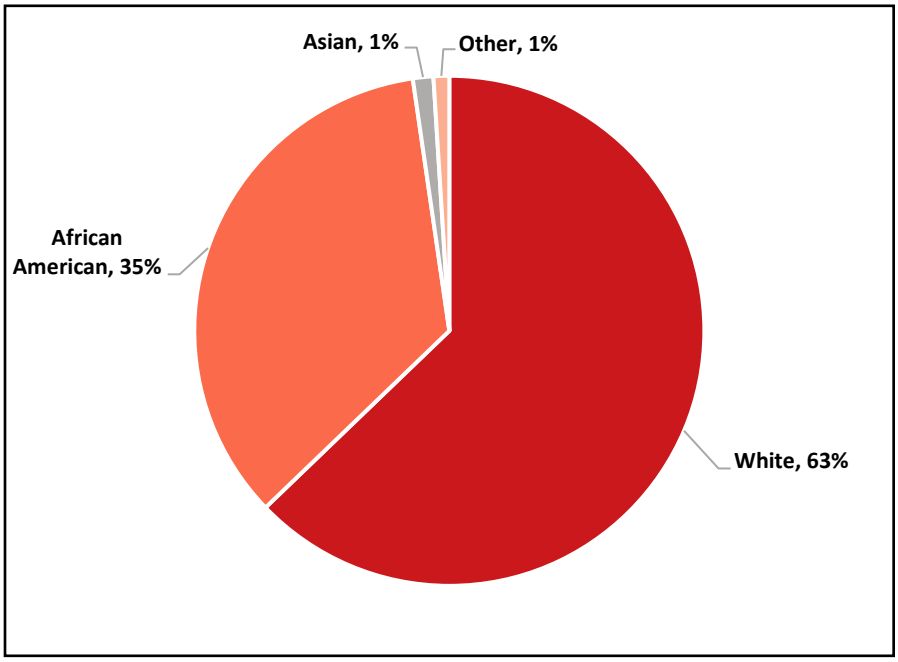


Figure 56 shows KHCCP participants for 2020 by category of HIV transmission. The figure shows that more than half (52%) of the participants had MMSC as category of HIV transmission. Heterosexual contact constituted about one-third (33%) of the participants, followed by IDU at 8%.

Figure 56: KHCCP Service Enrollments by Transmission Route, 2020

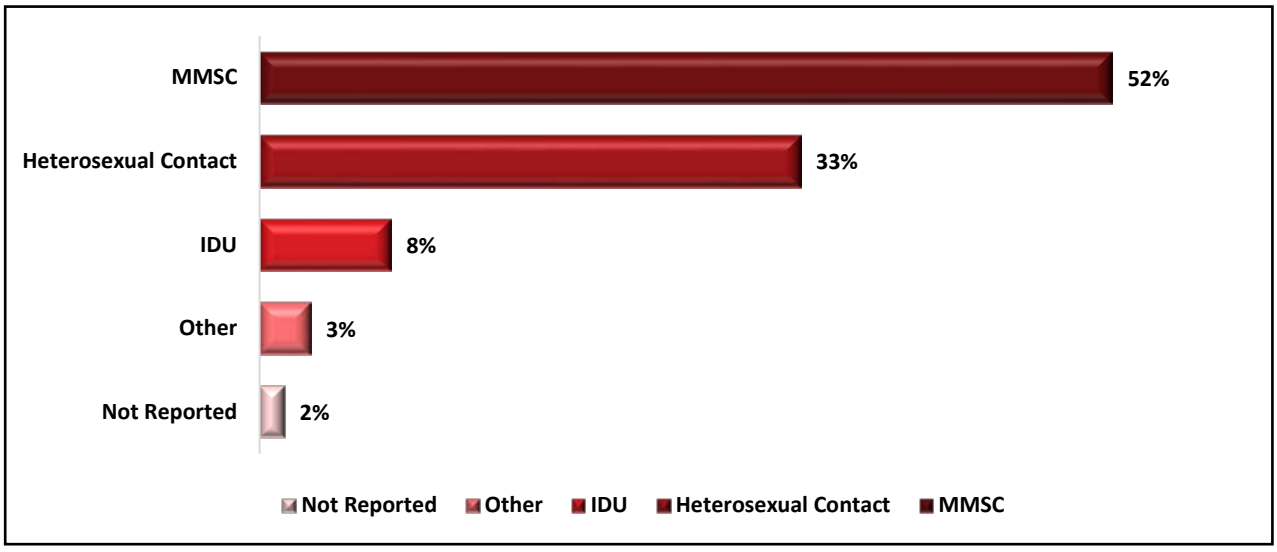


Figure 57 represents the number of KHCCP participants by care coordinator region. The Louisville region has the highest number of participants (2,019), followed by the Lexington region at 1,450.

Figure 57: KHCCP Service Enrollments by Care Coordinator Region, 2020

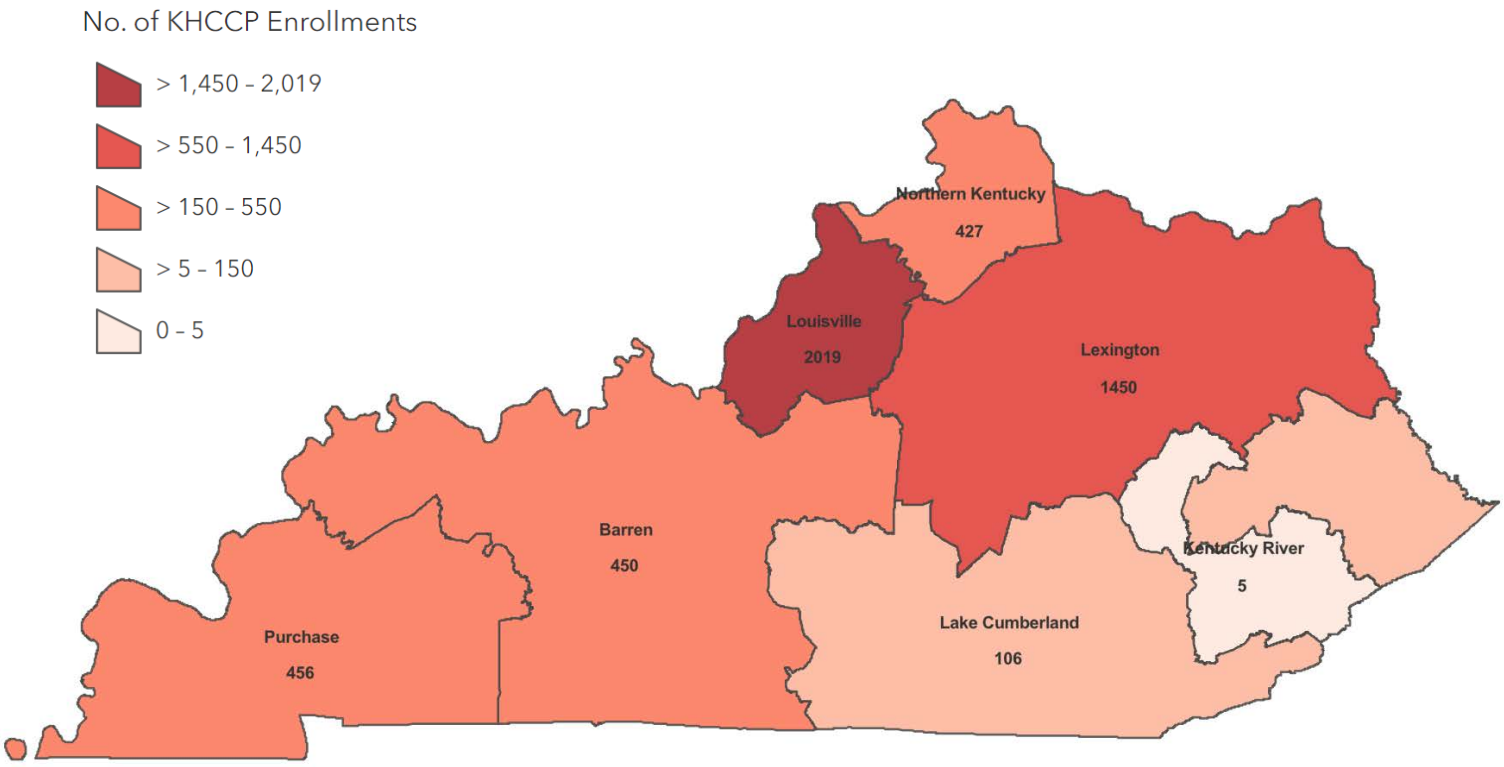


Table 34: All Organizations and Agencies Providing HIV Care and Prevention Services in Kentucky

Name of Organization or Agency	Services and/or Activities Delivered	Funding Source(s)	Priority Population(s) served
AIDS Education Training Center (KY AETC)	Educates, trains, and provides information on HIV/AIDS to medical professionals throughout Kentucky via live and virtual didactic trainings, preceptorships, and Community of Practice sessions	KIRP, HRSA RWHAP Part F Subrecipient	Medical professionals
AVOL (formerly AIDS Volunteers of Lexington)	HIV, hepatitis, and STI testing; PrEP navigation; 340B pharmacy access; financial assistance; case management; supportive services; short- and long-term rental assistance; utility assistance for PWH; community-based housing for seven PWH with extensive medical issues; direct-managed permanent housing units (26) with on-site supportive services	CDC Subrecipient, HOPWA, Low-income Housing Tax Credit, Affordable Housing Trust Fund, and local fundraising	All populations
Christian County Health Department	HIV/STI testing, linkage to care, condom distribution, medical care, PrEP, health screenings, and medical case management	CDC EHE Subrecipient	All Populations
Grace Health Community Center	HIV/STI testing, linkage to care, dental care, women's health, family planning, transportation services, medical care, PrEP, behavioral health services, social services, laboratory, primary care, and medical case management	HRSA EHE Subrecipient	Underinsured and socially vulnerable groups
Graves County Health Department	HIV/STI testing, linkage to care, SSP, condom distribution, medical care, PrEP, health screenings, and medical case management	CDC Subrecipient, HRSA RWHAP Part B Subrecipient	All populations
Hoosier Hills AIDS Coalition	Health insurance premium/cost sharing, emergency financial assistance, food bank home delivered meals, and transportation	HRSA RWHAP Part B Subrecipient	Five Indiana counties and Louisville area PWH
House of Ruth	Case management, emergency and family services, financial assistance, food pantry, and emergency housing	HOPWA, HRSA RWHAP Part B Subrecipient	Homeless PWH
Kentuckiana AIDS Alliance	Housing and case management	HRSA RWHAP Part B Subrecipient	PWH with housing/eviction issues
Kentucky Department for Health (KDPH)	HIV/AIDS Section, HRP, KHPAC, KADAP, KHCCP, and KHICP	CDC, HRSA	All populations

Name of Organization or Agency	Services and/or Activities Delivered	Funding Source(s)	Priority Population(s) served
Kentucky Mountain Health Alliance, Inc. – Little Flower Clinic	HIV/STI testing, linkage to care, medical care, health screenings, medical care management, behavioral health, substance abuse, social services, dental services, and transportation	HRSA EHE Subrecipient	Underinsured and socially vulnerable groups
Kentucky River District Health Department	HIV/STI testing, linkage to care, SSP, condom distribution, medical care, PrEP, health screenings, and medical case management	RWHAP Part B Subrecipient	All populations
KIRP (KY Income Reinvestment Program)	Comprehensive education, screening, and testing services for those at high-risk for HIV infection; linkage to care for PWH to medical care and supportive services; educate healthcare providers and students on substance abuse disorders and mental health issues that affect effective HIV and hepatitis C medical care through KY AETC partnership	RWHAP Part B Program Income, CDC EHE Subrecipient, Gilead FOCUS	PWH, Populations at high-risk for HIV
Lake Cumberland District Health Department	HIV/STI testing, linkage to care, SSP, condom distribution, medical care, PrEP, health screenings, and medical case management	RWHAP Part B Subrecipient	All populations
Legal Aid Society, Inc.	Represents individuals and families whose incomes are at or below 125 to 200 percent of the poverty guidelines	HRSA RWHAP Part B Subrecipient	PWH
LivWell Community Health Services (Formally Heartland Cares, Inc.)	HIV/STI testing, linkage to care, condom distribution, housing, medical care, PrEP, health screenings, prevention medication, social support, and medical case management	CDC direct recipient and subrecipient, HRSA RWHAP Part B Subrecipient and Part C Recipient, HOPWA	PWH, Populations at high risk for HIV
Louisville Metro Department of Public Health and Wellness	SSP, wound care, HIV/hepatitis C screening, STI testing and treatment, condom distribution, prevention education, and treatment navigation	CDC Subrecipient, Gilead, KIRP	All populations, PWID/persons who use drugs (PWUD)
Matthew 25	HIV/STI testing, linkage to care, health insurance, condom distribution, medication assistance, food pantry, housing, medical	HOPWA, CDC EHE Subrecipient, HRSA RWHAP Part B	PWH, Populations at high risk for HIV

Name of Organization or Agency	Services and/or Activities Delivered	Funding Source(s)	Priority Population(s) served
	care, PrEP, health screenings, primary care, transportation assistance, medical case management, and social support services	Subrecipient and Parts C/D Recipient	
Mountain Comprehensive Care Center, Inc.	Addiction services, adult and children's behavioral health, crisis services, developmental/intellectual disability services, and housing	HRSA EHE Primary Care Award direct recipient	Underinsured and socially vulnerable groups
Music City PrEP Clinic	PrEP, PEP, HIV/STI testing, linkage to care, condom distribution, and medical care	340B Funding	All populations
Northern Kentucky District Health Department	HIV/STI testing, linkage to care, SSP, condom distribution, medical care, PrEP, health screenings, and medical case management	HRSA RWHAP Part B Subrecipient, HRSA EHE Subrecipient	All populations
Park DuValle Community Health Center	HIV/STI testing, linkage to care, dental care, women's health, family planning, transportation services, medical care, PrEP, behavioral health services, social services, laboratory, primary care, and medical case management	HRSA EHE Subrecipient	Underinsured and socially vulnerable groups
Pennyroyal Center	HIV/STI testing, residential treatment with three different facilities, crisis services, behavioral health services, substance abuse services, linkage to care, social services, and medical case management	HRSA EHE Subrecipient	Underinsured and socially vulnerable groups
Regional Health Care Affiliates DBA Health First Community Health Center	HIV/STI testing, linkage to care, medical care, health screenings, medical case management, behavioral health, laboratory, and primary care	HRSA EHE Subrecipient	All populations
Shawnee Christian Healthcare Center	Medical and mental health services, pharmacy, dental clinic, pediatric care, women's health, behavioral health, substance abuse, preventive healthcare, HIV/STI testing, and PrEP	CDC EHE Subrecipient	All populations
Todd County Health Department	HIV/STI testing, linkage to care, SSP, condom distribution, medical care, PrEP, health screenings, and medical case management	HRSA RWHAP Part B Subrecipient	All populations

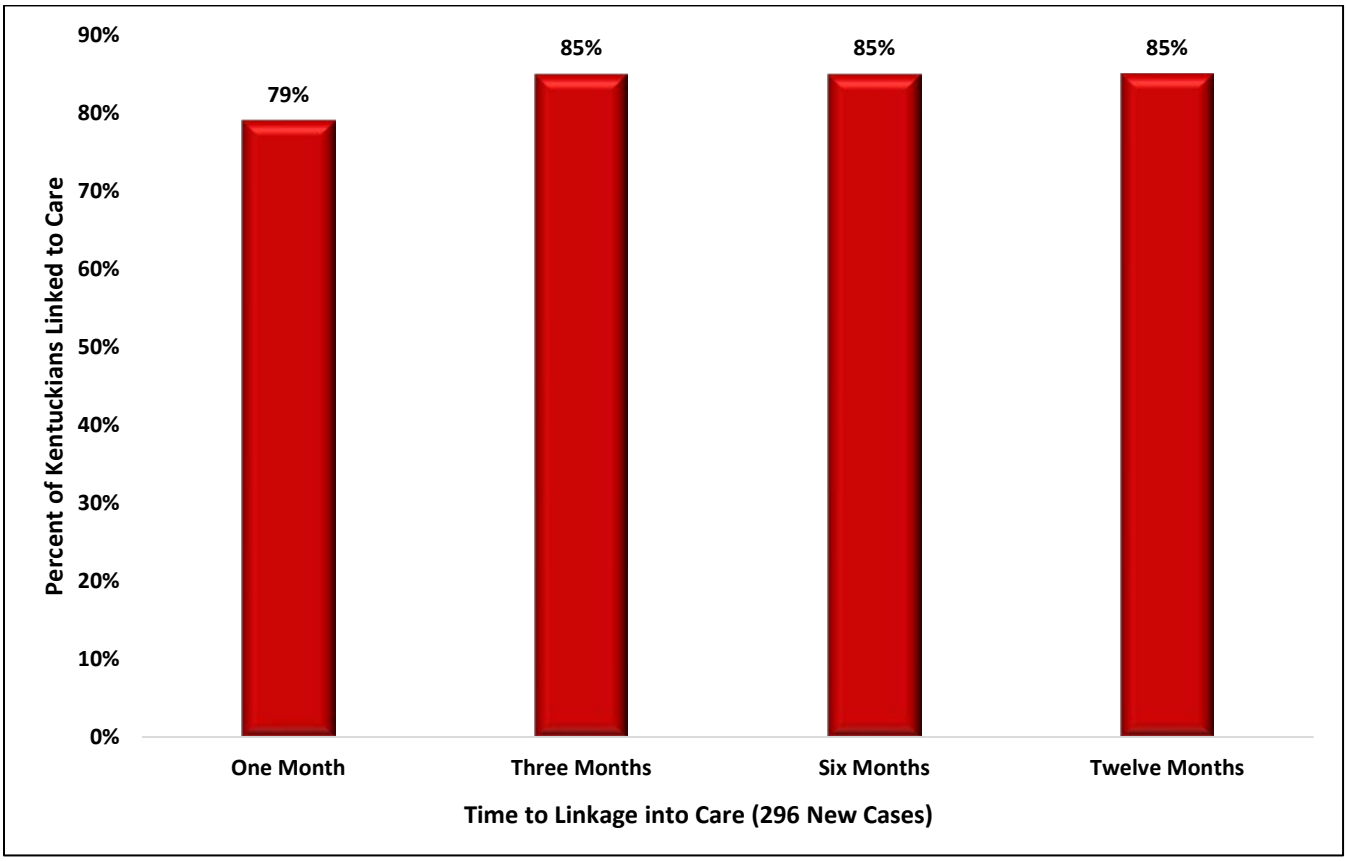
Name of Organization or Agency	Services and/or Activities Delivered	Funding Source(s)	Priority Population(s) served
University of Kentucky Bluegrass Care Clinic	HIV/STI testing, primary care for PWH, medical and non-medical case management, mental health program, nutritional services, psychosocial support, support groups for PWH, oral health, food bank, housing program, emergency financial assistance, access to clinical trials, condom distribution, prevention services, PrEP outreach, linkage services for inmates at jails, adherence services, linkage to care, expedited ART, injectable ART, injectable PrEP, pharmacy, financial eligibility services, and vaccine services	HRSA RWHAP Part B Subrecipient and Parts C/D Recipient, CDC direct recipient and CDC EHE Subrecipient	PWH, All populations
University of Kentucky Dental Program	Comprehensive dental care	HRSA RWHAP Part F Recipient	PWH
University of Louisville School of Dentistry	Comprehensive dental care	HRSA RWHAP Part B Subrecipient	PWH
University of Louisville 550 Kentucky Care Coordinator Program -Note: no current website to link	Case management, emergency financial assistance, and transportation	HRSA RWHAP Part B Subrecipient	PWH, Minority clients
University of Louisville 550 Clinic	HIV/STI testing; PrEP; rapid ART; primary care; HIV medical services; client advocacy/financial eligibility services; mental health screening, assessment, treatment, referral, and case management; substance abuse screening, assessment, treatment, and referral; nutritional assessment and referral; oral healthcare referrals; social support; and access to clinical trials	HRSA RWHAP Part C, CDC EHE Subrecipient	PWH, All populations
Volunteers of America (VOA) Louisville	HIV/STI testing, linkage to care, condom distribution, housing, medical care, support for PrEP, social support, and medical case management	CDC Subrecipient, HOPWA	PWH, Populations at high risk for HIV

Question 3.2: What is the HIV care continuum in Kentucky for the overall population and for priority populations in Kentucky?

HIV Care Continuum

Entry into the HIV care continuum begins with diagnosis and linkage to care. Figure 58 shows linkage to HIV medical care for Kentuckians newly diagnosed with HIV in 2020 (296 cases) as of June 30, 2021.

Figure 58: Linkage to HIV Medical Care for Cases Diagnosed in 2020, Kentucky



The data shows that 79% of Kentuckians diagnosed with HIV during 2020 were linked to HIV related medical care within one month of diagnosis. Eighty-five percent (85%) of newly diagnosed cases were linked to care within three months of HIV diagnosis. Eighty-five (85) out of every 100 newly diagnosed cases were linked to care within one year of initial HIV diagnosis. Research has shown that viral suppression is achieved more quickly if treatment is started within three months of diagnosis.

Table 35: New HIV Diagnoses in 2020 showing Linkage to Care Status within One Month of Diagnosis by Sex at Birth, Age at Diagnosis, Race/Ethnicity, and Transmission Category, Kentucky

Linkage to Care by Selected Characteristics, Kentucky, 2020						
Characteristics	Linked to Care*		Not Linked to Care**		Total New Diagnosis	
	No.	%[1]	No.	%[1]	No.	%[1]
Sex at birth						
Male	195	84	55	87	250	84
Female	38	16	8	13	46	16
Age at diagnosis						
<13	5	2	4	6	9	3
13-24	87	37	21	33	108	36
25-44	65	28	20	32	85	29
45-64	44	19	12	19	56	19
65+	31	13	6	10	37	13
Race/Ethnicity						
White	145	62	37	59	182	61
Black	46	20	20	32	66	22
Hispanic	24	10	3	5	27	9
Other/Unknown	18	8	3	5	21	7
Transmission category						
MMSC[2]	114	49	27	43	141	48
IDU[3]	32	14	14	22	46	16
MMSC/IDU	14	6	5	8	19	6
Heterosexual[4]	15	6	4	6	19	6
Undetermined[5]	57	24	13	21	70	24
Care Coordinator Region[6]						
Purchase	13	6	3	5	16	5
Barren	25	11	5	8	30	10
Lake Cumberland	7	3	3	5	10	3
Lexington	44	19	11	17	55	19
Louisville	113	48	33	52	146	49
Northern Kentucky	29	12	8	13	37	13
Kentucky River	2	1	0	0	2	1
Total	**233**	**100**	**63**	**100**	**296**	**100**

*Linked to HIV Care within one month of diagnosis.

**Not linked to HIV Care within one month of diagnosis.

(1) Percentages may not total to 100% due to rounding. Percentages for each characteristic add up to 100% by column.

(2) MMSC = Men who have sex with men.

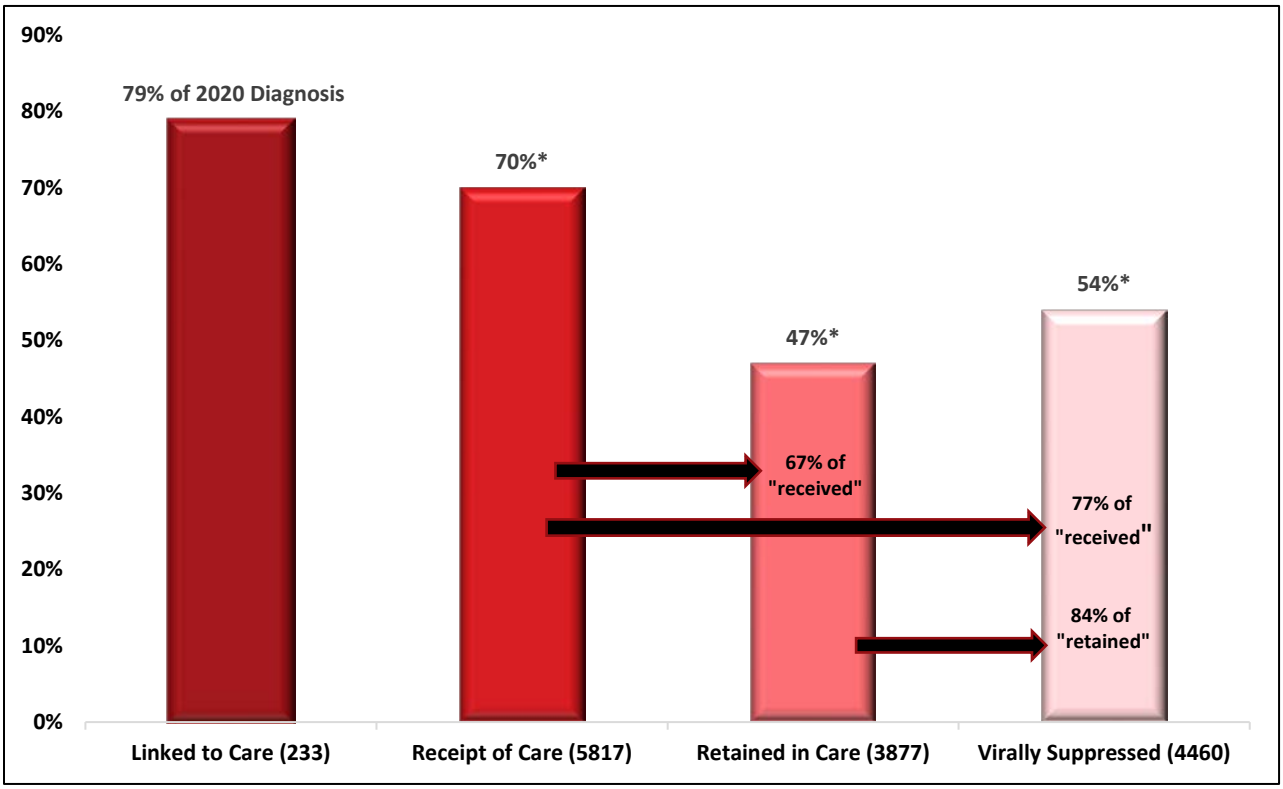
(3) IDU = Injection drug use.

(4) Heterosexual includes persons who have had heterosexual contact with a person with HIV or at risk for HIV.

(5) Undetermined refers to persons whose mode of exposure to HIV is unknown. This includes persons who are under investigation, dead, lost to investigation or refused interview, and persons whose mode of exposure remains undetermined after investigation.

(6) Care coordinator region reflects county of residence at time of initial diagnosis.

Figure 59: Kentucky Diagnosis-based HIV Care Continuum, 2020



* Of persons living with diagnosed HIV disease (Denominator) = 8270.
Linkage to care among newly diagnosed 296 adult/adolescents in 2020 only, therefore the total of new cases for linkage to care is different.

Figure 59 represents the percentage of Kentuckians engaged in selected stages of HIV continuum of care during 2020. The HIV continuum presented only reflects adult/adolescents diagnosed and reported to the HIV Surveillance Program, thereby also referred to as a "Diagnosis-based Continuum". Of the 296 new HIV cases diagnosed in Kentucky during 2020, 233 (79%) were linked to HIV medical care within one month of the HIV diagnosis.

There were 8,270 adult/adolescents with their most recent address in Kentucky diagnosed with HIV disease (regardless of progression to AIDS) at the end of 2019 and living at the end of 2020. Of those: Seventy percent (70%) had a care marker in 2020 and were considered to be in care. Forty-seven percent (47%) were retained in continuous care in 2020, and 54% achieved viral suppression.

Of the 5,817 adult/adolescent PWH, who received care in 2020, 67% were retained in continuous care and 77% achieved viral suppression. It is also noteworthy that of the 3,877 adult/adolescents who were retained in continuous care, 84% achieved viral suppression. These data highlight the need to get people linked and engaged in care, as this greatly improves their retention and viral load suppression rates (with adherence to antiretroviral treatment).

Table 36: Kentuckians Aged[1] 13+ Years Living with Diagnosed HIV Engaged in Selected Stages of HIV Care in 2020 by Sex, Current Age, Race/Ethnicity, and Transmission Route, Kentucky

Engagement in Selected Stages of Care by Demographics, Kentucky, 2020								
Characteristics	HIV Diagnosed		Received Any HIV Care		Retained in HIV Care		Virally Suppressed	
	No.	%	No.	%	No.	%	No.	%
Sex at birth								
Male	6,688	81	4,732	81	3,170	82	3,623	81
Female	1,582	19	1,085	19	707	18	837	19
Total	**8,270**	**100**	**5,817**	**100**	**3,877**	**100**	**4,460**	**100**
Age in 2020								
13-19	14	<1	13	<1	10	<1	9	<1
20-29	687	8	532	9	322	8	392	9
30-39	1,688	20	1,221	21	777	20	894	20
40-49	1,867	23	1,266	22	846	22	970	22
50+	4,014	49	2,785	48	1,922	50	2,195	49
Total	**8,270**	**100**	**5,817**	**100**	**3,877**	**100**	**4,460**	**100**
Race/Ethnicity								
White	4,596	56	3,395	58	2,294	59	2,630	59
Black	2,688	32	1,764	30	1,119	29	1,290	29
Hispanic	624	8	379	7	266	7	316	7
Other/Unknown	362	4	279	5	198	5	224	5
Total	**8,270**	**100**	**5,817**	**100**	**3,877**	**100**	**4,460**	**100**
Transmission category								
MMSC[3]	4,591	56	3,411	59	2,299	59	2,614	59
IDU[4]	763	9	484	8	312	8	367	8
MMSC/IDU	494	6	346	6	221	6	274	6
Heterosexual[5]	1,184	14	859	15	576	15	676	15
Other[6]	14	<1	9	<1	2	<1	6	<1
Undetermined[7]	1,224	15	708	12	467	12	523	12
Total	**8,270**	**100**	**5,817**	**100**	**3,877**	**100**	**4,460**	**100**
Care Coordinator Region[8]								
Purchase	885	11	634	11	441	11	539	12
Barren	71	1	52	1	31	1	42	1
Lake Cumberland	431	5	294	5	201	5	243	5
Lexington	1,867	23	1,395	24	956	25	1,054	24
Louisville	3,677	44	2,621	45	1,719	44	1,852	42
Northern Kentucky	782	9	401	7	203	5	343	8
Kentucky River	553	7	418	7	324	8	386	9
Total[2]	**8,266**	**100**	**5,815**	**100**	**3,875**	**100**	**4,459**	**100**

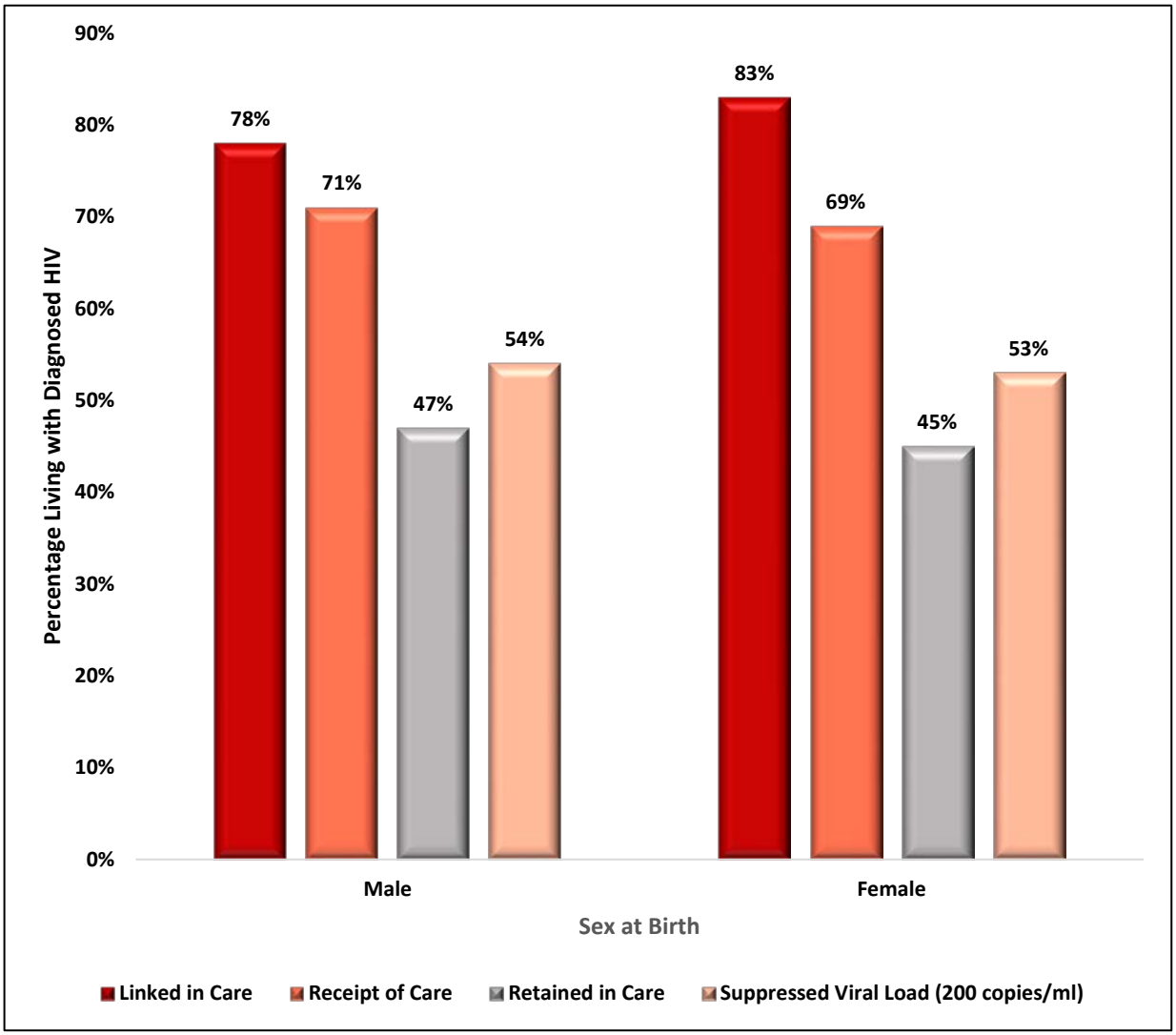
(1) Current age in 2020.
(2) Percentages may not total 100% due to rounding.
(3) MMSC = Male to male sexual contact.
(4) IDU = Injection drug use.
(5) Heterosexual includes persons who have had heterosexual contact with a person with HIV or at risk for HIV.
(6) Other includes persons who had exposure through hemophilia/coagulation disorder, transfusion/transplant, or perinatal, but diagnosed as an adult.
(7) Undetermined refers to persons whose route of exposure to HIV is unknown. This includes persons who are under investigation, deceased, lost to investigation, or refused interview, and persons whose route of exposure remains undetermined after investigation.
(8) Care Coordinator Region reflects county of residents at time of initial HIV diagnosis.

Table 37: Kentuckians Aged[1] 13+ Years Living with Diagnosed HIV Not Engaged in Selected Stages of HIV Care in 2020 by Sex, Current Age, Race/Ethnicity, and Transmission Route, Kentucky

Engagement in Selected Stages of Care by Demographics, Kentucky, 2020								
Characteristics	HIV Diagnosed		No Receipt of Any HIV Care		Not Retained in HIV Care		Not Virally Suppressed	
	No.	%	No.	%	No.	%	No.	%
Sex at birth								
Male	6,688	81	1,956	80	3,518	80	3,065	80
Female	1,582	19	497	20	875	20	745	20
Total	**8,270**	**100**	**2,453**	**100**	**4,393**	**100**	**3,810**	**100**
Age at diagnosis								
<13	14	<1	1	<1	4	<1	5	<1
13-24	687	8	155	6	365	8	295	8
25-44	1,688	20	467	19	911	21	794	21
45-64	1,867	23	601	25	1,021	23	897	24
65+	4,014	49	1,229	50	2,092	48	1,819	48
Total	**8,270**	**100**	**2,453**	**100**	**4,393**	**100**	**3,810**	**100**
Race/Ethnicity								
White	4,596	56	1,201	49	2,302	51	1,966	52
Black	2,688	32	924	38	1,569	38	1,398	37
Hispanic	624	8	245	10	358	8	308	8
Other/Unknown*	362	4	83	3	164	4	138	4
Total	**8,270**	**100**	**2,453**	**100**	**4,393**	**100**	**3,810**	**100**
Transmission category								
MMSC[3]	4,591	56	1,180	48	2,292	52	1,977	52
IDU[4]	763	9	279	11	451	10	396	10
MMSC/IDU	494	6	148	6	273	6	220	6
Heterosexual[5]	1,184	14	325	13	608	14	508	13
Other[6]	14	<1	5	<1	12	<1	8	<1
Undetermined[7]	1,224	15	516	21	757	17	701	18
Total	**8,270**	**100**	**2,453**	**100**	**4,393**	**100**	**3,810**	**100**
Care Coordinator Region[8]								
Purchase	885	11	251	10	444	10	346	971
Barren	71	1	19	1	40	1	29	1
Lake Cumberland	431	5	137	6	230	5	188	5
Lexington	1,867	23	472	19	911	21	813	21
Louisville	3,677	44	1,056	43	1,958	45	1,825	48
Northern Kentucky	782	9	381	16	579	13	439	12
Kentucky River	553	7	135	6	229	5	167	4
Total[2]	**8,266**	**100**	**2,451**	**100**	**4,391**	**100**	**3,807**	**100**

(1) Current age in 2020.
(2) Percentages may not total 100% due to rounding.
(3) MMSC = Male to male sexual contact.
(4) IDU = Injection drug use.
(5) Heterosexual includes persons who have had heterosexual contact with a person with HIV or at risk for HIV.
(6) Other includes persons who had exposure through hemophilia/coagulation disorder, transfusion/transplant, or perinatal, but diagnosed as an adult.
(7) Undetermined refers to persons whose route of exposure to HIV is unknown. This includes persons who are under investigation, deceased, lost to investigation, or refused interview, and persons whose route of exposure remains undetermined after investigation.

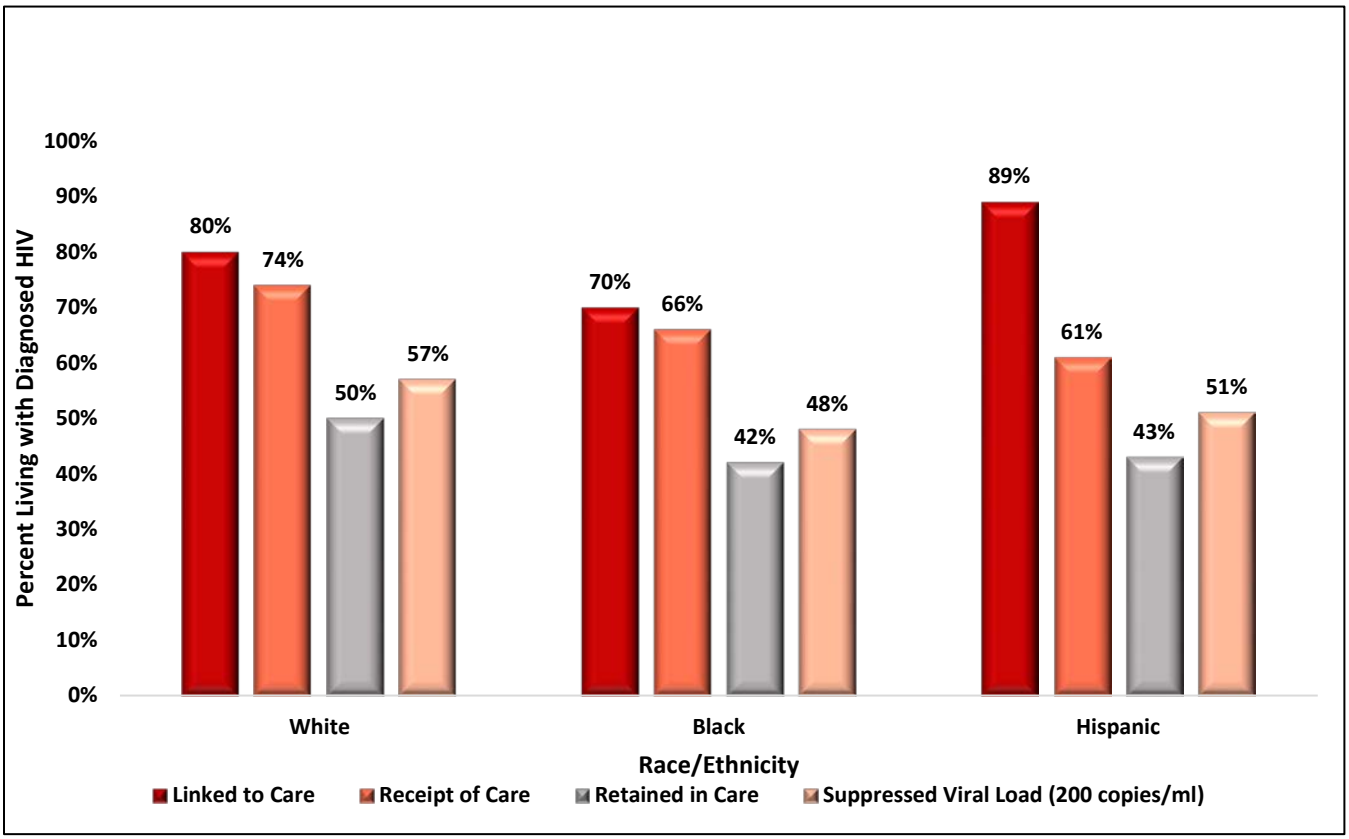
Figure 60: Percentage of HIV-Diagnosed Adult/Adolescent Kentuckians Engaged in Selected Stages of HIV Care by Sex at Birth, 2020



Linkage to care among newly diagnosed adult/adolescents in 2020 only. Therefore, the total of new cases for linkage to care is different than all the other measures presented and should not be directly compared.

Figure 60 shows the percentages of adult/adolescent Kentuckians engaged in the care continuum by sex at birth. Adult/adolescent females in Kentucky performed better than males for linkage to care (83% for females versus 78% for males). Males attained higher level for receipt of care at 71% compared to 69% for females. Males also achieved higher levels of retention in care (47%) versus females (45%), and viral suppression 54% compared to females at 53%.

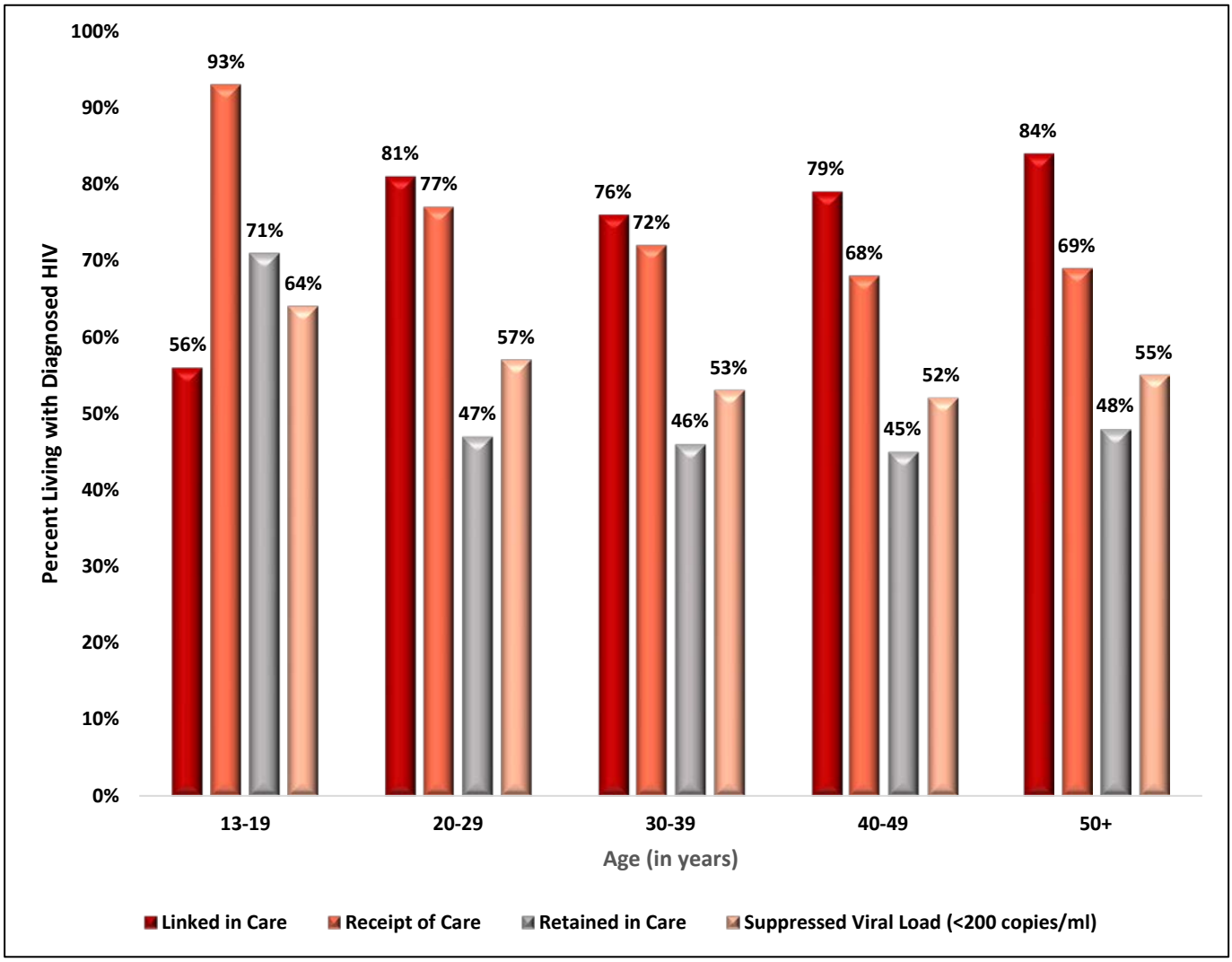
Figure 61: Percentage of HIV-Diagnosed Adult/Adolescent Kentuckians Engaged in Selected Stages of HIV Care by Race/Ethnicity, 2020



Linkage to care among newly diagnosed adult/adolescents in 2020 only. Therefore, the total of new cases for linkage to care is different than all the other measures presented and should not be directly compared.

Figure 61 shows the percentages of adult/adolescent Kentuckians engaged in the HIV care continuum by race/ ethnicity. In 2020, Hispanic adult/adolescent Kentuckians newly diagnosed with HIV attained higher levels of linkage to HIV medical care (89%) compared to their White (80%) and Black (70%) counterparts. White adult/adolescents attained higher rates compared to Black and Hispanic adult/adolescents for receipt of care, retention in care, and viral suppression. Fifty-seven percent (57%) of White adult/adolescents were virally suppressed in 2020, compared to 48% of Black and 51% of Hispanic adult/adolescents. In order for people with HIV to attain viral suppression, linkage to care and engagement in care or re-engagement if fallen out of care is critical. The figure highlights health disparities, whereby Black adult/adolescents diagnosed with HIV are less likely to be linked to medical care, retained in care and ultimately less likely to be virally suppressed compared to their White and Hispanic counterparts.

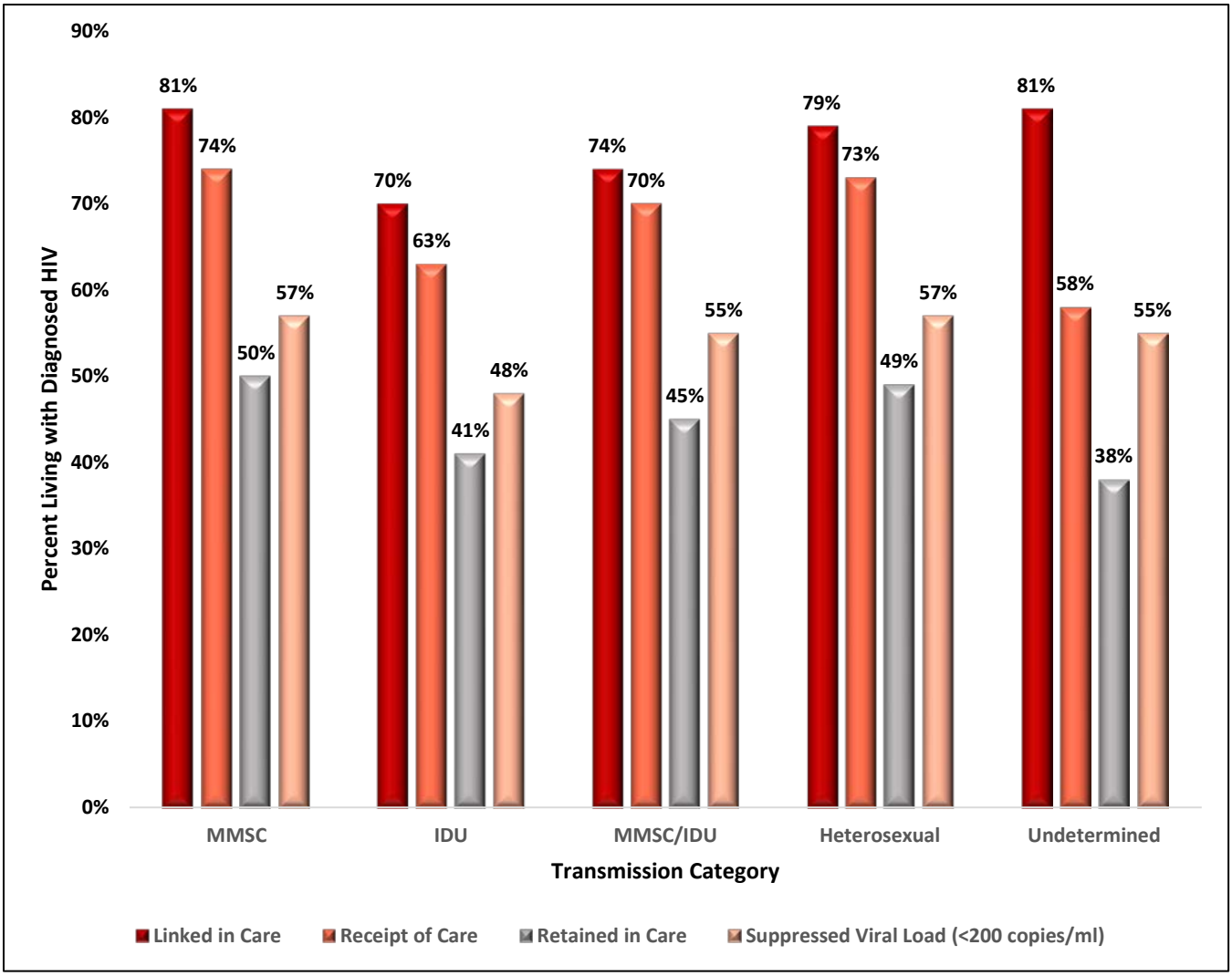
Figure 62: Percentage of HIV-Diagnosed Adult/Adolescent Kentuckians Engaged in Selected Stages of HIV Care by Current Age, 2020



Linkage to care among newly diagnosed adult/adolescents in 2020 only. Therefore, the total of new cases for linkage to care is different than all the other measures presented and should not be directly compared.

Figure 62 shows the percentages of adult/adolescent Kentuckians engaged in the HIV care continuum by their current age in 2020 – the analysis year. The figure shows that those aged 13–19 years old were least likely to get linked to care, when compared to the other current age categories. However, once this age group was effectively linked to care, those aged 13-19 years were most likely to receive care (93%) compared to other age categories. Retention in care was highest among those 13–19 years old at 71%, and lowest among the 40-49 years age category at 45%. Adults/adolescent Kentuckians aged 13-19 years were most likely to be virally suppressed at 64% when compared to other age categories, while the 40-49 years age category were least likely to be virally suppressed at 52%.

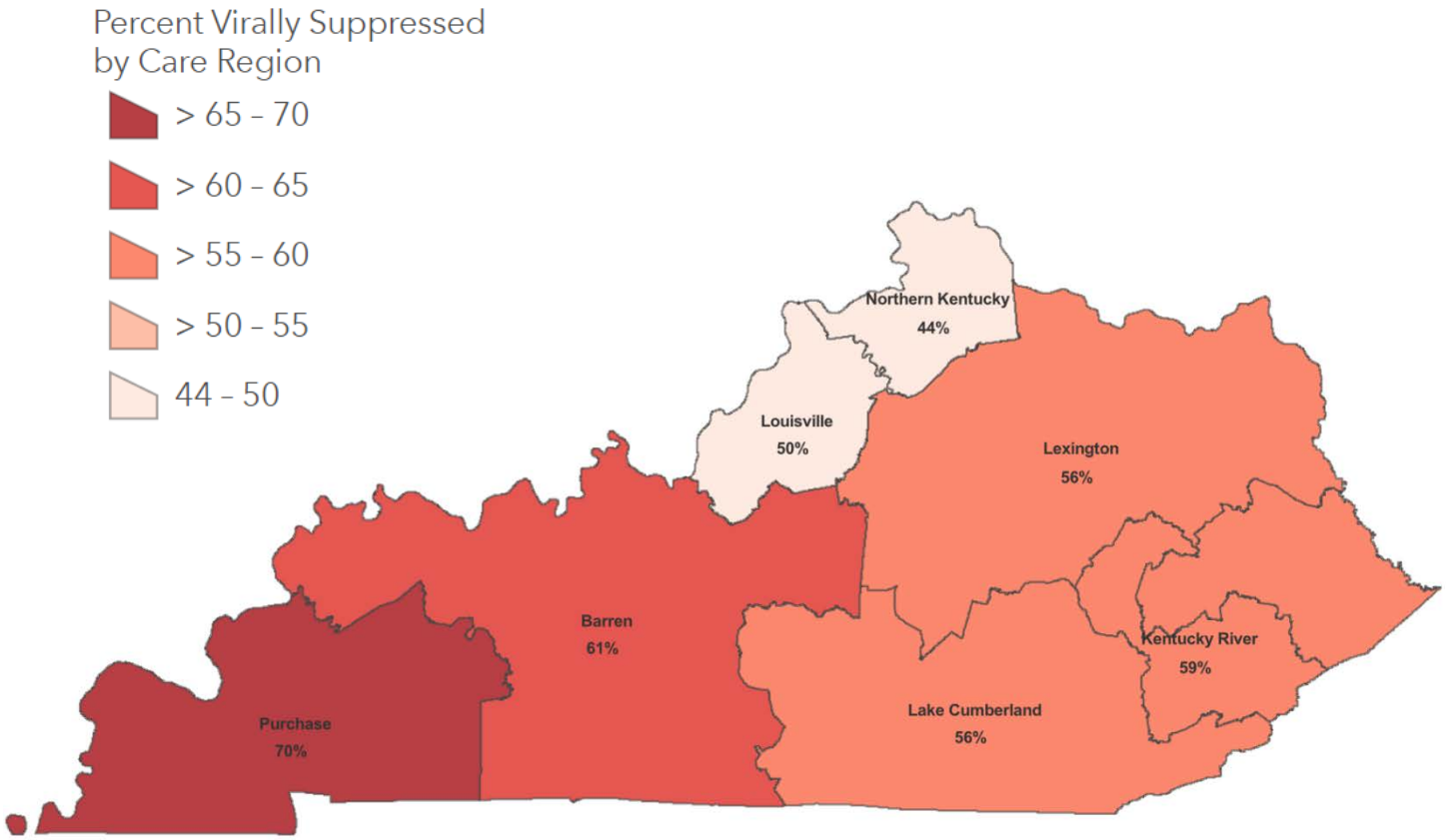
Figure 63: Percentage of HIV-Diagnosed Adult/Adolescent Kentuckians Engaged in Selected Stages of HIV Care by Mode of Transmission, 2020



Linkage to care among newly diagnosed adult/adolescents in 2020 only. Therefore, the total of new cases for linkage to care is different than all the other measures presented and should not be directly compared.

Figure 63 shows the percentages of adult/adolescent Kentuckians engaged in the care continuum by mode of transmission. Persons with IDU as a risk factor identified had the lowest percentages of linkage to care, while Kentuckians with no identified risk factor had the lowest percentage for receipt of care, retention in care, and viral load suppression. Conversely, those who reported MMSC as category of transmission had the highest rates of engagement across all care markers along the continuum. A comparison of adult/adolescents with either IDU or MMSC or a combination of both transmission categories shows that IDU had the lowest percentage of linkage to care at 70% in comparison to MMSC at 81%, and MMSC/IDU at 74%. Adult/adolescent MMSC also had higher rates of engagement and retention in care, and viral suppression in comparison to IDU and MMSC/IDU.

Figure 64: Percentage of Kentuckians Living with HIV as of December31, 2020 Who were Virally Suppressed in 2020 in each Care Coordinator Region*



*Owsley County is currently being served by both the Lake Cumberland and KY River District Health Departments.

Figure 64 shows the percentages of adult/adolescent Kentuckians who achieved viral suppression within each individual care coordinator region. Purchase Care Coordinator region had the highest percentage of persons achieving viral suppression at 70% followed by Barren and Kentucky River Care Coordinator regions 61% and 59% respectively. In Lexington and Lake Cumberland 56 out of every 100 persons with HIV were virally suppressed during 2020. Fifty percent (50%) of the Kentuckians living with HIV in the Louisville region achieved viral suppression. Northern Kentucky region had the lowest percentage of viral suppression at 44%.

Limitations:

The analysis presented uses a diagnosis-based continuum, therefore it's noteworthy that Kentuckians living with HIV who have not been diagnosed and reported to the KDPH HIV/AIDS Surveillance Program were not included.

Most recent known address was used to determine persons (Kentuckians) in the denominator. Only about two-third of PWH had a current address listed within the most recent two years. The other one-third had more dated addresses listed.

These estimates do not account for in-and-out migration to/from the jurisdiction. This means the estimate may exclude those who have moved into the area and may also include those who have moved out of the area if immediate notification is not received at KDPH. The Surveillance Program participates in the RIDR which helps to account for some of the information on migration but isn't always complete or timely.

The current continuum only used HIV surveillance data, therefore any laboratory reports that may not be reported therein but may be in other data sources such as the care coordinator and drug assistance programs have not been utilized.

Domain 4: HIV Prevention

Question 4.1: What is the landscape of HIV prevention and testing services in Kentucky, including gaps in prevention?

HIV Prevention and Testing Services

HIV Testing Locations Across Kentucky

The HIV Prevention Program at KDPH sponsors several HIV counseling and testing sites in each of the 120 counties across the state. Sponsored non-clinical agencies offer rapid-rapid HIV-1/2 antibody testing and can provide results within 1-20 minutes. Those with reactive results from an initial rapid test can be tested immediately with a different brand of rapid test 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 fingerstick 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. A list of testing sites can be found via the following links:

- https://chfs.ky.gov/agencies/dph/dehp/hab/Pages/prevention.aspx
- http://www.aidsvu.org

Local Health Departments (LHD)

LHDs offer local HIV interventions, provide HIV testing and counseling, and can use funding provided for targeted HIV projects. LHDs can also use funding to expand access to PrEP but does not cover medication or co-pays. LHDs offer safe sex kits and prevention strategies for people at high risk of becoming infected. KDPH supplies HIV test kits to the LHDs.

Community-Based Organizations

AVOL

AVOL's mission is to work with communities to end HIV in the commonwealth. AVOL was founded in 1987 as Lexington's response to the HIV epidemic. AVOL currently provides free HIV testing, STI testing, education, condom distribution and supportive services to people living with HIV in central and eastern Kentucky.

Matthew 25

Matthew 25 AIDS Services, Inc. began in 1996 as a support group led by volunteers for people who were dying of AIDS and their loved ones. By 1998 it was incorporated and offered more services to clients in western Kentucky and southern Indiana. In 1999, it was granted 501c (3) status, which enabled it to seek funding and employ full-time staff. Today, Matthew 25 AIDS Services, Inc. is one of only two comprehensive HIV/AIDS clinics in southern Indiana and western Kentucky boasting four locations offering comprehensive specialty clinics that provide HIV/AIDS treatment services. These

services include primary care, blood work, vaccinations, medical and retention case management. HIV prevention services include education, voluntary counselling/testing and diagnosis, linkage to care, PrEP services, outreach activities and condom distribution. PWH also receive other support services such as food, nutrition, transportation, medication and housing assistance, dental support, and behavioral health services.

LivWell Community Health Services (LCHS)

Founded in 1996, LivWell Community Health (formerly Heartland CARES) is a stand-alone 501(c)3 non-profit organization providing comprehensive, client-centered, quality healthcare, support services, prevention education, and HIV testing. More than 1,000 clients have been served with a current caseload of more than 400 clients. Nearly 30 medical, program and administrative staff/contractors work at LCHS. The two infectious disease specialists are renowned throughout the region, the only doctors treating HIV patients in far-western Kentucky. The primary site is in Paducah, KY, with satellite medical clinics in Carbondale, IL, and Hopkinsville, KY. LCHS's clinical service area is approximately 10,000 square miles. LCHS operates along the entire HIV/AIDS Continuum of Care, including HIV counseling and testing, food and nutrition, insurance enrollment and premium payments, case management, medication adherence, linkage to care and referrals to specialty services, on-site pharmacy, mental health counseling, rent and utility support and transportation assistance.

Volunteers of America (VOA)

VOA is located in the largest burden area in Louisville, Kentucky. VOA has hired a new Prevention manager and will be expanding activities. VOA offers HIV testing in non-clinical settings, sexual health education, safe sex kits, education on intimate partner violence, connecting to PrEP providers and education on PrEP, and housing opportunities for those who are living with AIDS (HOPWA).

Other Prevention Services

Kentucky HIV Prevention staff provide funded partners with quarterly training and educational materials for distribution. These materials stress the importance of prevention efforts aimed at keeping high risk persons negative for HIV through the use of PrEP, education, and condoms.

Gaps in HIV Testing and Prevention

HIV Testing

Limited routine and universal HIV testing occurs in acute care, emergency care settings, outpatient medical encounters, and in the criminal justice system, resulting in missed opportunities. Data compiled from multiple surveys suggested that HIV testing did not increase at physician office visits, increased at community health center physician visits, and increased slightly at emergency department 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.[40-41] As of October 2022, there are three hospital systems in Kentucky which are currently participating in opt-out testing, despite CDC recommending routine opt-out HIV testing since 2006. These include

Norton in Louisville, St. Elizabeth in Northern Kentucky, and University of Kentucky in Lexington. Notably, these all serve largely metropolitan areas. Efforts still need to be increased to promote opt-out testing in rural areas. Additionally, there is limited targeted testing happening in high-risk communities, such as rural communities. Hoover et al. identified higher HIV testing rates at visits to physician offices, community health centers, and emergency departments in more urban areas compared to less urban (rural) areas.[41]

An estimated 2,093 Kentuckians are unaware of their HIV status as of December 31, 2021.[42] HIV prevalence is five times higher in state and federal U.S. correctional systems than in the general population and the confirmed AIDS case rate in prisons 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.[43]

Historically, missed opportunities included lack of utilization of pharmacies for HIV testing and Kentucky legislation not allowing for the use and distribution of self-administered in-home HIV test kits. Recent change in legislation would allow for home testing of HIV in Kentucky as of June 29, 2023. As part of DIS investigation and targeted outreach, some in-home testing options have started to become available through certified HIV testers who will go to people's homes and provide testing in the privacy of their home.

Prevention

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.[36] PrEP materials need to be available in Spanish and other languages and very few Latina(o) staff are available throughout Kentucky rural areas, as identified in several needs assessments.[37-39] Gaps were also 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.

Question 4.2: What are the indicators of risk for acquiring and transmitting HIV infection in Kentucky?

Kentucky Needs Assessment Surveys

The *2022 End HIV Kentucky Statewide Needs Assessment Survey* was conducted as part of the statewide integrated planning process to provide consumer driven data regarding needs, use, barriers, and gaps in HIV prevention and treatment within the state of Kentucky. This 2022 statewide needs assessment was completed by 329 respondents of which 59 (19.80%) indicated they were living with HIV, and 238 (79.87%) indicated they were living without HIV, with one person indicating they were unsure of their HIV status. The assessment was informed by, and supplements, the findings from the *2020 EHE Needs Assessment Survey*. The 2022 assessment was designed to gauge the knowledge and experiences of Kentuckians both with and without HIV. Developed in partnership with KDPH and KHPAC, the assessment details findings in the following six areas: **(1) knowledge of HIV prevention, (2) HIV testing and prevention services, (3) perceptions of HIV prevention services, (4) knowledge of HIV treatment services, (5) perceptions of HIV treatment services, and (6) barriers to HIV care and treatment**. The needs assessment was disseminated through KHPAC by members who represent citizens, universities, LHDs, and CBOs. The needs assessment was distributed in both English and Spanish. The needs assessment used a convenience sample, through the placement of QR codes and hyperlinks in KHPAC member facilities, and through dissemination on social media. Results of the needs assessment are to be interpreted as indicative of the needs, assets, and barriers in the state of Kentucky, but are not designed to provide definitive statements, nor conclusions.

The *2022 End HIV Kentucky Statewide Needs Assessment Survey* served the following functions:

- Ability to integrate planning based on the results of *2022 End HIV Kentucky Statewide Needs Assessment Survey* for PWH.
- Supplementing the results of the *2020 EHE Needs Assessment Survey.*
- Assessing impact of COVID-19 on the delivery of prevention and treatment services.
- Using the data to update KHPAC on the needs and barriers of Kentuckians to inform priority setting and resource allocation.
- Using the data for policy decision makers to identify the continued/new role for Ryan White services.
- Using the data to inform HIV Prevention based on findings from survey respondents.

During the 2020 EHE planning process, the KDPH team developed a community engagement survey (*2020 EHE Needs Assessment Survey*) to gather data from both stakeholders and community members. Data was collected through questions covering the availability, and perceived availability, of resources

and programs from across the four pillars of Ending the HIV Epidemic, as well as barriers to community access to these services. The data collected was used in addition to the project's epidemiologic profile, situational analysis, and needs assessment to provide planning group members with a clear profile of the HIV epidemic in Kentucky. The community member version of the survey had 1,738 respondents. The stakeholder portion of the survey had 379 respondents. The stakeholder section included a prompt to assess interest in participating in a regional planning group to support the development of the statewide EHE strategic plan. The findings from this survey influenced the *2022 End HIV Kentucky Statewide Needs Assessment Survey*. Together they help paint a picture of HIV prevention and care needs across the Commonwealth.

Limitations

Both needs assessments had their limitations. The *2020 EHE Needs Assessment Survey* was far reaching and helped to gain perspective from both community stakeholders and the community at large, but it didn't specifically target PWH. The 2022 needs assessment, while smaller in scale did specifically target PWH. Additionally, the *2022 End HIV Kentucky Statewide Needs Assessment Survey* was the first attempt to develop and distribute a needs assessment through KHPAC. These limitations likely had an impact on the representation of both PWH and higher risk persons without HIV who are harder to reach, including those experiencing unstable housing, transgender youth, and undocumented individuals.

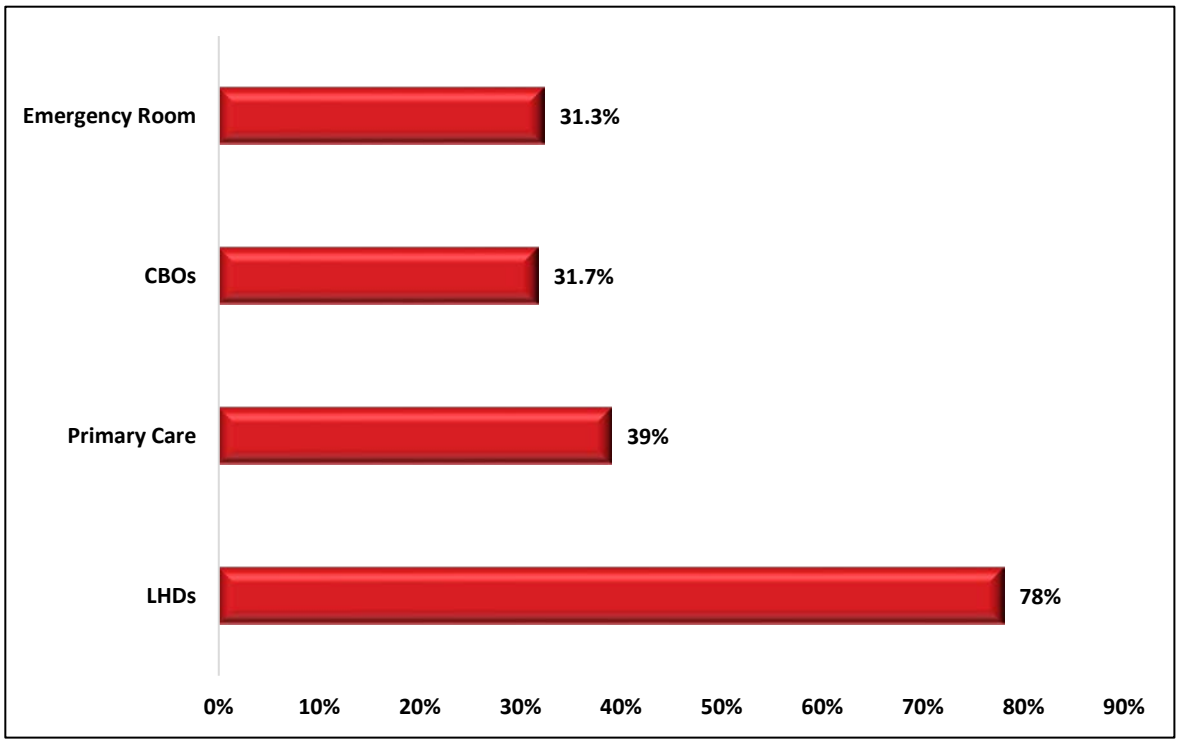
Furthermore, the following limitations should be considered when interpreting the results from the needs assessments:

- Survey data were based on a convenience sample, and therefore may not accurately reflect the general population of Kentuckians. A "convenience sample" is a group of people under study who have been assembled based on the ease of interviewing them or on accessibility to their records, etc. While this type of sampling can help produce good information about a topic, its major disadvantage is that there is no way of knowing if the group is representative of the population as a whole.
- Although methods were used to encourage a random sample (fliers posted throughout the community, Facebook/Instagram posts, etc.), the respondents were generally referred to the survey through a convenience sampling method.

Services People Need to Access HIV Testing

In the *2020 EHE Needs Assessment Survey,* when asked, "do you know where someone can get tested for HIV, in your area?" 17.4% of respondents indicated "no", which represents a barrier for knowing HIV status. Of the 82.6% that answered "yes", the most understood locations for HIV testing included: LHDs (78.0%), primary care (39%), CBOs (31.7%), and emergency room (31.3%). These findings were further explored in the *2022 Statewide Needs Assessment Survey* which asked respondents about their level of comfort in getting an HIV test at various venues and about the barriers that exist to receiving an HIV test. More than 75% of respondents indicated that they strongly agree or agree with the statement, "I feel comfortable going for an HIV test at a local health department (81%), doctors office (82%), or mobile testing van (78%)".

Figure 65: 2020 EHE Needs Assessment Survey – The Most Understood Locations for HIV Testing

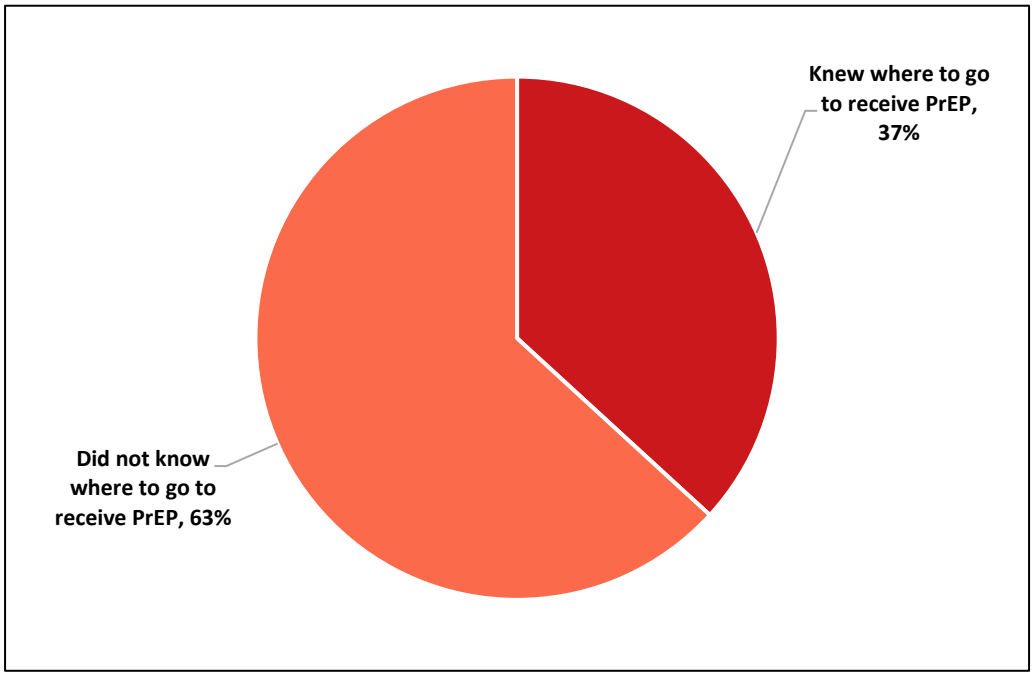


Services People at Risk for HIV Need to Stay HIV Negative

The conditions in which people live, work and play have a profound impact on their ability to access services to reduce their risk to HIV. The following represents needs assessment findings specifically related to these known protective services/resources such as PrEP, PEP, and SSPs.

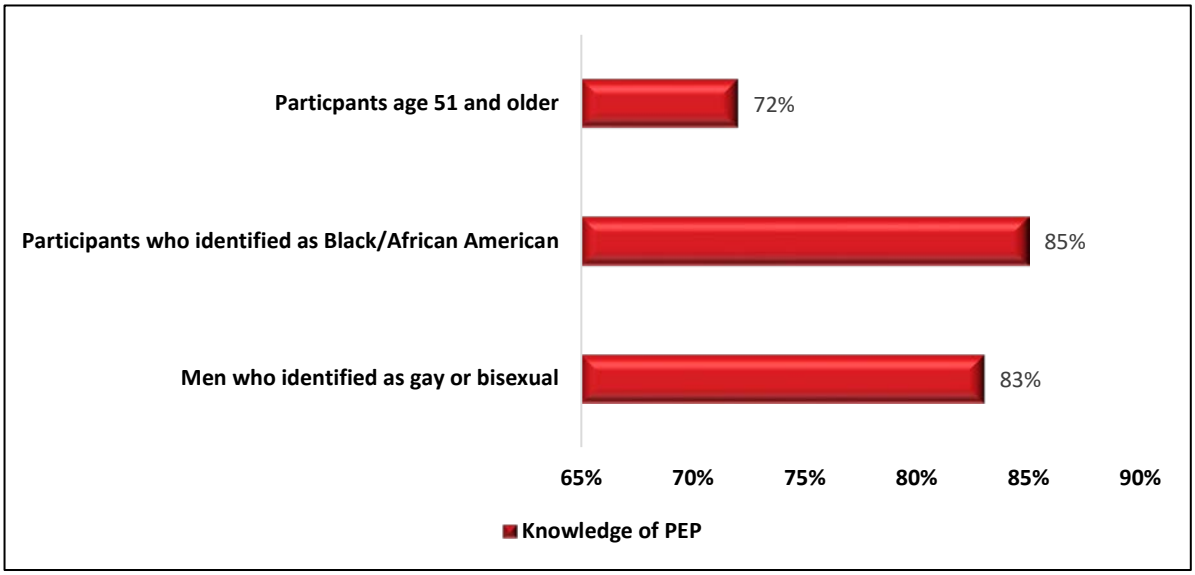
- **PrEP** - In the *2020 EHE Needs Assessment Survey* 50.6% of respondents reported hearing of PrEP. However, knowledge varied significantly across regions with 78.7% of respondents in western Kentucky reporting knowledge, and only 38.1% in the Bluegrass region reporting knowledge. These data stand in contrast to the *2022 End HIV Kentucky Statewide Needs Assessment Survey* in which 100% of men who identified as gay or bisexual indicated knowledge of PrEP, with 85% of participants who identified as Black/African American reporting knowledge of PrEP, and 88% of those age 51 and older reporting knowledge of PrEP. Furthermore, only 36.7% of respondents in the *2020 EHE Needs Assessment Survey* who heard of PrEP knew where to go to receive that service.

Figure 66: 2020 EHE Needs Assessment Survey – Knowledge of Where to Receive PrEP



- **PEP** - In the *2022 End HIV Kentucky Statewide Needs Assessment Survey* 24.2% of respondents indicated that they were unaware that PEP medication exists, and of its uses. Among the population of gay/bisexual men in the 2022 assessment 83% reported knowledge of PEP, 85% of Black/African Americans reported knowledge of PEP, and 72% of respondents over the age of 51 reported knowledge of PEP.

Figure 67: 2020 EHE Needs Assessment Survey – Knowledge of PEP



- **SSPs** - In the *2022 End HIV Kentucky Statewide Needs Assessment Survey 94%* of respondents reported knowledge of SSPs. In the *2020 EHE Needs Assessment 68.7%* of respondents reported having access to SSPs. However, knowledge varied significantly regionally with only 20.8% of respondents in western Kentucky reporting knowledge, and nearly twice as many (48.0%) in the Bluegrass region reporting knowledge.

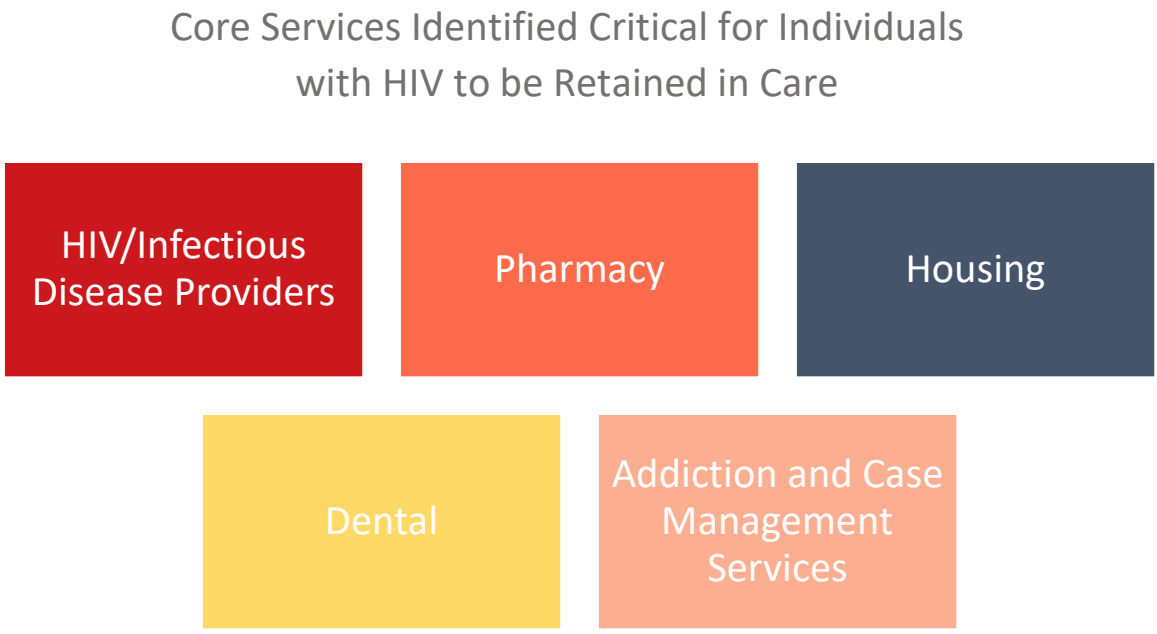
Services People Need to Rapidly Link to HIV Medical Care and Treatment

Treatment as Prevention or TasP refers to taking HIV medicine to prevent the transmission of HIV. It is one of the most highly effective options for preventing HIV transmission. First, the needs assessment sought to gauge respondent's knowledge of Ryan White services prior to their HIV diagnosis. Results indicated that respondents were largely aware of Ryan White Services, with 74.6% of respondents with HIV indicating that they knew about the program before taking the needs assessment. When asked about "treatment as prevention" 83.26% of respondents without HIV indicated that they knew of this method of HIV prevention. The *2020 EHE Needs Assessment Survey* also details an important insight into the perceptions of community stakeholders regarding their knowledge of where to refer an HIV positive person for HIV treatment. Thirteen-point three percent (13.3%) indicated that they had poor knowledge in this area.

Services PWH Need to Stay in HIV Care and Treatment and Achieve Viral Suppression

In the *2022 End HIV Kentucky Statewide Needs Assessment Survey,* respondents with HIV were asked to describe their level of access with regards to receiving HIV treatment and care services at various venues and their perceptions of these services. These core services identified through key informant

interview and regional planning groups were noted as being critical for individuals with HIV to be retained in care. Identified services include HIV/infectious disease providers, pharmacy, housing, dental, addiction and case management services. The 2022 respondents with HIV were overwhelmingly virally suppressed with 96.61% of respondents indicating that they had been told by their HIV provider that they are virally suppressed. These respondents in-care reported having positive experiences and ease of access to their HIV providers, case managers, labs/bloodwork, and medication.



Barriers to Prevention and Treatment Services

Several themes emerged throughout the needs assessment process with regards to barriers to HIV prevention and treatment. These include structural barriers (state laws and regulations), healthcare access, and societal influences (stigma). The following are summary findings of prevention and treatment service barriers that emerged from the needs assessment.

- **HIV Fear and Stigma** - Survey results from 2020 and 2022 all pointed to fear and stigma as being the main deterrents to getting an HIV test for the population that believed themselves at risk for HIV. The results of the *2020 EHE Needs Assessment Survey* pointed to fear or stigma being the top three reasons respondents refused an HIV test including 17.5% indicating fear of HIV disease, 15.9% indicating fear someone would find out, and 9.7% indicating stigma (negative belief about group of persons). These findings are consistent with the results of the *2022 End HIV Kentucky Statewide Needs Assessment Survey,* in which 21% of respondents indicated that they strongly agree or agree with the statement that, “stigma around HIV, and

what other people think, stops me from getting an HIV test". Fear and stigma emerged as significant barriers not only for HIV testing, but also for HIV treatment. Results from 2020 demonstrate that as a community barrier, fear and stigma were selected as the two biggest issues, with 36.0% of respondents selecting "fear someone would find out/confidentiality" as a barrier and 27.0% reporting stigma as a barrier to HIV treatment.

- **Income** - In 2022, when respondents were asked if they had adequate income to cover essential monthly expenses the majority (42.4%) responded that they were mostly able to cover expenses each month, 30.5% indicated that they were able to cover all their expenses, and 25.4% indicated that they were not able to cover essential monthly expenses. By race, 24.1% of White populations and 20% of Black populations reported not being able to cover essential expenses each month.

- **Location and Transportation** - In 2022, when respondents were asked if they had transportation to get to HIV appointments, 89.8% reported having a car or having access to borrow or use a car, whereas 6.8% reported not having reliable access to transportation. While PWH may have access to a car, many rely on gas cards and transportation assistance to attend medical appointments. Significant Ryan White HIV/AIDS Program funds are spent to address this barrier of transportation to accessing HIV care. The results of the 2020 survey show 22.2% of respondents viewing transportation as a community barrier to HIV treatment. This measure varied widely by region with as many as 35.0% reporting transportation as a community barrier in Lake Cumberland, and as few as 17.6% in the Bluegrass region.

Behavioral Risk Factor Surveillance System (BRFSS) Data

BRFSS is a state-based ongoing telephone health survey system that tracks health conditions and risk behaviors in the U.S. Data collected in the sexual behavior module can be examined to determine the extent to which the general Kentucky population is engaging in behaviors that could put them at risk for HIV or other STIs.

The 2020 BRFSS survey showed that about 33% of respondents in Kentucky had "ever been tested for HIV" which leaves 67% that had never been tested for HIV outside of testing for blood donation. This indicates a need for increasing HIV testing awareness among Kentuckians.

Figure 68 shows the BRFSS respondents by gender. The figure shows that males and females had similar responses, with females having a slightly higher percentage of respondents who were ever tested for HIV.

Figure 68: HIV Testing in Kentucky's General Population by Gender, BRFSS, 2020

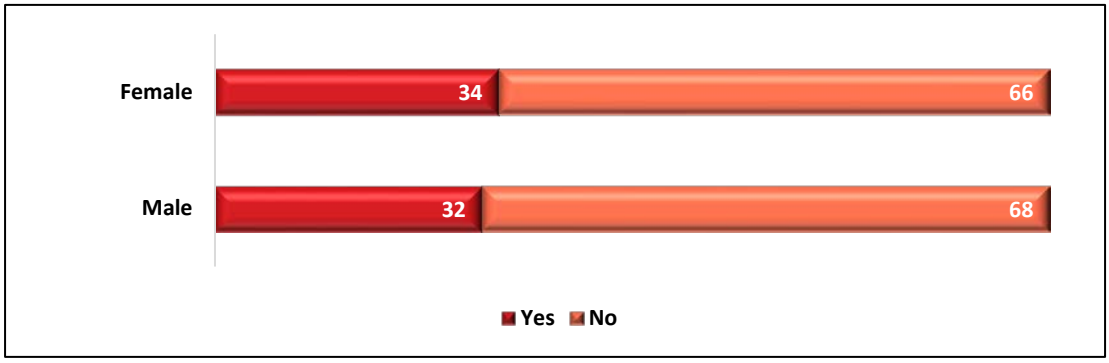


Figure 69 shows the BRFSS data for HIV testing in Kentucky's general population by race and ethnicity. The figure shows that the 54% of the multiracial not-Hispanic respondents were tested for HIV, followed by 47% of African Americans and 39% of Hispanic populations.

Figure 69: HIV Testing in Kentucky's General Population by Race and Ethnicity, BRFSS, 2020

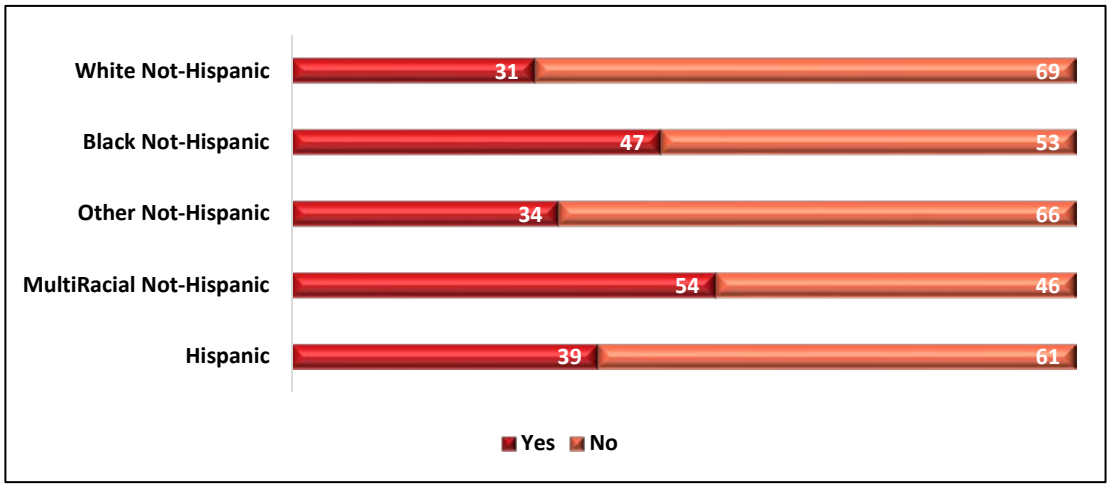


Figure 70 shows the BRFSS data for HIV testing in Kentucky's general population by age category. The figure shows that the 35-44 age group had the highest percentage of respondents having ever been tested for HIV and 65+ year age group have the lowest percentage of respondents having ever been tested for HIV.

Figure 70: HIV Testing in Kentucky's General Population by Age Group, BRFSS, 2020

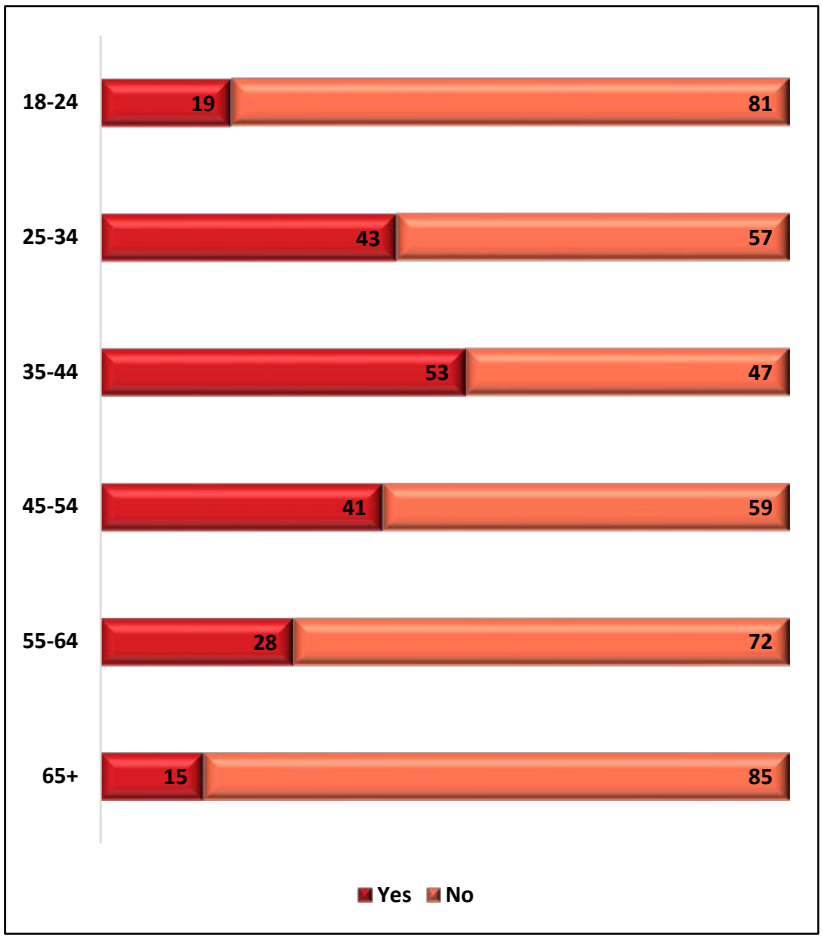


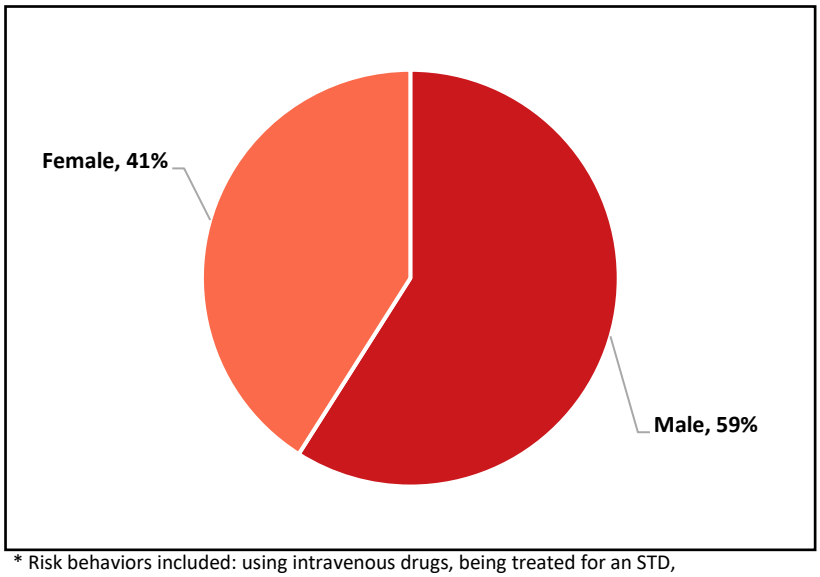
Table 38 shows HIV testing in Kentucky's general population by education and income as per BRFSS 2020 data. The table shows that Kentuckians with "some college" education level has the highest percentage (37%) that were tested for HIV, while the Kentuckians with "high school or GED" had the lowest percentage (28%) tested for HIV. The table also shows that the Kentuckians with income of less than $15,000 were more likely to be tested for HIV (42%), compared to other income categories.

Table 38: HIV Testing in Kentucky's General Population by Education and Income, BRFSS, 2020

Education Level	Yes	No
	Percent	Percent
Less than High School	34%	66%
High School or GED	28%	72%
Some College	37%	63%
College Graduate	33%	67%
Income	**Yes**	**No**
	Percent	Percent
Less than $15,000	42%	58%
$15,000 – 24,999	38%	62%
$25,000 – 34,999	31%	69%
$35,000 – 49,999	30%	70%
$50,000 – 74,999	36%	64%
$75,000 +	34%	66%

The survey also examines several HIV risk behaviors, which included injection drug use, being treated for an STD, giving or receiving money or drugs in exchange for sex, or having anal sex without a condom in the past year. Figure 71 shows the number of respondents who answered "yes" to any one of the selected risk behaviors within the past year by demographics.

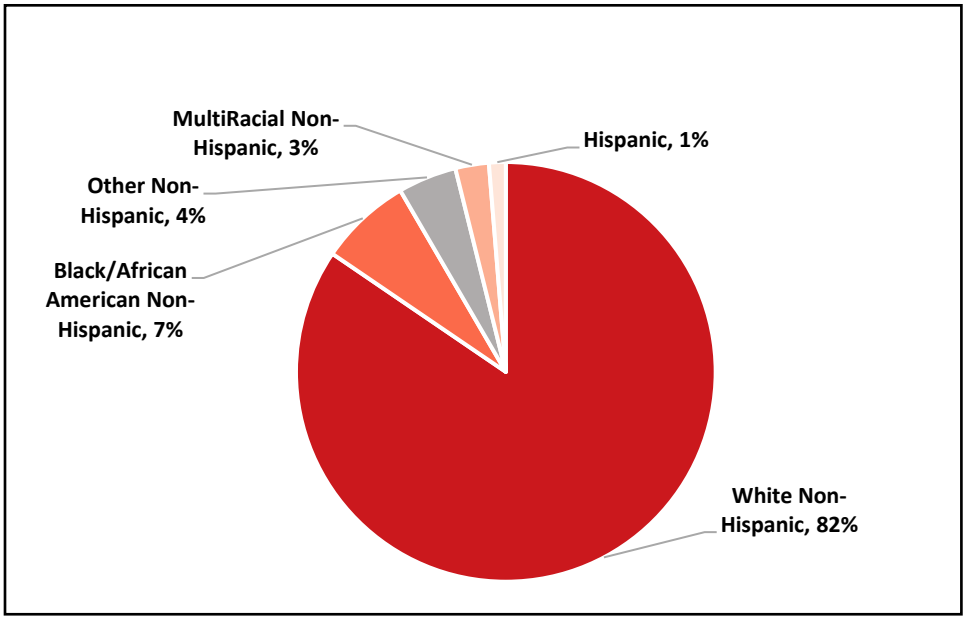
Figure 71: Kentuckians Engaging in Selected Risk Behaviors* by Gender, BRFSS, 2020



* Risk behaviors included: using intravenous drugs, being treated for an STD, giving or receiving money or drugs in exchange for sex, or having anal sex without a condom in the past year.

Figure 72 shows the percentage of respondents for BRFSS data who answered "yes" to any one of the selected risk behaviors within the past year by race and ethnicity.

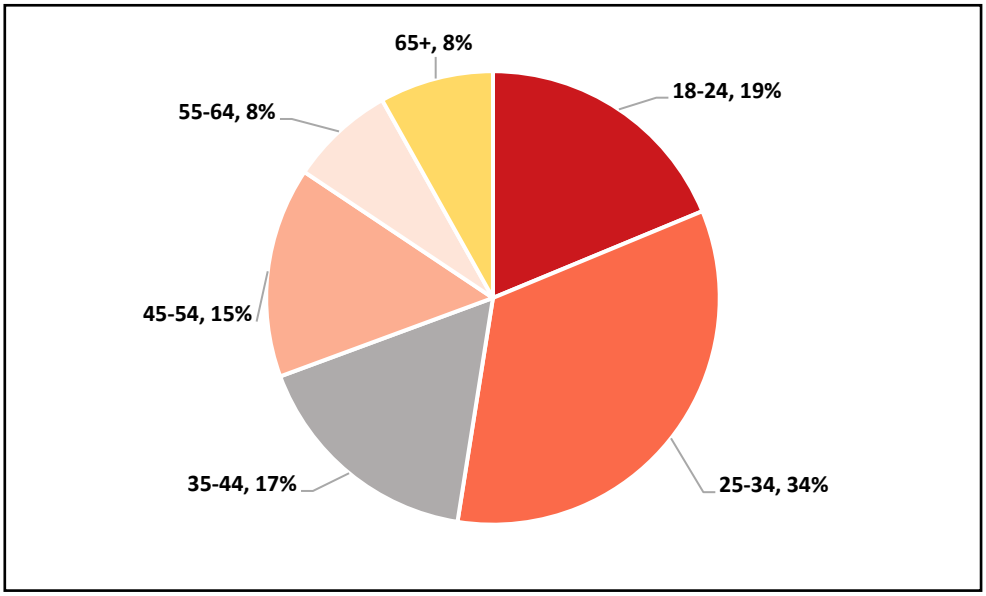
Figure 72: Kentuckians Engaging in Selected Risk Behaviors* by Race and Ethnicity, BRFSS, 2020



* Risk behaviors included: using intravenous drugs, being treated for an STD, giving or receiving money or drugs in exchange for sex, or having anal sex without a condom in the past year.

Figure 73 shows the percentage of respondents for BRFSS data who answered "yes" to any one of the selected risk behaviors within the past year by age category.

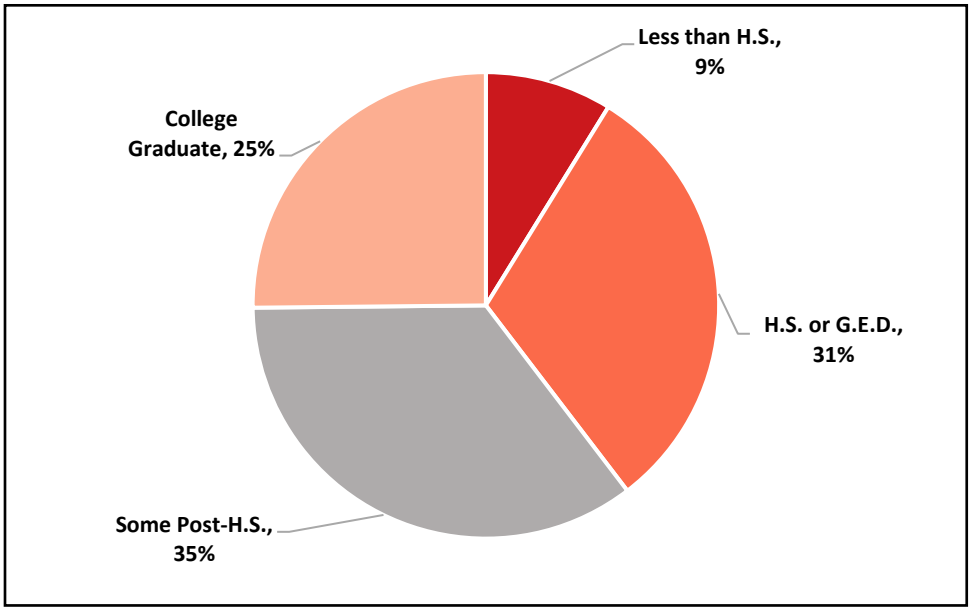
Figure 73: Kentuckians Engaging in Selected Risk Behaviors* by Age Category, BRFSS, 2020



*Risk behaviors included: using intravenous drugs, being treated for an STD, giving or receiving money or drugs in exchange for sex, or having anal sex without a condom in the past year.

Figure 74 shows the percentage of respondents for BRFSS data who answered "yes" to any one of the selected risk behaviors within the past year by education attainment.

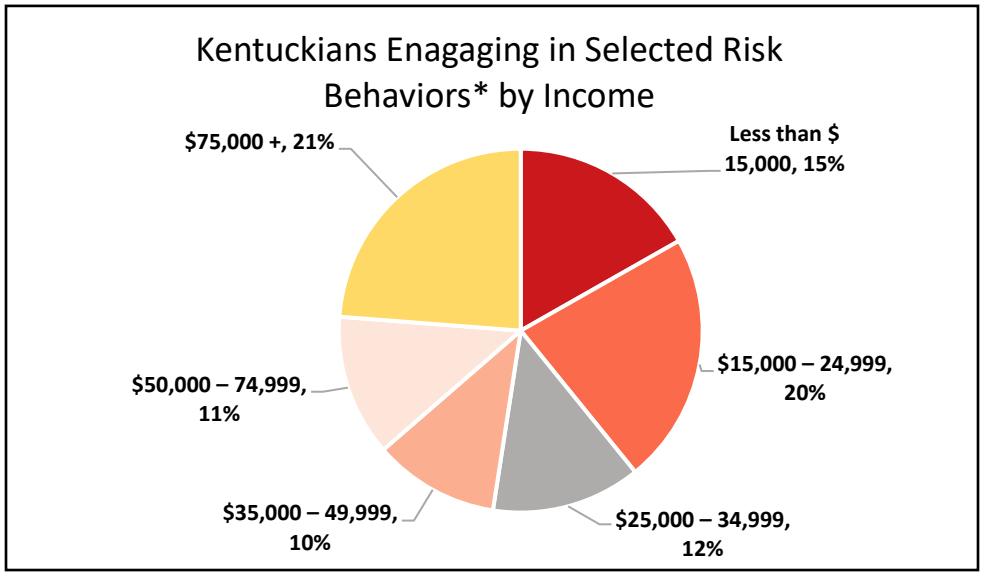
Figure 74: Kentuckians Engaging in Selected Risk Behaviors* by Education, BRFSS, 2020



* Risk behaviors included: using intravenous drugs, being treated for an STD, giving or receiving money or drugs in exchange for sex, or having anal sex without a condom in the past year.

Figure 75 shows the percentage of respondents for BRFSS data who answered "yes" to any one of the selected risk behaviors within the past year by income category. The data shows that the highest percentage of respondents who engaged in risk behaviors were from $75,000+ income range (21%), followed by those who earned between $15,000 to $24,999 at 20%.

Figure 75:Kentuckians Engaging in Selected Risk Behaviors* by Income, BRFSS, 2020



* Risk behaviors included: using intravenous drugs, being treated for an STD, giving or receiving money or drugs in exchange for sex, or having anal sex without a condom in the past year.

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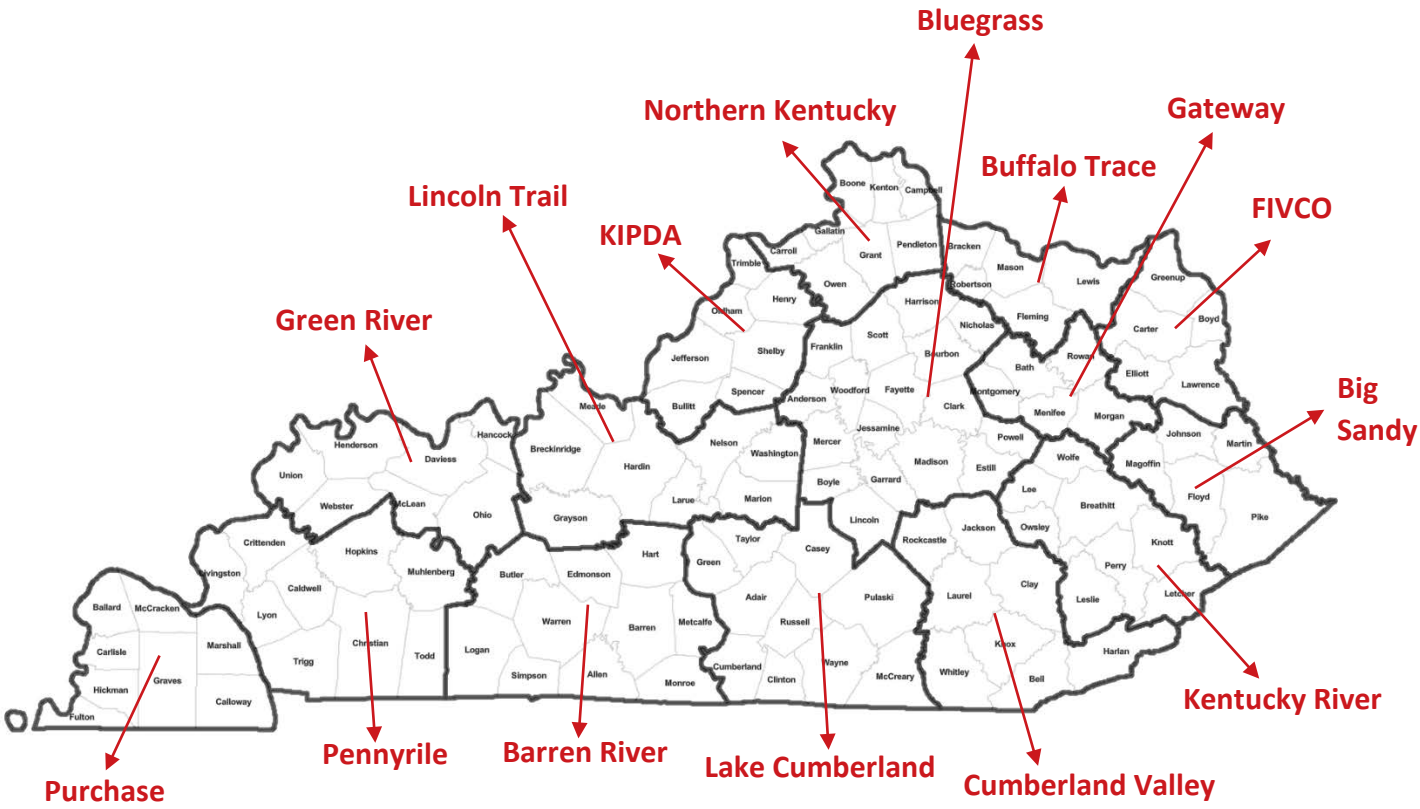
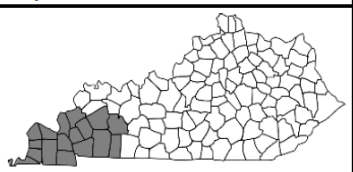
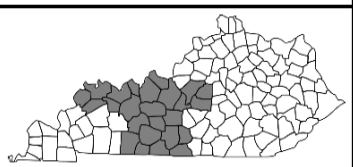
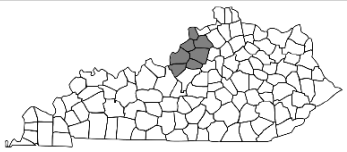
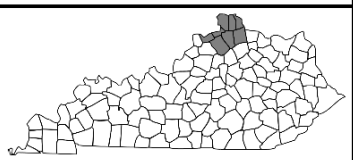
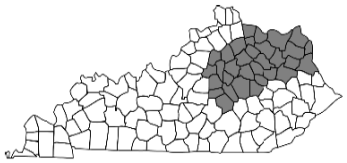
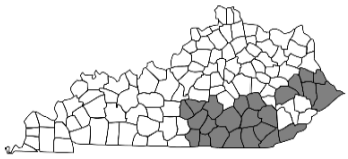
Appendix

Appendix 1: Kentucky's 15 Area Development Districts



Appendix 2: HIV Care Coordinator Regions in Kentucky

Map for Counties Covered	Region Name and Address	Counties Covered:			
	**Purchase Region:** LivWell Community Health Sevices 1903 Broadway Street Paducah, KY 42001 (270) 444-8183 (877) 444-8183 Fax: (270) 444-8147	Ballard Caldwell Calloway Carlisle	Christian Crittenden Fulton Graves	Hickman Hopkins Livingston Lyon	McCracken Marshall Muhlenberg Todd Trigg
	**Barren Region:** Matthew 25 452 Old Corydon Road Henderson, KY 42420 (270) 826-0200 (866) 607-6590 Fax: (270) 826-0212	Allen Barren Breckinridge Butler Daviess Edmonson	Grayson Hancock Hardin Hart Henderson Larue	Logan McLean Marion Meade Metcalfe Monroe	Nelson Ohio Simpson Union Warren Washington Webster
	**Louisville Region:** U of L KCCP/ 550 Clinic 1212 S. 4th Street, Suite 120 Louisville, KY 40203 (502) 852-2008 Fax: (502) 852-2510	Bullitt Henry Jefferson Oldham	Shelby Spencer Trimble		
	**Northern Kentucky Region:** Northern KY Dist HD 8001 Veterans Memorial Drive Florence, KY 41042 (859) 341-4264 Fax: (859) 578-3689	Boone Campbell Carroll Gallatin Grant	Kenton Owen Pendleton		
	**Lexington Region:** UK Bluegrass Care Clinic 3101 Beaumont Circle, Suite 300 Lexington, KY 40513 (859) 323-5544 (866) 761-0206 Fax: (859) 257-3477	Anderson Bath Bourbon Boyd Boyle Bracken Carter Clark	Elliott Estill Fayette Fleming Franklin Garrard Greenup Harrison	Jessamine Lawrence Lewis Lincoln Madison Mason Menifee Mercer	Montgomery Morgan Nicholas Powell Robertson Rowan Scott Woodford
	**Lake Cumberland Region:** Lake Cumberland Dist HD 500 Bourne Avenue Somerset, KY 42501 (606) 678-4761 (800) 928-4416 Fax: (606) 678-2708	Adair Bell Breathitt Casey Clay Clinton Cumberland	Floyd Green Harlan Jackson Johnson Knox	Laurel Magoffin Martin McCreary Owsley Pike	Pulaski Rockcastle Russell Taylor Wayne Whitley
	**Kentucky River Region:** Kentucky River Dist HD 441 Gorman Hollow Road Hazard, KY 41701 (606) 439-2361 Fax: (606) 439-0870	Knott Lee Leslie Letcher	Owsley Perry Wolfe		
	**Graves County HD** 416 Central Ave Mayfield, KY 42066 (270) 247-3553	Graves * Graves County is covered by Graves County Health Department , as well as the Purchase Region.			
	**Todd County HD** 205 Public Square Elkton, KY 42220 **(270) 265-2362**	Todd * Todd County is covered by Todd County Health Department , as well as the Purchase Region.			