



Center of Excellence in Rural Health



Kentucky - **D**emographics, **A**nalytics, **T**rends and **A**ccess
(**K-DATA**)

K-DATA: *We define our future, data helps us get there.*

2021

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Introducing K-DATA

The University of Kentucky Center of Excellence in Rural Health recognizes gathering data from multiple sources can be difficult and time-consuming.

This document is comprised of various data points, sources, and figures in a central location to assist community members, grant writers, program developers, education programs, and others with supportive data for program development, goal setting, and evaluation.

Data within this document has been analyzed so common regions of interest can be easily compared (Delta, Appalachian, Rural, Urban, State, and National).

Acknowledgments:

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Geographical Areas

Kentucky, officially the Commonwealth of Kentucky, is the 8th most rural state in the nation. The state is comprised of 120 counties, 34 are classified as urban, and the remaining 86 counties are rural. Federal agencies have numerous definitions as to what constitutes “rural.” For this document, we will use the United States Department of Agriculture’s Rural-Urban Commuting Area codes or [RUCA](#). These codes utilize the most recent decennial U.S. Census and same-year American Community Survey data to classify population densities, urbanization, and daily commuting patterns. The Federal Office of Rural Health Policy uses the RUCA methodology in determining rural eligibility for their programs.

The data in this document will focus on the state and the following regions within the state:

The Kentucky **Appalachia** Region

- **54** counties located within the eastern and south-central portion of the state

The Kentucky **Delta** Region

- **21** counties located in the far western part of the state

The Kentucky **Rural** Region

- **86** counties located primarily in the eastern and western parts of the state

The Kentucky **Urban** Region

- **34** counties located primarily in the south-central portion of the state

(Note: A county may be included in multiple regions - numbers/percentages will not always total 100)

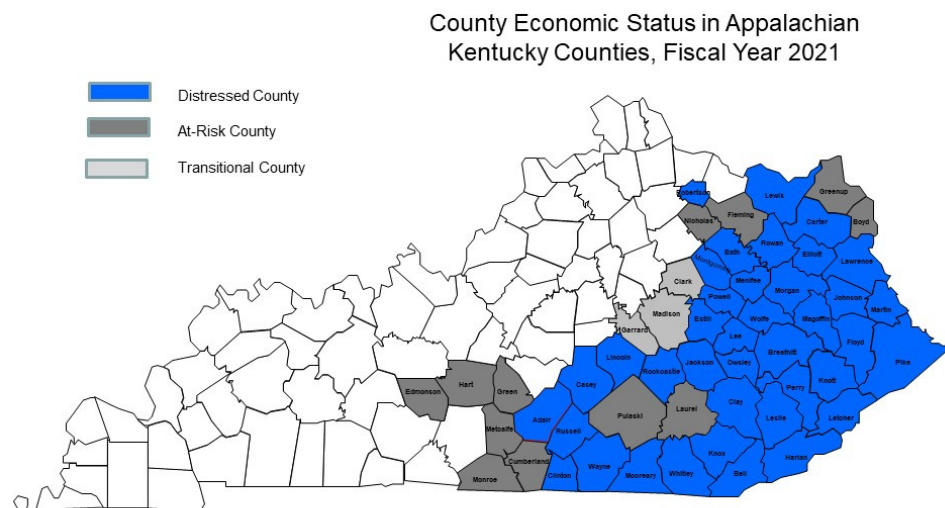
Geographical Areas - Appalachia

The Kentucky Appalachian Region

Established in 1965 by Congress, [The Appalachian Region](#) is made up of 420 counties across 13 states and spans 205,000 square miles, from southern New York to northern Mississippi. The Region's 25 million residents live in parts of Alabama, Georgia, Kentucky, Maryland, Mississippi, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, and Virginia, and all of West Virginia.

The **Appalachia Kentucky Region** encompasses **54 rural counties** located within the eastern and south-central portion of the state. Appalachia Kentucky has breathtaking beauty, from gorgeous scenery, lush forests, mighty rivers, to quaint towns and friendly individuals. There is also a long history of persistent poverty and subsistence living.

The Appalachian Regional Commission uses an index-based classification system to compare each county in the nation with national averages on three economic indicators. Based on that comparison, each Appalachian county is classified within one of five economic status designations—distressed, at-risk, transitional, competitive, or attainment. [Distressed](#) counties are those that rank in the worst 10 percent of the nation's counties. Currently, 38 Appalachian Kentucky counties qualify for distressed county status on the basis of low per capita income and high rates of poverty and unemployment. Thirteen counties are at-risk status while 3 are transitional. Employers in Appalachia Kentucky would need to hire around 30,000 people to move the counties out of economically distressed status.



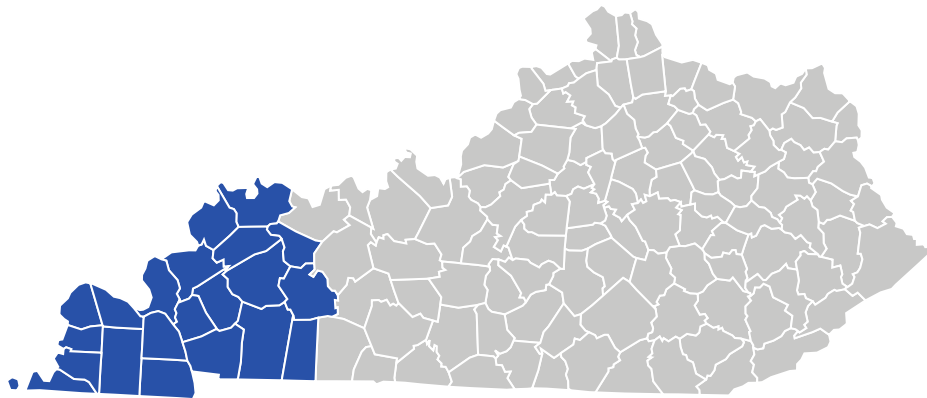
Appalachian Counties: Adair, Bath, Bell, Boyd, Breathitt, Carter, Casey, Clark, Clay, Clinton, Cumberland, Edmonson, Elliot, Estill, Fleming, Floyd, Garrard, Green, Greenup, Harlan, Hart, Jackson, Johnson, Knott, Knox, Laurel, Lawrence, Lee, Leslie, Letcher, Lewis, Lincoln, Madison, Magoffin, Martin, McCreary, Menifee, Metcalfe, Monroe, Montgomery, Morgan, Nicholas, Owsley, Perry, Pike, Powell, Pulaski, Robertson, Rockcastle, Rowan, Russell, Wayne, Whitley, Wolfe.

Geographical Areas - Delta

The Kentucky Delta Region

Established in 2000 by Congress, the Delta Regional Authority encompasses 252 counties and parishes within eight states, Kentucky, Alabama, Arkansas, Illinois, Louisiana, Mississippi, Missouri and Tennessee. The Delta Regional Authority makes strategic investments of federal appropriations into the physical and human infrastructure of Delta communities. The Delta Region makes up the most distressed area of the country. The [Kentucky Delta Region](#) encompasses **21 counties** located in the far western part of the state and is bordered by the Mississippi and Ohio Rivers.

The Delta region is home to abundant natural resources and environmental assets. The region contains more miles of inland shoreline than any region in the world. Though the region is blessed with both manmade and natural qualities that enhance its uniqueness, Kentucky's Delta counties continue to struggle with economic competitiveness when compared to Kentucky's urban counties.



Within the Kentucky Delta Region, eighteen of the 21 counties are identified as rural. All 21 counties meet the criteria of being a [distressed](#) county. To be deemed distressed within the Delta region, counties and parishes must meet the following criteria:

- An unemployment rate of one percent higher (5.2 percent) than the national average (4.2 percent) for the most recent 24-month period; and
- Have a per capita income of 80 percent or less of the national per capita income.

Delta Counties: *Ballard, Caldwell, Calloway, Carlisle, Christian, Crittenden, Fulton, Graves, Henderson, Hickman, Hopkins, Livingston, Lyon, Marshall, McCracken, McLean, Muhlenberg, Todd, Trigg, Union, and Webster.*

Delta Regional Authority. (2021). Kentucky. Retrieved March 17, 2021 From <https://dra.gov/about-dra/dra-states/kentucky/>

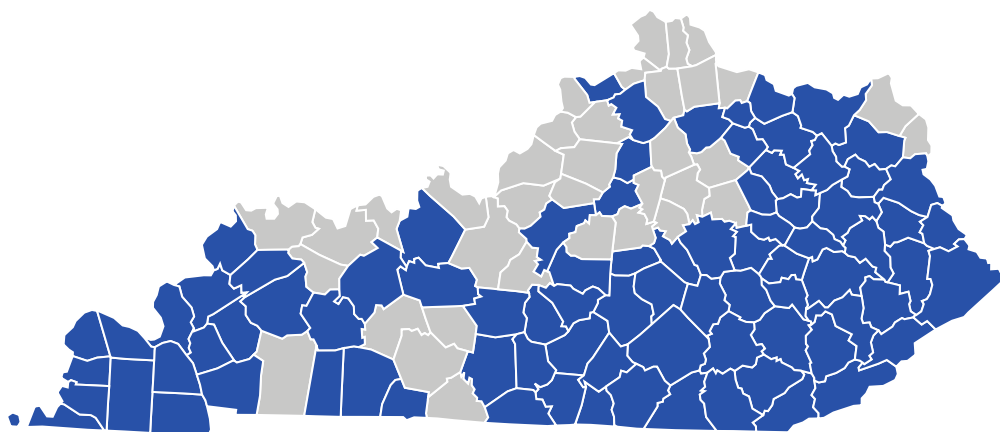
Delta Regional Authority. (2021). Distressed Counties and Parishes. Retrieved March 17, 2021 From <https://dra.gov/funding-programs-states-economic-development/states-economic-development-assistance->

Geographical Areas - Rural

The Kentucky Rural Region

Rural is an inexact term that can mean different things to different people, organizations, and governments. As previously mentioned, this document uses [RUCA Codes](#) to determine rural areas of Kentucky. The RUCA classification system uses whole numbers 1-10 and 4 and above are typically considered rural.

Rural communities are known for strong family bonds with a sense of place and connection to the land. The **Kentucky Rural Region**, in general is growing slower, has higher rates of poverty, limited employment opportunities, poor health status and lower rates of educational attainment.



Kentucky's **86 rural** counties are located in the Eastern, South Central and far Western portions of the state. A significant portion of eastern Kentucky (54 counties) is also part of the Appalachian Region and a significant portion of western Kentucky (21 counties) are part of the Delta Region.

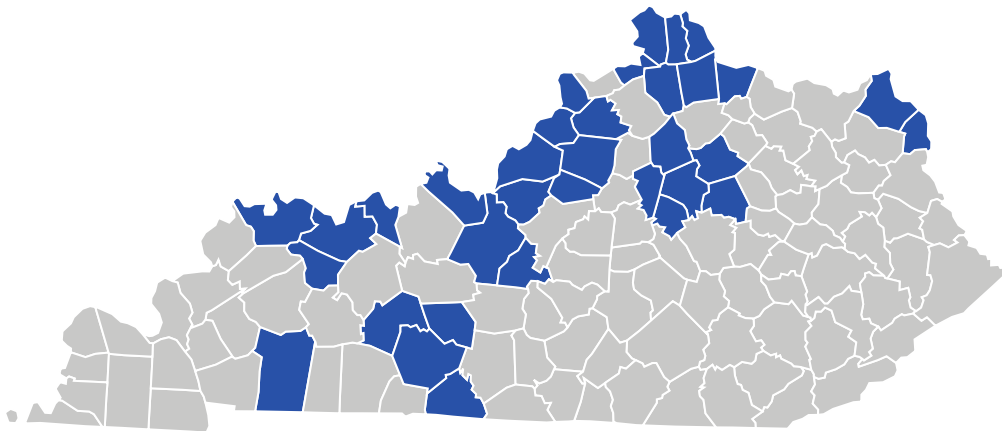
Rural Counties: Adair, Anderson, Ballard, Barren, Bath, Bell, Boyle, Breathitt, Breckinridge, Caldwell, Calloway, Carlisle, Carroll, Carter, Casey, Clay, Clinton, Crittenden, Cumberland, Elliott, Estill, Fleming, Floyd, Franklin, Fulton, Garrard, Graves, Grayson, Green, Harlan, Harrison, Hart, Hickman, Hopkins, Jackson, Johnson, Knott, Knox, Laurel, Lawrence, Lee, Leslie, Letcher, Lewis, Lincoln, Livingston, Logan, Lyon, Madison, Magoffin, Marion, Marshall, Martin, Mason, McCracken, McCreary, Menifee, Mercer, Metcalfe, Monroe, Montgomery, Morgan, Muhlenberg, Nelson, Nicholas, Ohio, Owen, Owsley, Perry, Pike, Powell, Pulaski, Robertson, Rockcastle, Rowan, Russell, Simpson, Taylor, Todd, Trigg, Union, Washington, Wayne, Webster, Whitley, and Wolfe.

Geographical Areas - Urban

The Kentucky Urban Region

Kentucky is well known for its horses, bourbon and bluegrass, the majority of which are found within its urban counties. Essentially 'urban' means a built up area such as a town or city. There are **34 urban counties** (counties with a [RUCA code](#) below 4) that are primarily located in the south-central portion of the state. Five of the most populous counties in Kentucky are classified as urban: Jefferson-766,757; Fayette-323,152; Kenton-166,998; Boone 133,581 and Warren-132,896. Interstate 64 links Lexington to Louisville and I-75 connects to Covington and Newport. A third interstate, I-71, links Louisville and Northern Kentucky. At approximately ninety miles on each side, this great interstate triangle encloses the state's most rapidly developing towns and cities, and is often referred to as the "Golden Triangle," an economically prosperous area with high employment, investment, and job-creation rates. Toyota has built one of the country's largest automobile assembly plants within the triangle.

The **Kentucky Urban Region**, in general is growing faster, has lower rates of poverty, employment opportunities, better health status and higher rates of educational attainment. Most of Kentucky's minorities live in urban areas and the population is younger on average.



Urban Counties: Allen, Boone, Bourbon, Boyd, Bracken, Bullitt, Butler, Campbell, Christian, Clark, Daviess, Edmonson, Fayette, Gallatin, Grant, Greenup, Hancock, Hardin, Henderson, Henry, Jefferson, Jessamine, Kenton, Larue, McLean, Meade, Oldham, Pendleton, Scott, Shelby, Spencer, Trimble, Warren, and Woodford.

State Overview

120
counties

4.5
million people

37th
largest
state in
the US

8th
most rural
state in
the US

Kentucky, officially the Commonwealth of Kentucky is a state located in the east south-central region of the United States. Kentucky is one of four U.S. states constituted as a commonwealth (the others being Virginia, Pennsylvania, and Massachusetts). Kentucky lies within three major physiographic regions of the United States—the Appalachian Highlands (the Appalachian Plateau), the Interior Lowlands, and the Coastal Plain. Kentucky is the 37th largest state in the United States in terms of total area with 104,656 square kilometers (40,408 square miles).

Kentucky is the 8th most rural state in the nation composed of 120 counties, thirty-four are classified as urban and the remaining 86 counties are rural based on the U.S. Department of Agriculture's Rural Urban Commuting Area Codes (RUCA) . Most of the rural counties are in Eastern, South Central and far Western Kentucky.

Typically we have compared Kentucky's rankings with the rest of the nation and surrounding southern states. However, this report will compare how the rural and urban areas of Kentucky differ from one another (when regional data is available). We have always known that the economies of rural and urban were vastly different. This report will compare, at a regional level, the differences in demographic, economic, and quality of life conditions for Kentucky's Appalachia, Delta, Rural, and Urban areas.

Kentucky Counties by Population (2020). Retrieved April 2021 From https://www.kentucky-demographics.com/counties_by_population

United States Census Bureau. Annual Estimates of the Resident Population: (April 1, 2010 to July 1, 2019). U.S. Census Bureau, Population Division. Retrieved May 4, 2020 From <http://www.census.gov/>.

State Symbols USA. (n.d.) Size of States. Retrieved March 16, 2021 From <https://statesymbolsusa.org/symbol-official-item/national-us/uncategorized/states-size>

Stacker. (2019). States with the biggest rural populations. Retrieved March 18, 2021 From <https://stacker.com/stories/2779/states-biggest-rural-populations>

State Overview - Population



Kentucky: [4,505,836](#)



[3.8% growth](#) in population since 2010; [7.4%](#) in the US



Jefferson: 782,969

County with the largest population

Robertson: 2,193

County with the smallest population

Region	Population
Kentucky Urban Population	2,667,645
Kentucky Rural Population	1,851,208
Kentucky Appalachian Population	1,166,054
Kentucky Delta Population	492,116

Kentucky Population Changes

[U.S. Census Bureau](#) estimates that more than half of Kentucky's 120 counties have lost population since 2010; 36 of Kentucky's 57 Appalachian counties saw population losses with Owsley County being the highest not only in Kentucky Appalachia but the entire state with a -14.8 percent loss followed by Cumberland -14.1 percent and Knott at -12.8 percent.

The Kentucky Delta Region lost population as well with 18 of the 21 counties having slight decreases. The counties with the largest population gains were all urban, Scott County having a 21.2 percent increase in population, Warren County with a 18.2 percent increase and Boone and Spencer Counties both had a 14.2 percent increase. Kentucky's urban counties as a whole averaged a population growth rate of 4.59 percent which was slightly higher than the state rate (3.8%) but less than the national (7.4%).

State Overview - Demographics

The majority of people in [Kentucky](#) are between the ages 18 and 65 (59.8%). Kentucky's 65 and older population is slightly greater in the areas of Appalachia (18.2%) and Delta (20.6%) than that of Kentucky as a whole (17.8%) and the US (16.5%). There are slightly more females (50.2%) than males living in Kentucky, this distribution is relatively similar across all regions.

Kentuckians are predominantly white (91.3%), followed by Black or African American (3.7%), Hispanic or Latino (2.6%) and Asian (0.7%). The remaining 2% is comprised of American Indian and Alaskan Native, Native Hawaiian or Pacific Islander. A large percentage of the Black or African American alone population in Kentucky resides in the larger urban counties of Jefferson (21.8%) and Fayette (14.8%), while a higher percentage of Hispanic or Latino alone reside in the urban counties of Shelby (10.0%) and Christian (8.1%).

	African American	American Indian	Asian	Native Hawaiian	Hispanic/Latino	White
Appalachia	0.9%	0.3%	0.4%	0%	1.8%	95.5%
Rural	3.4%	0.3%	0.5%	0%	2.3%	92.3%
Urban	4.9%	0.4%	1.1%	.1%	3.8%	88.2%
Delta	7.2%	0.4%	0.7%	0%	2.8%	87.1%
Kentucky	3.7%	0.3%	0.7%	0.1%	2.6%	91.3%
United States	9.0%	2.3%	1.6%	.1%	9.7%	75.9%

	Less than 18 years	18-64	65
Appalachia	21.8%	60.0%	18.2%
Rural	22.0%	59.6%	18.4%
Urban	23.2%	60.7%	16.1%
Delta	21.3%	58.1%	20.6%
Kentucky	22.4%	59.8%	17.8%
United States	22.4%	61.1%	16.5%

State Overview – Health Rankings

Each year the United Health Foundation releases [America's Health Rankings](#). Each state is ranked against the other 49 states on core measures indicating overall healthiness and presented in an Annual Report. In 2019, Kentucky ranked 43rd out of 50, indicating the state is one of the least healthy in the nation. Some of the state's reported strengths are; low violent crime, a high percentage of high school graduation, and low prevalence of excessive drinking. Another positive change was a 66% decrease in uninsured persons from 16.1% to 5.5% over the past nine years.

Challenges listed by the report are; high cancer death rates, high prevalence of frequent mental distress, and a high prevalence of physical inactivity. In the past four years, diabetes has increased 10%, in the past three years, frequent mental distress has increased by 21%, obesity has increased by 20% since 2012, and drug deaths increased 96% in the past ten years.

Kentucky ranks in the **top half** of the states on the following measures:

- Water fluoridation (1)
- High school graduation rates (4)
- Voter registration (5)
- Violent crime (7)
- Uninsured population (9)
- Severe housing problems (11)
- Chlamydia (11)
- Excessive drinking (11)
- Disparity in health status (12)
- Dedicated health care provider (17)
- Cholesterol checks (18)
- Policy measures (20)
- Immunization of children (23)
- Dentists (24)

Kentucky ranks in the **bottom half** of the states on the following measures:

- Salmonella (26)
- Colorectal cancer screening (26)
- Public health funding (27)
- Infectious disease (28)
- Mental health providers (29)
- Vegetables (mean consumption per day (29)
- Meningococcal immunizations (32)
- Low birthweight (34)
- Occupational fatalities (34)
- Underemployment rate (35)
- Air pollution (36)
- Infant mortality (36)
- Seat belt use (39)
- Primary care physicians (39)
- HPV Immunizations of men (40)
- Dental visit (41)
- Unemployment rate, annually (41)
- Disconnected youth (41)
- Fruits (mean number of fruits eaten a day (42)
- Adverse childhood experiences (42)
- Median household income (42)
- Cardiovascular deaths (42)
- Immunization of adolescents (43)
- Clinical care (43)
- Pertussis (43)
- Children in poverty (44)
- Stroke (44)
- Diabetes (44)
- HPV immunization of females in adolescents ages 13-17 (45)
- Neighborhood amenities (45)
- Frequent physical distress (45)
- Obesity (46)
- High blood pressure (46)
- Drug deaths (46)
- Premature death (47)
- Injury deaths (47)
- Insufficient sleep (48)
- Heart attack (48)
- Heart disease (48)
- High cholesterol (49)
- Frequent mental distress (49)
- Smoking (49)
- Physical inactivity (50)
- Preventable hospitalizations (50)
- Cancer deaths (50)

State Overview - Women & Children's Report

United Health Foundation also releases a Women and Children report which is compiled much the same as the Overall America's Health Rankings. Kentucky, according to the 2019 report:

Since 2016:



31% increase in excessive drinking among women



12% decrease in substance use disorder among youth



15% increase in child mortality



52% increase in women's drug related deaths



8% decrease in women's tobacco use during pregnancy

Kentucky ranks in the **top half** of the states on the following measures:

- Water fluoridation (1)
- High school graduation (4)
- Infant child care cost (4)
- Well-women visits (7)
- Substance use disorder in youth (7)
- Uninsured women (8)
- Homeless family households (9)
- Chlamydia in women (16)
- Excessive drinking in women (16)
- Adequate health insurance (16)
- Cervical cancer screening (16)
- Dedicated women's health care provider (18)
- Baby-friendly facilities ("percentage of live births occurring at facilities that adhere to 10 Steps to Successful Breastfeeding and are designated baby-friendly by Baby-Friendly USA") (13)
- Prenatal care before the third trimester (20)
- Clinical care in women (21)
- Children's immunizations (23)
- Neonatal mortality (23)
- Women's dental visits (25)

Kentucky ranks in the **bottom half** of the states on the following measures:

- Missed school days (26)
- Adolescent well-visits (27)
- Well-baby check (29)
- Teen suicide (31)
- Publicly-funded women's health services (31)
- Meningococcal immunizations (31)
- Clinical care in HWC (33)
- Maternal mortality (34)
- Low birthweight (34)
- Infant mortality (36)
- Medical homes for children with special needs (36)
- Flu vaccines in women (37)
- Tdap immunizations in children ages 13-17 (38)
- Child mortality (38)
- Protective family routines and habits (39)
- Children with health insurance (40)
- Adolescent Immunization (40)
- Clinical care in infants (40)
- Children with health insurance (40)
- Diabetes (40)
- Clinical care in children (41)
- Preterm birth (41)
- Adverse Childhood Experiences (42)
- Maternity practices in infant and nutrition care (mPINC) (43)
- Low-risk cesarean delivery (43)
- Food insecurity (43)
- Obesity in women (44)
- HPV immunizations in females (45)
- Neighborhood Amenities (45)
- Teen births (46)
- Developmental screening (47)
- Drug deaths (48)
- Household smoking (48)
- Overweight or obesity in youth (48)
- Household smoke (48)
- Tobacco use during pregnancy (49)
- Intimate Partner Violence (50)
- Tobacco use in youth (50)
- Intimate partner violence during lifetime (50)

State Overview - County Health Rankings

Annually, the [County Health Rankings](#) are released and are based on data collected from the Behavioral Risk Factor Surveillance System (BRFSS). Counties are compared in much the same manner as the states are in America's Health Rankings report. County Health Rankings also releases a state-based report with aggregate data. These are some of the highlights from the 2019 edition:

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Years of potential life lost were calculated for the state. Potential life lost is anyone who died before age 75 per 100,000 population. According to the report, Kentucky has 9,700 years of potential life lost, whereas the US has 7,447. Astonishingly, the maximum potential life lost for Kentucky is 19,000 years.



Kentuckians report fair or poor health more frequently than the US (24% vs 16% respectively).



Kentuckians are more likely to smoke (25%) than the US average (16.1%). Some areas have as many as 32% of the population smoking.



Obesity is nearly 5% higher in Kentucky (36.5%) than the US (31.9%).



22% of Kentucky's children are living in poverty; some areas have 48% of children in poverty.



47% of Kentucky's children living in poverty are in a household that spends more than half of its income on housing.

Social Determinants Of Health (SDOH)

Social determinants of health (SDOH) are conditions in the environments in which 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. Each of these **five** determinant areas reflects a number of key issues that make up the underlying factors in the arena of SDOH.

.....



Economic Stability

- Poverty
- Employment
- Food Insecurity
- Housing Instability



Education

- Early Childhood Education and Development
- Enrollment in Higher Education
- High School Graduation
- Language and Literacy



Social and Community Context

- Civic Participation
- Discrimination
- Incarceration
- Social Cohesion



Neighborhood and Built Environment

- Access to Foods that Support Healthy Eating Patterns
- Crime and Violence
- Environmental Conditions
- Quality of Housing



Health and Health Care

- Access to Health Care
- Access to Primary Care
- Health Literacy

SDOH - Economic Stability - Poverty

Kentucky is the **5th** poorest state in the nation based on median household income according to the [US Census](#).



The median household income in KY is \$46,535 compared to \$57,652 nationally



17 % of Kentuckians live in poverty compared to 12% of Americans

Kentucky Urban	\$54,066
Kentucky Delta	\$43,677
Kentucky Rural	\$38,444
Kentucky Appalachia	\$35,062

Kentucky Appalachia	25%
Kentucky Rural	22%
Kentucky Delta	17%
Kentucky Urban	14%



22% of KY Children live in poverty (below 100% of federal poverty line)



12% of KY Children live in deep poverty (below 50% of federal poverty line)

Kentucky Appalachia	32%
Kentucky Rural	30%
Kentucky Delta	24%
Kentucky Urban	19%

Kentucky Appalachia	16%
Kentucky Rural	13%
Kentucky Urban	10%
Kentucky Delta	9%

Persistent poverty counties are defined as “any county that has had 20 percent or more of its population living in poverty over the past 30 years, as measured by the 1980, 1990, and 2000 decennial censuses”.

44 of KY's 120 counties are designated as Persistent Poverty Counties.

Kentucky Rural	44
Kentucky Appalachia	43
Kentucky Delta	1
Kentucky Urban	0

United States Census Bureau. (2021). Explore Census data. Retrieved March 17, 2021 From

<https://data.census.gov/cedsci/all?q=Kentucky>


Appalachian Regional Commission. (2020). Distressed areas classification system. Retrieved March 14, 2021 From

<https://www.arc.gov/distressed-areas-classification-system/>


SDOH - Economic Stability - Employment

Nearly a third (33.1%) of all employment in 2026 is projected to belong to just three of the state's major occupational groups: 'Office and Administrative Support Occupations' (13.8%), 'Production Occupations' (9.8%), and 'Transportation and Material Moving Occupations' (9.5%).

Healthcare will play an important role in Kentucky's job market over the next decade. Healthcare Practitioners and Technical Occupations' and 'Healthcare Support Occupations' are expected to grow by 12.7% and 14.3%, respectively. Combined, the employment in these two occupations is expected to account for 9.8% of all jobs in the state of Kentucky by 2026.

 **59%** of KY's working age adults participate in the labor force compared to **78%** nationally

Kentucky Urban	60%
Kentucky Delta	54%
Kentucky Rural	50%
Kentucky Appalachia	47%

 Prevalence of people with a disability in KY is **17%**

Kentucky Appalachia	24%
Kentucky Rural	22%
Kentucky	19%
Kentucky Urban	17%

Kentucky's 2019 Unemployment Rate of 4.0, was only slightly less than the U.S. rate of 4.1

Region	Unemployment Rate	Labor Force	Population
KY Appalachia	6.0	431,441	1,168,828
KY Rural	5.6	745,204	1,841,324
KY Delta	4.8	209,012	489,193
KY Urban	4.1	1,320,566	2,570,245

The gap in job availability varies across Kentucky, especially between urban and rural communities. Kentucky's rural counties have experienced the weakest economic growth while the Urban Counties have shown the strongest. The Rural and Appalachian areas have fewer jobs than they did a decade ago. Of the jobs available, a high percentage are service-providing jobs that pay much less compared to manufacturing jobs. Too many of the jobs we have are of low quality, and much-needed wage growth is still largely missing in Kentucky.

Kentucky has seen large declines in coal employment and in public sector jobs. Governmental employment has declined due to budget cuts at the federal and state level, impacting jobs ranging from higher education to highway construction. As a whole, Kentucky has shed a net 10,100 coal jobs and 8,600 governmental jobs since 2010.

SDOH - Economic Stability - Employment

According to [KYstats](#), workers in urban areas were paid \$26.5 billion more than those in rural areas in 2017. On average, urban areas earned at least \$152 more per week than those in rural areas. In the same report, weekly wages were calculated and reported across sectors. The highest calculated weekly wage was in the “management of companies and enterprises” sector with a total of \$2,292. The lowest paid sector was “accommodation and food services” with \$319 weekly. The government sector, which is where the majority of Kentuckians are employed, has a weekly wage of around \$859. The following is a breakdown of all sectors and the average weekly wages associated with each sector:

Sector	Weekly Wages
Management of Companies and Enterprises	\$2,292
Utilities	\$2,097
Finance and Insurance	\$1,692
Mining, Quarrying, and Oil and Gas Extraction	\$1,416
Wholesale Trade	\$1,264
Professional, Scientific, and Technical Services	\$1,198
Manufacturing	\$1,175
Transportation and Warehousing	\$1,122
Information	\$1,095
Unclassified	\$1,083
Construction	\$980
Health Care and Social Assistance	\$920
All Industries	\$920
All Government	\$859
Real Estate and Rental and Leasing	\$805
Agriculture, Forestry, Fishing and Hunting	\$702
Educational Services	\$639
Other Services (except Public Administration)	\$623
Administrative and Support and Waste Management and Remediations Services	\$604
Retail Trade	\$529
Arts, Entertainment, and Recreation	\$526
Accommodation and Food Services	\$319

SDOH - Economic Stability - Food Insecurity



Food insecurity is defined as the “limited or uncertain availability of nutritionally adequate and safe foods due to lack of financial resources.”



- Hunger Among Adults Age 50 to 59 in 2017, shows for that age group Kentucky has the highest rate of food insecurity in the nation at 19 percent, compared to the national rate of 11 percent



- 1 in 14 KY seniors were food insecure in 2018



Food insecurity rate for Kentucky is 15% compared to 11% for the US

Kentucky Appalachia	19%
Kentucky Rural	18%
Kentucky Delta	15%
Kentucky Urban	13%



Kentucky counties with the highest food insecurity are disproportionately rural

- Magoffin County has the highest rate of 23%
- Bell, Breathitt, Clay, Elliott, Fulton, Harlan, Knox, Leslie, McCreary, Owsley and Wolfe all have a rate of 20%



Child food insecurity rate for Kentucky is 18% compared to 12% for the US

Kentucky Appalachia	24%
Kentucky Rural	23%
Kentucky Delta	20%
Kentucky Urban	18%



Kentucky counties with the highest Child food insecurity are disproportionately rural as well

- Magoffin County has the highest rate of 32%
- Clay, Elliott, and Robertson all have a rate of 29%

SDOH - Economic Stability - Housing Instability



In Kentucky, the Fair Market Rent (FMR) for a two-bedroom apartment is \$780. In order to afford this level of rent and utilities – without paying more than 30% of income on housing – a household must earn \$2,599 monthly or \$31,183 annually.



Assuming a 40-hour work week, 52 weeks per year, this level of income translates into an hourly Housing Wage of: **\$14.99 PER HOUR STATE HOUSING WAGE.**

KENTUCKY STATE FACTS

Minimum Wage	\$7.25
Average Renter Wage	\$13.79
2-Bedroom Housing Wage	\$14.99
Number of Renter Housholds	571,050
Percent Renters	33%

48th Kentucky's Ranking for 2-Bedroom Housing Wage
(1 being the best)

83 work Hours Per Week would be required at
Minimum Wage To Afford a 2 Bedroom Rental Home
(at FMR)

66 work Hours Per Week would be required at
Minimum Wage To Afford a 1-Bedroom Rental Home
(at FMR)

SDOH - Education

In 2019 the [U.S. News & World Reports](#) ranked Kentucky 38th among the states for education. Rankings were based 50% on higher education factors such as graduation rates and tuition costs. The remaining 50% is based on Pre-K through 12, using factors such as test scores and high school graduation rates.



Kentucky has 172 school districts.

- 120 districts are public
- 52 are independent



Kentucky's 2019 per-pupil spending, adjusted for regional cost differences was \$11,210, below the national average of \$12,756.



State qualifying data for 2018-19 reported 74.9% of students K-12 were eligible for free or reduced-priced meals within the public schools.



Higher Education Opportunities:

- 8 public universities
- 18 AIKCU not-for-profit institutions (private liberal arts),
- 19 independent institutions,
- 16 community and technical colleges and
- 63 licensed out-of-state institutions.
- There are 2 dental schools, 3 law schools and 3 medical schools.

Publications. (2020). Retrieved March 21, 2021 From <https://www.usnews.com/news/best-states/rankings/education>

Kentucky Department of Education. (2020). K-12 data. Retrieved March 15, 2021 From <https://education.ky.gov/districts/tech/Pages/K-12-Data.aspx>

SDOH - Education - Early Childhood

One of the most widely recognized risk factors for school readiness is poverty. [Fewer than half \(48%\)](#) of poor children are ready for school at 5 years of age as compared with 75% of children from moderate- or high-income households. The first five years of life are critical to a child's lifelong development. Young children's earliest experiences and environments set the stage for future development and success in school and life.

Kentucky's preschool education programs are available for all four-year-old children whose family income is no more than 160% of poverty; all three and four-year-old children with developmental delays and disabilities, regardless of income; and other four-year-old children as placements are available based on district decision.

The preschool program is designed to be developmentally appropriate for young children. "Developmentally appropriate" is defined in law to mean that the program focuses on the child's physical, intellectual, social and emotional development, including interpersonal, intrapersonal, and socialization skills. Enrollment of a child in the preschool program is at the discretion of the parent or legal guardian. Districts are only required to offer a half-day preschool program 4 days per week; however, 40 percent of districts are providing full-day preschool 4 or 5 days a week.

The Kentucky Governor's Task Force on Early Childhood Development and Education recommends that in Kentucky: [School readiness](#) means each child enters school ready to engage in and benefit from early learning experiences that best promote the child's success.



- 48 %** of United States children are [Kindergarten Ready](#)
- 51%** of Kentucky Children are Kindergarten Ready
- 52 %** of KY Delta children in public schools are Kindergarten Ready
- 50 %** of KY Urban children in public schools are Kindergarten Ready
- 48 %** of KY Rural children in public schools are Kindergarten Ready
- 46 %** of KY Appalachian children in public schools are Kindergarten Ready

P. Gail Williams, Marc Alan Lerner, COUNCIL ON EARLY CHILDHOOD and COUNCIL ON SCHOOL HEALTH Pediatrics August 2019, 144 (2) e20191766; DOI: Retrieved March 16,2021 From <https://doi.org/10.1542/peds.2019-1766> School Readiness Definition (2019). Retrieved March 16 2021, From <https://education.ky.gov/curriculum/conpro/prim-pre/Pages/School-Readiness-Definition.aspx>

Kindergarten READINESS: Kids count data center. (2019). Retrieved March 16 2021, From <https://datacenter.kidscount.org/data/tables/8015-kindergarten-readiness#detailed/2/any/false/1769,1696,1648,1603,1539,1381,1246/any/15404>

SDOH - Education - High School and Higher Ed.

Educational attainment is lower in the Appalachian region compared to other regions within the state for both high school graduation and Bachelor's degrees.

23.6%
of Kentuckians have attained a Bachelor's degree.

87.5%
of Kentuckians, age 25 and older, have at least a high school diploma or equivalent

Kentucky continues to lag below the National averages of **87.7%** for high school diplomas and **31.5%** for bachelor's degrees respectively.



Top majors:

Liberal Arts & Sciences
Licensed Practical Nurse
Registered Nurse
Business
Computer & Information services



Top Institutions:

University of Kentucky
University of Louisville
Western Kentucky University
Eastern Kentucky University
Jefferson Community & Technical College

*2017-2018

Council on Postsecondary Education. (2020). Publications. Retrieved March 17, 2021 From <https://cpe.ky.gov/news/infographics.html>

SDOH - Education - Regional Attainment

Overall, educational attainment is lower in the Appalachian region compared to other regions within the state for high school graduation as well as Bachelor's degrees. (see table)

Eight of the top ten counties in degree attainment for high school and college are located in urban counties while all ten of the counties with low attainment rates are located within Appalachian counties.

The urban county of Oldham sits atop both the high school and college attainment scale with 93.9% and 42.2% respectively. Appalachian Clay County has the lowest high school graduation rate of 64.3%, and Appalachian McCreary county has the lowest college degree attainment rate at 6.9%. There is more than a 30-percentage point gap for both indicators between the two counties.

Region	Percentage of High School Graduates	Percentage of College Graduates
U.S.	87.7	31.5
Kentucky	85.7	23.6
Kentucky Urban	86.6	20.7
Kentucky Delta	84.7	15.6
Kentucky Rural	79.4	14
Kentucky Appalachia	76.5	13



In Kentucky, [higher education still pays](#). Over a working lifetime, a bachelor's degree graduate earns \$1.2 million more than high school graduate, even after taking opportunity cost (lost earnings potential while in college) into account. This is 26 times the investment. Associate degree graduates earn \$422,000 more once opportunity cost is considered.



[Communities benefit from having an educated population](#). College-educated individuals tend to have higher rates of voting, charitable giving, and volunteerism. They are healthier and cost less to insure. They are less likely to be incarcerated, on public assistance, or addicted to drugs or alcohol. They read to their children more often and are more involved in their children's schools.

SDOH - Education - Occupations

Fastest-Growing [Occupations](#) for a Doctoral or professional degree

- Health Specialties Teachers, Post-secondary
 - Physical Therapists
 - Veterinarians
 - Business Teachers, Post-secondary
 - Physicist
 - Optometrists
 - Psychology Teacher, Post-secondary
 - Clinical, Counseling, and School Psychologists
 - Dentist, General
-

Fastest-Growing Occupations for a Masters degree

- Statisticians
 - Physician assistants
 - Nurse Practitioners
 - Marriage and Family Therapists
 - Occupational Therapists
 - Nurse Instructor and Teachers, Post-secondary
 - Nurse-Midwives
 - Curators
-

Fastest-Growing Occupations for a Bachelors degree

- Software Developers, Applications
 - Operations Research Analysts
 - Software Developers, Systems Software
 - Substance Abuse and Behavioral Disorder Counselors
 - Appraisers and Assessors of Real Estate
 - Market Research Analysts and Marketing Specialists
 - Museum Technicians and Conservators
 - Athletic Trainers
 - Financial Managers
 - Medical and Health Services Managers
-

Fastest-Growing Occupations for an Associate's degree

- Occupational Therapy Assistants
 - Physical Therapist Assistants
 - Respiratory Therapists
 - Veterinary Technologists and Technicians
 - Diagnostic Medical Sonographers
 - Web Developers
 - Computer Network Support Specialists
 - Environmental Science and Protection
 - Technicians, Including Health
 - Paralegals and Legal Assistants
 - Dental Hygienists
-

Fastest-Growing Occupations for Post-secondary non-degree award

- Medical Assistants
- Massage Therapists
- Phlebotomist
- Ophthalmic Medical Technicians
- Medical Records and Health Information Technicians
- Healthcare Practitioners and Technical Workers, All Other
- Dental Assistants
- Audio and Video Equipment Technicians
- Aircraft Mechanics and Service Technicians
- Heating, Air Conditioning, and Refrigeration Mechanics and Installers

Fastest-Growing Occupations for High School diploma or equivalent

- Physical Therapist Aides
- Occupational Therapy Aides
- Hearing Aid Specialists
- Ophthalmic Laboratory Technicians
- Veterinary Assistants and Laboratory Animal Caretakers
- Social and Human Service Assistants
- Loan Interviewers and Clerks
- Cargo and Freight Agents
- Self-Enrichment Education Teachers
- Aircraft Cargo Handling Supervisors

SDOH - Social and Community Context

CIVIC PARTICIPATION



- Civic Participation encompasses a wide range of formal and informal activities. Examples may include voting, volunteering, participating in group activities, and community gardening.



- According to the [Kentucky Health Issues Poll](#), Kentucky adults of all ages participated in civic activities. Responses varied by education level. Adults with more education were more likely than adults with less education to participate in each of the activities.



- In the past year, **89%** of college graduates participated in political activity. That compares with **37%** of adults with less than a high school diploma.



- In the past year, **75%** of college graduates participated in community activities. That compares with **31%** of adults with less than a high school diploma.

SOCIAL COHESION



- Social Cohesion refers to the extent of connectedness and solidarity among groups in society. One could say it's the glue that holds a community together. It identifies two main dimensions: the sense of belonging and the relationships among members within the community itself.



- The [Kentucky 2016 Civic Health Index report](#) revealed that the Commonwealth improved in national rankings in social connectedness, community engagement and voter registration since the release of the first report. More Kentuckians are volunteering, making charitable contributions, and registering to vote. However, troubling findings revealed that fewer than half of Kentuckians have confidence in media, a decline of more than 10 percent in three years, and fewer Kentuckians are trusting of their neighbors.
- Out of the 50 states plus D.C., Kentucky ranked **48th**, ahead of only New Mexico (49th), Montana (50th) and Utah (51st), for public confidence in the media.

Healthy People 2020. Civic participation. (2020). Retrieved March 16, 2021, From <https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-health/interventions-resources/civic>

Foundation for a Healthy Kentucky. (2018). Kentucky Health Issues Poll. Retrieved March 15, 2021 From https://www.healthy-ky.org/res/images/resources/KHIP-civic-participation_FINAL.pdf

Healthy People. (2020). Social cohesion. Retrieved March 17, 2021 From. <https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-health/interventions-resources/social-cohesion>

McConnell Center. Kentucky Civic Health Index. (2016). Retrieved March 24, 2021 From https://www.sos.ky.gov/civics/Documents/KYCHI_2016_JW.pdf

SDOH-Social and Community Context



DISCRIMINATION

Discrimination is a socially structured action that is unfair or unjustified and harms individuals and groups. Discrimination can be attributed to social interactions that occur to protect more powerful and privileged groups at the detriment of other groups.

- Discrimination is itself a social determinant of health, as a type of stressor experienced by communities of color, sexual and gender minorities, women, and many others in the United States. It is also a determinant of access to other important social determinants of health. The direct and indirect health impacts of discrimination are harmful not just to the targets but to their families, loved ones, and communities. Thus, the impact of discrimination on health is far-reaching, contributing to the multitude of health inequities many marginalized communities face.
- Discrimination is a fairly common experience; 31% of U.S. adults report at least 1 major discriminatory occurrence in their lifetime, and 63% report experiencing discrimination every day.

The [US News](#) ranks Kentucky the **3rd** best state for Equality

- **2nd** for Income Gap By Race
- **4th** for Education Gap by Race
- **21st** for Employment Gap By Race
- **25th** for Disability Employment Gap
- **26th** for Labor Force Participation Gap By Gender
- **32nd** for Income Gap By Gender

INCARCERATION

Kentucky ranks number **#1** among seven regional states in Total Incarceration; Kentucky has an incarceration rate of 869 per 100,000 people (including prisons, jails, immigration detention, and juvenile justice facilities).



- **41,000** of Kentucky residents are imprisoned in various kinds of facilities, (24,000 State Prisons, 13,000 Local Jails, 3,500 Federal Prison and 510 Youth Facilities)
- Each year, at least **89,000** different people are booked into local jails in Kentucky
- Since 1980, the number of women in Kentucky jails has increased **1,694%**, and the number of women in prison has increased 2,317%

Incarceration is not only an urban phenomenon. In fact, on a per capita basis, the most rural places in the state often lock up the most people in jail and send the most people to prison

Davis, B. (2020, February 25). Discrimination: A social determinant of health inequities: Health affairs blog.

Retrieved March 16, 2021 From <https://www.healthaffairs.org/doi/10.1377/hblog20200220.518458/full/>

These U.S. states have the most equality. (2019). Retrieved April 15, 2021, From <https://www.usnews.com/news/best-states/rankings/opportunity/equality>

Institute of Justice. (2017). Incarceration Trends in Kentucky. Retrieved From

<https://www.vera.org/downloads/pdffdownloads/state-incarceration-trends-kentucky.pdf>

SDOH-Neighborhood & Built Environment

Foods



According to the 2015–2020 [Dietary Guidelines](https://www.dietaryguidelines.gov/) for Americans, **healthy eating patterns** include: a variety of vegetables; fruits, especially whole fruits; grains, at least half of which are whole grains; fat-free or low-fat dairy; protein foods, including seafood, lean meats and poultry, eggs, legumes (beans and peas), unsalted nuts and seeds, and soy products; and oils.¹ Some research has shown that increased access to healthy foods corresponds with healthier dietary practices.



Food insecurity refers to USDA's measure of 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. Food-insecure households are not necessarily food insecure all the time. Food insecurity may reflect a household's need to make trade-offs between important basic needs, such as housing or medical bills, and purchasing nutritionally adequate foods.

- The food insecurity rate for Kentucky is **14.8%** compared to **11.5%** for the U.S.

According to a [2017 KY Health Issues Poll](#), **Access** to healthy foods varied by both health status and household.

- Those earning more than 200 percent of the 2016 federal poverty level (\$48,600 for a family of four) reported that they had easy access to healthy foods, while those with lower incomes were less likely to say they could find these foods easily.
- Of those who said they were in fair or poor health, six in 10 reported that the cost of healthy foods was too high, while just three in 10 of those in excellent health rated the cost too high.

The official USDA definition of a food desert is an area that lacks a grocery store. Healthy food needs to be accessible and affordable, and residents need access to information about what food is healthy or not.



- Areas with higher levels of poverty are more likely to be food deserts
- Rural areas are more likely to be food deserts

<https://www.dietaryguidelines.gov/>

<https://www.healthy-ky.org/newsroom/news-releases/article/77/kentucky-health-issues-poll-healthy-foods-widely-available-but-too-costly-for-some-kentuckians?>

SDOH-Neighborhood & Built Environment

Crimes



Families, neighborhoods and communities are all affected when violent crime occurs. Violent crimes cause physical harm as well as social and emotional distress including injury, disability, premature death, depression, anxiety and post-traumatic stress disorder. Violent crime can lead to less physical activity. When personal safety is threatened, individuals are less likely to choose to walk or bike to their destination, regardless of neighborhood income levels.



Kentucky saw under 10,000 [violent crimes](#) in the last year, less than 1% of the nation's violent crime. Aggravated assault was the most common violent crime in Kentucky over the last year, accounting for 60% of violent crimes.

Kentucky ranks 7th among all states for Number of murders, rapes, robberies and aggravated assaults (violent crimes) per 100,000 population according to [Americas Health Rankings](#).

Quality of Housing

Across Kentucky, there is a shortage of rental homes affordable and available to extremely low income households (ELI), whose incomes are at or below the poverty guideline or 30% of their area median income (AMI). Many of these households are severely cost burdened, spending more than half of their income on housing. Severely cost burdened poor households are more likely than other renters to sacrifice other necessities like healthy food and healthcare to pay the rent, and to experience unstable housing situations like evictions.

- There are 167,110 or 29% renter households that are extremely low income
- \$25,750 - Maximum income for 4-person extremely low income household (state level)
- \$31,183 - Annual household income needed to afford a two-bedroom rental home at HUD's Fair Market Rent
- 62% - Percent of extremely low income renter households with severe cost burden

<https://www.safewise.com/state-of-safety/>

<https://www.americashealthrankings.org/explore/annual/measure/Crime/state/KY>

<https://nlihc.org/housing-needs-by-state/kentucky>

Health Care Workforce - HPSA Designation

Health Professional Shortage Area (HPSA) designations are used to identify areas and population groups within the United States that are experiencing a shortage of health professionals. There are three categories of HPSA designation based on the health discipline that is experiencing a shortage: Primary Medical, Dental and Mental Health.

The primary factor used to determine a HPSA designation is the number of health professionals relative to the population with consideration of high need. Federal regulations stipulate that, in order to be considered as having a shortage of providers, an area must have a population-to-provider ratio of a certain threshold. Health Professional Shortage Areas (HPSAs) can be geographic areas, population groups, or facilities within the United States that are experiencing a shortage of health care professionals.

Geographic HPSAs - have a shortage of services for the entire population within an established geographic area.

Population HPSAs - have a shortage of services for a specific population subset within an established geographic area. Frequently Designated Population HPSAs include:

- Medicaid eligible
- Low income
- Migrant farmworker
- Native American/Alaskan Native
- People experiencing homelessness

Facility HPSAs include these categories:

- Other Facility (OFAC) - Public or non-profit private medical facilities serving a population or geographic area designated as a HPSA with a shortage of health providers.
- Correctional Facility - Medium to maximum-security federal and state correctional institutions and youth detention facilities with a shortage of health providers.
- State Mental Hospitals - State or county hospitals with a shortage of psychiatric professionals (mental health designations only).

Automatic Facility HPSAs (Auto-HPSAs) - Facilities that HRSA automatically designates as HPSAs based on statute or through regulation. These include:

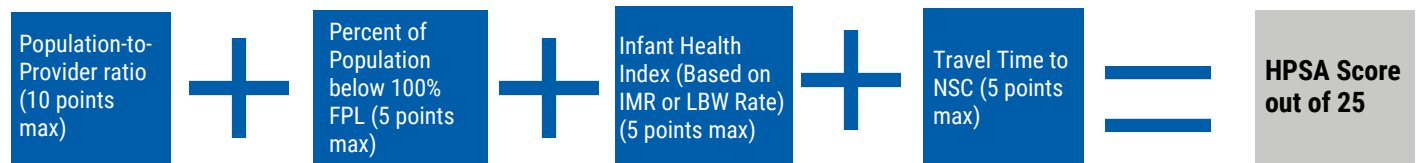
- Federally Qualified Health Centers (FQHCs)
- FQHC Look-A-Likes (LALs)
- Indian Health Facilities

IHS and Tribal Hospitals, Dual-funded Community Health Centers/Tribal Clinics and CMS-Certified Rural Health Clinics (RHCs) that meet National Health Service Corps (NHSC) site requirements

Health Care Workforce - Primary Care HPSA

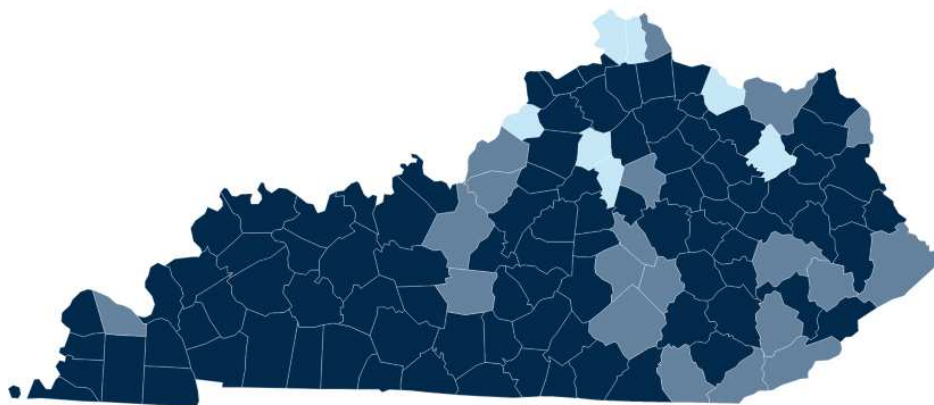
Federal regulations stipulate that, in order to be considered as having a shortage of providers, a designation must have a population-to-provider ratio that meets or exceeds a certain threshold. For primary care geographic designations, the population to provider ratio must be at least 3,500 to 1. For primary care population designations or geographic designations in areas with unusually high needs, the threshold is 3,000 to 1. For correctional facilities, the threshold is 1,000:1 and takes into account the average length of stay, and whether or not intake examinations are routinely performed.

Primary Care HPSAs can receive a score between 0-25. This is a broad overview of the four components used in [Primary Care HPSA scoring](#):



Kentucky has **175** Federal Designated Primary Care Shortage Designations and would need **180** additional primary care physicians to remove all designations ([see below](#))

Health Professional Shortage Areas: Primary Care, by County, 2019 - Kentucky



Source: data.HRSA.gov, July 2020.

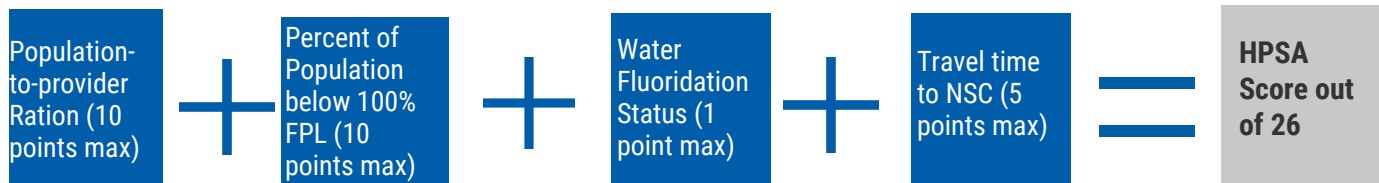
HRSA. (2020). Scoring Shortage Designations. Retrieved March 19, 2021 From <https://bhw.hrsa.gov/workforce-shortage-areas/shortage-designation/scoring>

Rural Information Hub. Map. (2020) Retrieved March 16, 2021 From <https://www.ruralhealthinfo.org/charts/5?>

Health Care Workforce - Dental HPSA

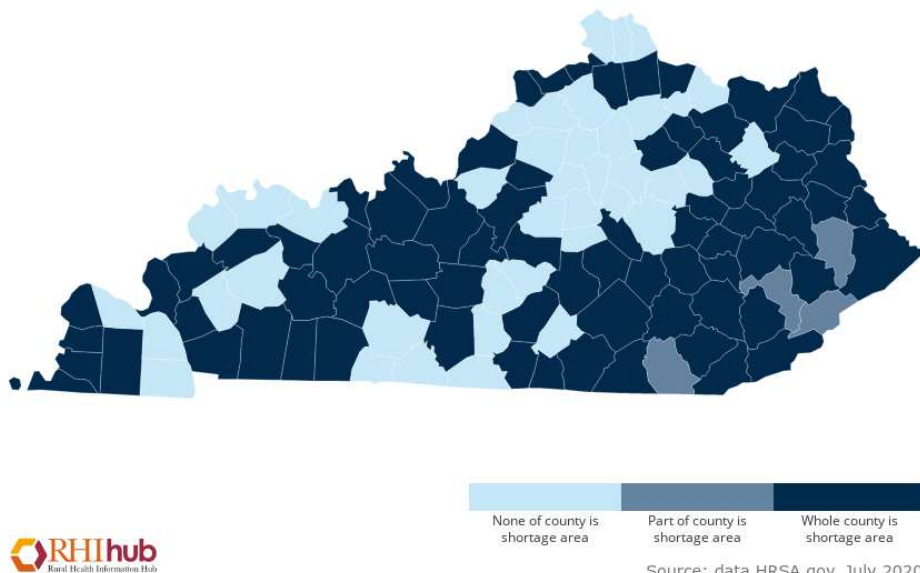
Federal regulations stipulate that, in order to be considered as having a shortage of providers, a designation must have a population-to-provider ratio that meets or exceeds a certain threshold. For dental geographic designations, the ratio must be at least 5,000 to 1. For dental population designations or geographic designations in areas with unusually high needs, the threshold is 4,000 to 1. For correctional facilities, the threshold is 1,500:1 and takes into account the average length of stay, and whether or not intake examinations are routinely performed.

Dental Care HPSAs can receive a score between 0-26. This is broad overview of the four components used in [Dental Care HPSA scoring](#):



Kentucky has **140** Federal Designated Dental Care Shortage Designations and would need **128** additional dentist to remove all designations. ([see below](#))

Health Professional Shortage Areas: Dental Care, by County, 2019 - Kentucky



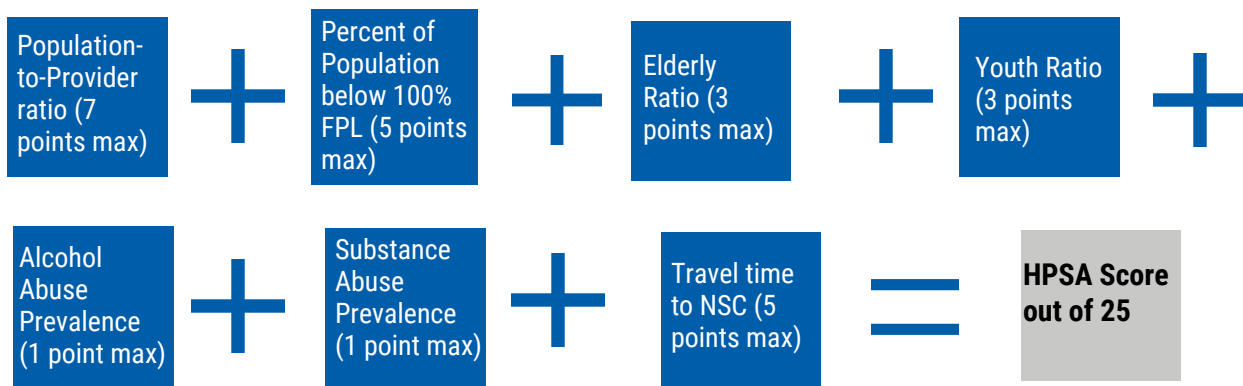
HRSA. (2020). Scoring Shortage Designations. Retrieved April 18, 2021 From <https://bhw.hrsa.gov/workforce-shortage-areas/shortage-designation/scoring>

Rural Health Information Hub. Map. (2020). Retrieved March 19, 2021 From <https://www.ruralhealthinfo.org/charts/9?state=KY>

Health Care Workforce - Mental Health HPSA

Federal regulations stipulate that, in order to be considered as having a shortage of providers, a designation must have a population-to-provider ratio that meets or exceeds a certain threshold. Mental health designations may qualify for designation based on the population to psychiatrist ratio, the population to core mental health provider (psychiatrists, clinical psychologists, clinical social workers, psychiatric nurse specialists, and marriage and family therapists) ratio, or the population to both psychiatrist and core mental health provider ratios.

Mental Health Care HPSAs can receive a score between 0-25. This is broad overview of the four components used in [Mental Health Care scoring](#):



Kentucky has **167** Federal Designated Mental Health Shortage Designations and would need **114** additional practitioners to remove all designations. ([see below](#))

Health Professional Shortage Areas: Mental Health, by County, 2019 - Kentucky



Source: data.hrsa.gov, July 2020.

HRSA. (2020). Scoring Shortage Designations. Retrieved April 19, 2021 From <https://bhw.hrsa.gov/workforce-shortage-areas/shortage-designation/scoring>

Rural Health Information Hub. Map. (2020). Retrieved March 17, 2021 From <https://www.ruralhealthinfo.org/charts/7?state=KY>

Health Care Workforce - Medically Underserved



[Medically Underserved Areas](#) (MUAs) and Medically Underserved Populations (MUPs) identify geographic areas and populations with a lack of access to primary care services.

Medically Underserved Areas have a shortage of primary care health services for residents within a geographic area such as:

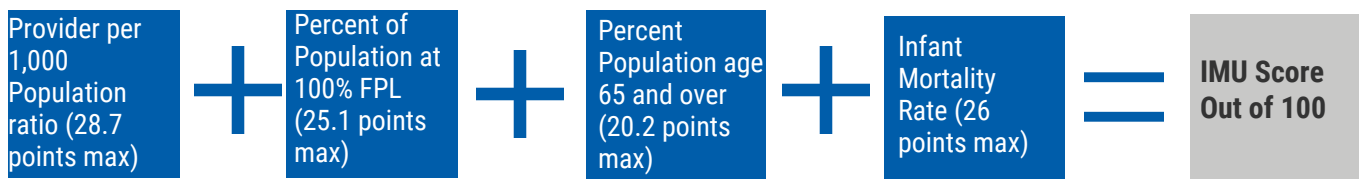
- a whole county
- a group of neighboring counties
- a group of census tracts; or
- a group of county or civil divisions

Medically Underserved Populations

MUPs are specific sub-groups of people living in a defined geographic area with a shortage of primary care health services.

Examples

- Homeless
- Low-income
- Medicaid-eligible
- Native American
- Migrant farmworkers



- Index of Medical Underservice (**IMU**) Score must be less than **62** for a designation

Exceptional MUP Designations - Governors may designate population groups within a geographic area of their state as shortage areas using a state-created and HRSA-certified Shortage Area Plan.

Rural Access to Care - Primary Health Care

Having a primary care provider (PCP) is important for maintaining health and preventing and managing serious diseases. PCPs can develop long-term relationships with patients and coordinate care across health care providers. Ideally, residents should be able to conveniently and confidently access services such as primary care, dental care, behavioral health, emergency care, and public health services.

In Kentucky, there has long been a gap in health care statistics between urban vs. rural counties. Although this gap can be traced to several different causes, one important factor is the lack of access to quality medical care. As of September 2020, [Kentucky had 175 Federal Designated Primary Care Shortage Designations](#) and would need **180** additional primary care physicians to remove all designations.

[Access to health services means](#) "the timely use of personal health services to achieve the best health outcomes." It requires **3** distinct steps:



1. **Gaining entry** into the health care system (usually through insurance coverage)

KY had a [2019 uninsured rate](#) of **8%** for persons under the age of 65, compared to the US rate of 10%

Kentucky Appalachia	7%
Kentucky Rural	7%
Kentucky Delta	7%
Kentucky Urban	6%



2. **Accessing a location** where needed health care services are provided (geographic availability)

[Total](#) 2019 Primary Care Physicians in KY 2825

Kentucky Urban	1820
KY Rural	1004
Kentucky Appalachia	683
Kentucky Delta	260



3. **Trust in a Health Care Provider** and can communicate with (personal relationship)

Patient Satisfaction: Many [consumers feel disrespected](#) by providers, especially the uninsured (32% feel disrespected), those who are in poorer health (22% feel disrespected), and those with lower incomes (18% feel disrespected); those that feel disrespected are twice as likely to not follow their treatment regimen.

KFF. (2020). Primary Care Health Professional Shortage Areas. Retrieved March 19, 2021 From <https://www.kff.org/other/state-indicator/primary-care-health-professional-shortage-areas/hpsas/current?timeframe=0&sortModel=%7B%22colId%22%3A%22Location%22%2C%22sort%22%3A%22asc%22%7D>.
Institute of Medicine (US). (1993). Access to Health Care in America. Retrieved March 30, 2021 From <https://www.ncbi.nlm.nih.gov/books/NBK235882/>

US Census Bureau (2019) QuickFacts. Retrieved March 6, 2021 From www.census.gov/programs-surveys/sis/resources/data-tools/quickfacts.html.

Kentucky Board of Medical Licensure. (2019). Retrieved March 6, 2021 From kbml.ky.gov/Pages/index.aspx.

Healthy People 2030. (2020). Increase the Proportion of People with a Usual Primary Care Provider. Retrieved March 30, 2021 From <https://health.gov/healthypeople/objectives-and-data/browse-objectives/health-care-access-and-quality/increase-proportion-people-usual-primary-care-provider-ahs-07>

Rural Access to Care - FQHCs & LALs

Federally Qualified Health Center Delivery Sites & Look-Alikes in Kentucky

The **FQHC** benefit under Medicare was added effective October 1, 1991, when Section 1861(aa) of the Social Security Act (the Act) was amended by Section 4161 of the Omnibus Budget Reconciliation Act of 1990. FQHCs are safety net providers that primarily provide services typically furnished in an outpatient clinic. FQHCs include community health centers, migrant health centers, health care for the homeless health centers, public housing primary care centers, and health center program "lookalikes." They also include outpatient health programs or facilities operated by a tribe or tribal organization or by an urban Indian organization. FQHCs are paid based on the FQHC Prospective Payment System (PPS) for medically-necessary primary health services and qualified preventive health services furnished by a FQHC practitioner.

Health Center Program **look-alikes (LALs)** operate and provide services consistent with Health Center Program requirements, although they are not direct HRSA grantees. Together, Health Center Program award recipients and look-alikes ensure health care for the Nation's underserved communities and vulnerable populations through service provision to all, regardless of ability to pay.

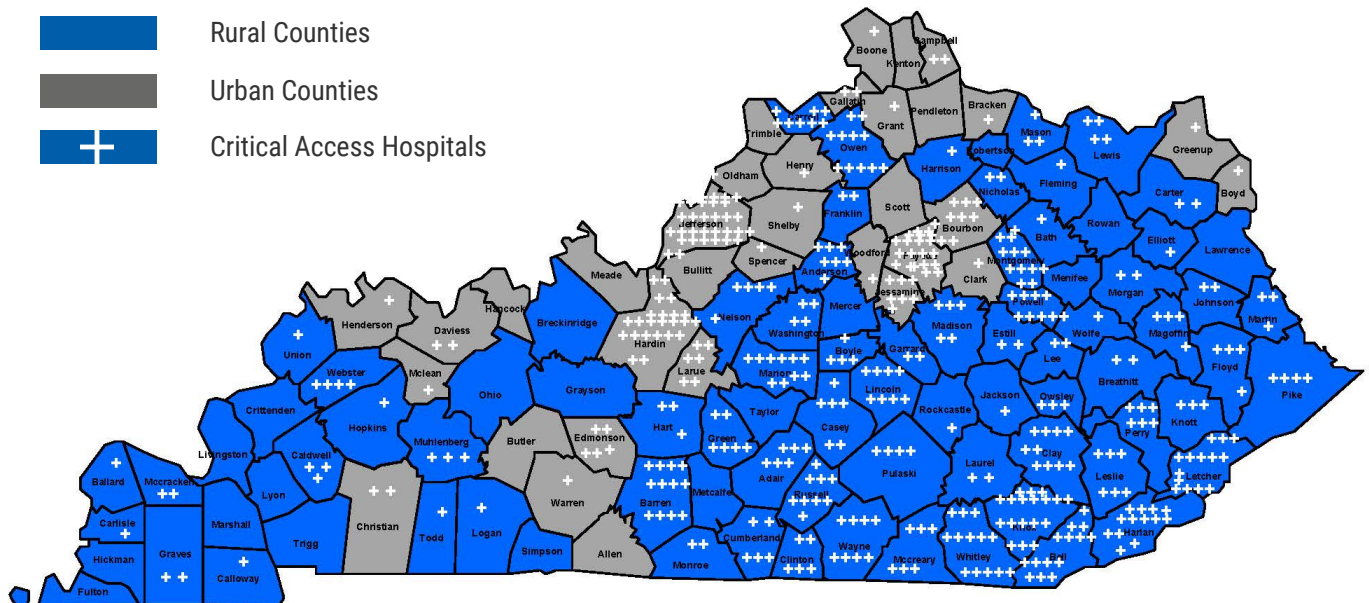
429 Total in Kentucky

323 in Kentucky Rural Counties

246 in Kentucky Appalachia Counties

142 in Kentucky Urban Counties

24 in Kentucky Delta Counties



Critical Access Hospitals in Kentucky.

Critical Access Hospital (CAH) is a designation given to eligible rural hospitals by the Centers for Medicare and Medicaid Services (CMS). Congress created the CAH designation through the Balanced Budget Act of 1997 (Public Law 105-33) in response to a string of rural hospital closures during the 1980s and early 1990s. Since its creation, Congress has amended the CAH designation and related program requirements several times through additional legislation. The CAH designation is designed to reduce the financial vulnerability of rural hospitals and improve access to healthcare by keeping essential services in rural communities. To accomplish this goal, CAHs receive certain benefits, such as cost-based reimbursement for Medicare services.

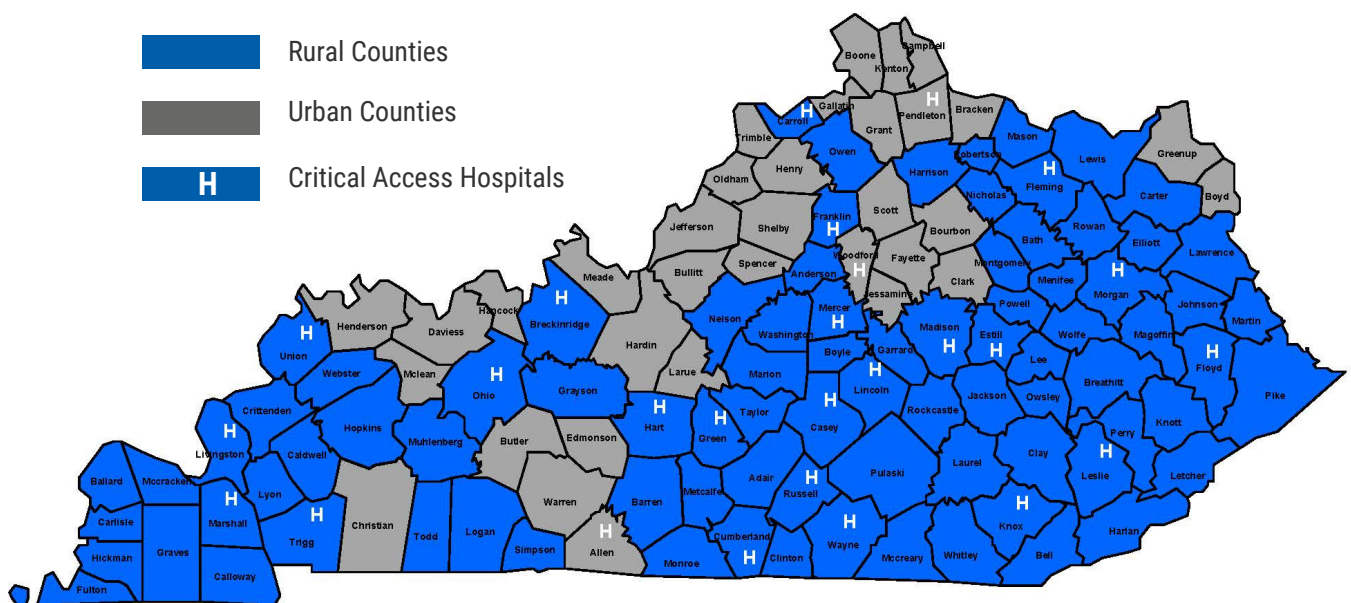
28 Total in Kentucky

16 in Kentucky Appalachia Counties

7 in Kentucky Rural Counties

3 in Kentucky Delta Counties

2 in Kentucky Urban Counties



Rural Access to Care - Oral Health



The [perception that oral health](#) is in some way less important than and separate from general health has been deeply ingrained in the American consciousness. Many Americans are unaware of ways to preserve oral health and may not recognize signs indicating they are in trouble. Poor oral health can contribute to various diseases including endocarditis, cardiovascular disease, diabetes, HIV/AIDS, osteoporosis, and Alzheimer's disease. Social factors can contribute to a patient's interest in or ability to seek oral health services which include: geography, socioeconomic conditions, oral health literacy, oral health preventive behaviors, and cultural preferences.

In Kentucky, Fluoridation is a major effort of the [Kentucky Oral Health Program](#). In 1951, Maysville became the first community in Kentucky to fluoridate its water supply. Today, approximately 96 percent of our citizens are on a fluoridated water supply, making Kentucky a national leader.



Severe decay in baby teeth can have serious consequences for a child's nutrition, speech, and jaw development. The longer tooth decay is left untreated, the more a child will experience pain and discomfort and a higher risk of new decay in other baby and adult teeth.

A 2016 report [Making Smiles Happen: Oral Health Study of Kentucky's Youth](#) reported 4 key findings:

1. The percentage of 3rd and 6th graders in need of early or urgent dental care had increased
2. Two out of five 3rd and 6th graders have untreated cavities
3. More than half of 3rd and 6th graders did not have sealants
4. Socioeconomic status was a significant factor in 3rd and 6th graders oral health



A 2016 Kentucky Kids Teeth Report Card revealed

- 63% were experiencing cavities
- 41% had untreated tooth decay
- 57% lacked dental sealants

[Between 2018-2019 Americas Health Rankings reported:](#)

Only **53%** of Kentucky Children received the mandatory kindergarten Dental Screening in School Year 2018-19

78% of Kentucky Children received preventive Dental Care in the past year (2019)

Only **51%** of Kentucky Children enrolled in Medicaid or KCHIP in 2019 received Dental Services

Thompson, et al. (2021). 2020 Kentucky dental workforce update. Retrieved March 30, 2021 From <https://ruralhealth.med.uky.edu/cerh-journal-articles>

Cabinet for Health and Family Services. (2021). Oral health services. Retrieved March 28, 2020 From <https://chfs.ky.gov/agencies/dph/dpqi/hcab/Pages/oralhealth.aspx>.

Delta Dental. (2016). Making Smiles Happen: Oral Health Study of Kentucky Youth. Retrieved March 30, 2020 From https://www.deltadental.com/content/dam/delta-dental-policy/pdf/Making_Smiles_Happen_2016.pdf

America's Health Rankings. (2019). Retrieved March 30, 2020 From https://www.americashealthrankings.org/explore/annual/measure/Overall_a/state/KY

Rural Access to Care - Oral Health



Kentucky ranks [23rd](#) out of the 50 states for the Number of practicing dentists per 100,000 population at **55.3**. Kentucky has **167** Federal Designated Dental Care Shortage Designations and would need **109** additional dentist to remove all designations.

In 2016 Kentucky ranked [2nd](#) in the nation for seniors who were toothless at 23.9%

- [Poor and near-poor older adults were less likely to have had a dental visit in the past year](#) (42.7% and 42.8%, respectively) compared with adults who were not poor (74.4%).
- [Toothbrush.org](#) gave Kentucky a 2019 ranking of 37th among the states for Oral Health Care
- In 2017, among adults aged 65 and over, only [29.2%](#) reported having dental insurance

Between 2016-18 [23%](#) of Kentucky adults were missing 6 or more teeth

Kentucky Appalachia	31%
Kentucky Rural	28%
Kentucky Delta	22%
Kentucky Urban	21%

In the spring of 2020 a [Kentucky Oral Health Coalition](#) survey revealed the following:

Impacts of Poor Oral Health

- Pain
- Low self-esteem
- Missing school
- Inability to concentrate

Barriers to Oral Health Care

- Cost, including cost of basic dental hygiene products
- Transportation
- Lack of parental knowledge
- Low priority for caregivers and the community

America's Health Rankings. (2019). Rankings. Retrieved March 14, 2021 From https://www.americashealthrankings.org/explore/annual/measure/Overall_a/state/KY

Foundation for a Healthy Kentucky. (2016-2018). Tooth loss. Retrieved March 14, 2021 From <http://kentuckyhealthfacts.org/data/topic/map.aspx?ind=7>

NHIS. (2020). Survey and data. Retrieved March 15, 2021 From https://www.cdc.gov/nchs/nhis/nhis_products.htm

Toothbrush Org. (2019). Which States have the Best oral health. Retrieved March 19, 2021 From <https://www.toothbrush.org/us-oral-health/>

Kentucky Oral Health Coalition. (2016). Making smiles happen. Retrieved March 19, 2021 From <https://kyoralhealthcoalition.org/data/#publications>

Rural Access to Care - EMS



WHAT IS EMS?

Emergency Medical Services, more commonly known as EMS, is a system that provides emergency medical care. Once it is activated by an incident that causes serious illness or injury, the focus of EMS is emergency medical care of the patient(s). EMS is most easily recognized when emergency vehicles or helicopters are seen responding to emergency incidents. But EMS is much more than a ride to the hospital. It is a system of coordinated response and emergency medical care, involving multiple people and agencies. A comprehensive EMS system is ready every day for every kind of emergency.

EMS Personnel

Emergency Medical Responder (EMR)

A certified Emergency Medical Responder (EMR) has a higher level of skill than those trained in basic First Aid. Emergency Medical Responder's can support Emergency Medical Technicians and Paramedics by providing basic medical care for soft tissue and bone injuries, assist in childbirth, and transport patients.

Emergency Medical Technician (EMT)

People's lives often depend on the quick reaction and competent care of Emergency Medical Technicians (EMTs). In an emergency, EMTs are dispatched to the scene by a 911 operator, where they often work with police and fire fighters. Once on the scene, EMTs assess the patient's condition, while trying to determine the nature and severity of any pre-existing medical conditions. Using pre-determined protocols, they provide emergency care, and transport the patient to the appropriate medical facility.

Advanced Emergency Medical Technician (AEMT)

The major focus of the Advanced Emergency Medical Technician (AEMT) is to provide basic and limited advanced emergency medical care to those patients who are in need of more care than can be offered by the EMT Basic. AEMTs function as part of a holistic EMS response and operate under medical oversight.

Paramedic

Paramedics provide the most extensive pre-hospital care. Paramedics may administer drugs orally or intravenously, interpret electro cardiograms (EKGs), perform endotracheal intubations, and use monitors and other complex equipment. Even though the Paramedic is generally part of a two-person team working with an EMT, it is the Paramedic who is held responsible for safe and therapeutic administration of drugs and other advanced interventions. Therefore, the Paramedic must not only be knowledgeable about medications but must be able to apply this knowledge in a practical sense.

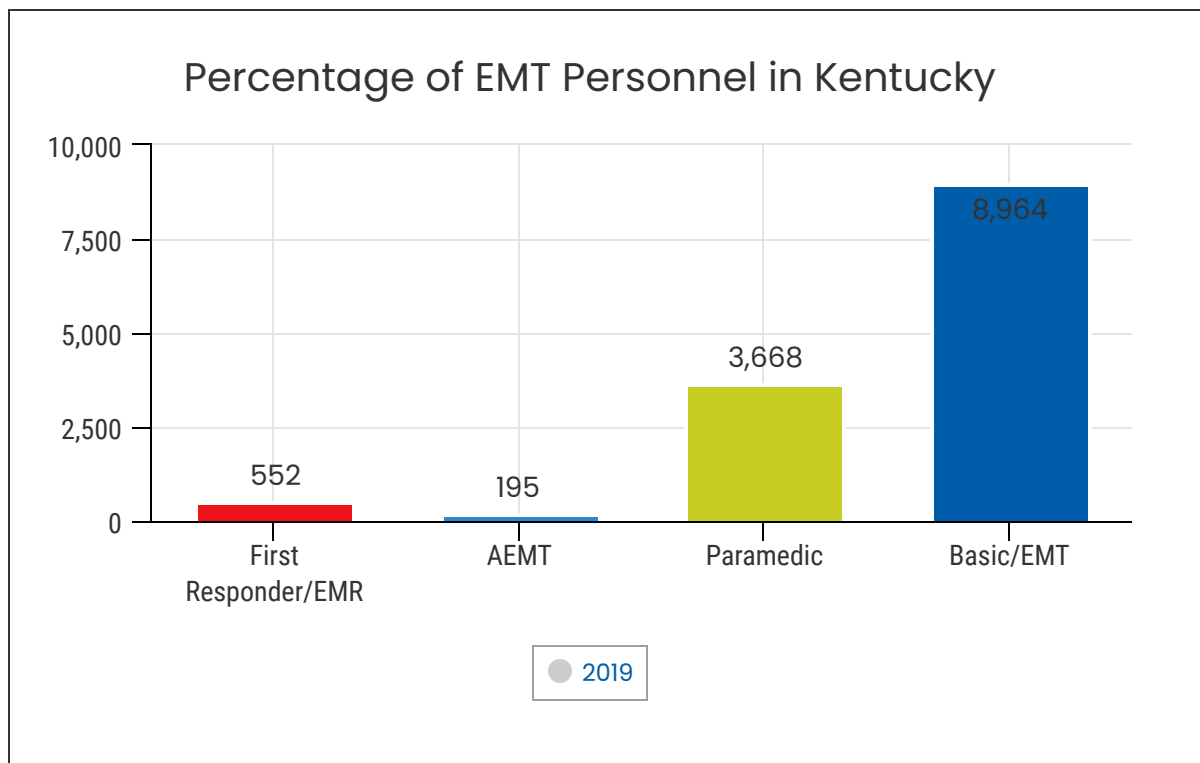


National Highway Traffic Safety Administration. (n.d.) What is ems? Retrieved March 16, 2021 From <https://www.ems.gov/whatisems.html>

Kentucky Board of Emergency Medical Services. (2019). Certification & Licensure. Retrieved March 30, 2021 From https://kbems.kctcs.edu/Certification_and_Licensure/

Rural Access to Care - EMS

Number of National Registered EMT Personnel in Kentucky



In 2019 there were 1,142 licensed ambulances in Kentucky



In 2019 there were 894,155 incidents reported to the KY State Ambulance Reporting System (KSTARS)

Rural Access to Care - Health Department



The [Kentucky Department for Public Health](#) (DPH) is responsible for developing and operating state public health programs and activities for the citizens of Kentucky. Local Health Departments (LHD) are within the DPH and have a Shared Governance structure: Some local health units are led by employees of the state and some are led by employees of local government. There are 61 regional health departments serving KY's 120 counties. All health departments get a portion of local property taxes, but recent legislation (HB 129) allows for the reallocation of other state funds based on the needs and populations of individual counties i.e. cancer screenings, child well visits, adult well visits and family planning.

New legislation passed in 2019 provides a base minimum of 3 Full Time Employee (FTE) per county with an additional FTE for each 5,000 over 15,000 of population. Additional public health programs based on need are funded from designated sources and are in addition to statutory requirements i.e. Cancer Screening, HANDS, Well Child Exams.

[Minimum Statutory Requirements for Local Health Departments](#)

Five focus areas, which includes statutorily and regulatory defined services:

1. Population Health

- Partnership Development
- Health Equity
- Health in All Policy
- Education
- Community Health Assessment Community Health Improvement Plan

2. Enforcement of Regulation

- Food & Water Safety
- Waste Management
- Nuisance Investigation

3. Emergency Preparedness & Response

- Mitigation of Disease Threat
- Mass Vaccination
- Disaster Response

4. Communicable disease control

- Sexually Transmitted Disease Control
- Tuberculosis Control

5. Administrative and organizational infrastructure Community Health Assessment

- Finance
- Governance
- IT
- Communications
- Human Resources Performance Management
- Quality Improvement

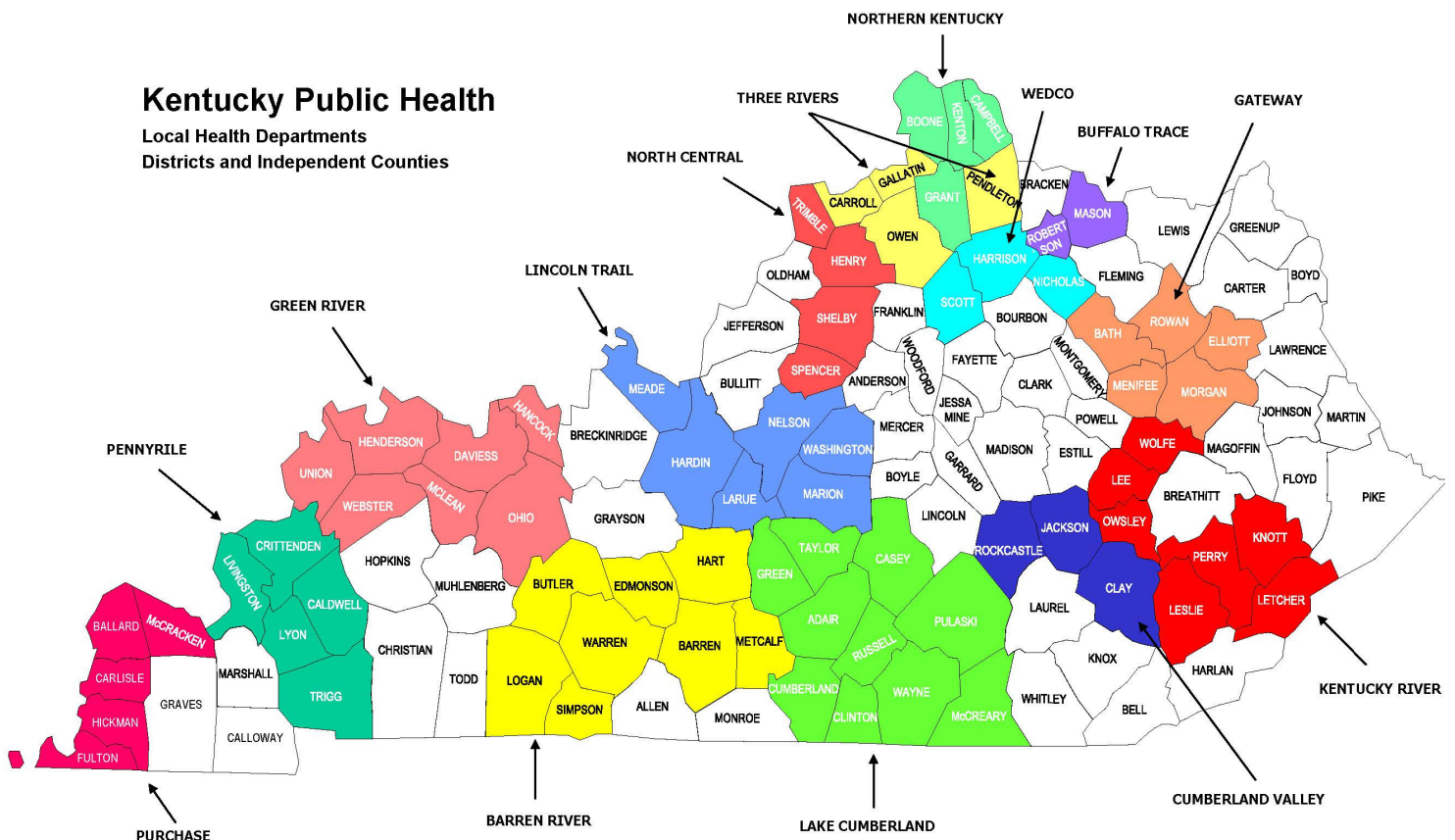
Kentucky Cabinet for Health and Family Services. (n.d.). Local health departments. Retrieved March 16, 2021 From <https://chfs.ky.gov/agencies/dph/dafm/Pages/lhd.aspx>

Kentucky Public Health. (n.d.) Kentucky Public Health Transformation. Retrieved March 30, 2021 From <https://chfs.ky.gov/agencies/dph/oc/phn/PHTBrief-ScottLockard.pdf>

Rural Access to Care - Health Department

Results from a [2012 study](#) on the impact of local health departments stated, "An increase in LHD expenditures, aggregated to the state level, was associated with a statistically significant decline in state-level infectious disease morbidity (t5 23.28, p50.002) and in years of potential life lost (YPLL) (t522.73, p50.008). For every \$10 increase in aggregated LHD expenditures percapita, infectious disease morbidity decreased by 7.4%, and YPLL decreased by 1.5%".

Conclusion - LHD resources are associated with improvements in preventable causes of morbidity and mortality.



Erwin, P. C., et al. (2012). Resources that may matter: The impact of local health department expenditures on health status. *Public Health Reports*, 127(1), 89-95. Retrieved March 6, 2021 From [doi:10.1177/003335491212700110](https://doi.org/10.1177/003335491212700110)

Kentucky Department of Public Health. (n.d.) Local Health Department Map. Retrieved March 20, 2021 From <https://chfs.ky.gov/agencies/dph/Pages/default.aspx>

Rural Access to Care - Mental Health



Public mental health services in Kentucky are administered and provided by the [Kentucky Cabinet of Health and Family Services–Division of Behavioral Health](#). Substance use and addiction treatment services are overseen by the Office of Drug Control Policy.

[The Kentucky Division of Behavioral Health](#) (DBH) is responsible for the administration of state and federally funded mental health and substance abuse treatment services throughout the commonwealth.

The treatment services are achieved with the assistance of the five branches described below:

1. Adult Mental Health and Recovery Services Branch
2. Adult Substance Abuse Treatment and Recovery Services Branch
3. Behavioral Health Prevention and Promotion Branch
4. Children's Behavioral Health and Recovery Services Branch
5. Program Areas

[Mental Health America](#)



- Gave KY an overall ranking of **21st** out of the 50 states plus District of Columbia for providing access to mental health services. The overall ranking includes both adult and youth measures as well as prevalence and access to care measures.
- KY received a ranking of **17th** for Prevalence of Mental Illness

Between 2013-14, about 168,000 KY adults aged 18 or older or **5.1%** reported having a Serious Mental Illness within the year prior to being surveyed.

In Kentucky, an annual average of **11.1%** of all adolescents in 2014–2015 had experienced an Major Depressive Episode in the past year.

Kentucky ranks **29th** in Mental Health Providers



Only 46.9% of adults with mental illness in Kentucky receive any form of treatment from either the public system or private providers (according to SAMHSA). The remaining 43.1% receive no mental health treatment. According to Mental Health America,

According to County Health Rankings 2020, 17% percent of KY adults reported 14 or more days of poor mental health per month (age-adjusted), 17% of KY Appalachia, 16% of KY Rural, 15% of KY Delta and 14% of KY Urban.

Kentucky Cabinet for Health and Family Services. (n.d.). Division of Behavioral Health. Retrieved March 16, 2021 From <https://dbhdid.ky.gov/dbh/>

America's Health Rankings. (2020). State Rankings. Retrieved March 20, 2021 From <https://www.americashealthrankings.org/>

Mental Health America. (2020). Adult Ranking. Retrieved March 13, 2021 From <https://mhanational.org/issues/ranking-states>

Substance Abuse and Mental Health Services Administration. (2015). Behavioral Health Barometer: Kentucky. Retrieved March 16, 2021 From https://www.samhsa.gov/data/sites/default/files/Kentucky_BHBarometer_Volume_4.pdf

Rural Access to Care - Long Term Care



Long-term care involves a variety of services designed to meet a person's health or personal care needs during a short or long period of time. These services help people live as independently and safely as possible when they can no longer perform everyday activities on their own.

Because Kentucky is a Certificate of Need (CON) state, an application must be submitted and approved by the KY Cabinet for Health and Family Services before a new Long Term Care Facility can be constructed. The Kentucky CON process prevents the proliferation of health care facilities, health services and major medical equipment that increase the cost of quality health care in the commonwealth. These facilities are licensed and overseen for state and federal regulatory compliance by the KY Office of the Inspector General.

Half of America's 65-year-olds will need some paid Long-Term Care (LTC) services in their lifetime. Many believe that Medicare covers LTC, but in fact, Medicare generally doesn't LTC stays in a nursing home. Medicaid is the largest public payer of LTC but only for people who are poor or who become poor paying for long-term care or medical care.

There are **293** Long Term Care Facilities in Kentucky

Kentucky Urban	157
Kentucky Rural	148
Kentucky Appalachia	88
Kentucky Delta	48

Note: Counties may overlap several categories, some numbers will be duplicated.

One year of long term care in KY could cost between **\$50,000 - \$75,000** dollars

The average stay in a Nursing Home is **835** days - just over 2 years

AARP gave KY an overall ranking of **47th** out of the 50 states plus District of Columbia for Long Term Care Services and Supports.

Of the 50 states plus District of Columbia, KY was ranked the lowest- **51st** for Quality of Life and Quality of Care on the AARP Scorecard

National Institute on Aging. (n.d.). What is long-term care? Retrieved March 13, 2021 From

Kentucky Cabinet for Health and Family Services. (n.d.) Certificate of need. Retrieved March 14, 2021 From <https://chfs.ky.gov/agencies/os/oig/dcn/Pages/cn.aspx>

U.S. Medicare. (n.d.) Long-term care. Retrieved March 28, 2021 From <https://www.medicare.gov/coverage/long-term-care>

Kentucky Cabinet for Health and Family Services. (n.d.). Health care facilities and regulations. Retrieved March 13, 2021 From <https://chfs.ky.gov/agencies/os/oig/dhc/Pages/hcf.aspx>

Genworth. (2015). Cost of Care Survey. Retrieved March 15, 2021 From

https://www.genworth.com/dam/Americas/US/PDFs/Consumer/corporate/130568_040115_gnw.pdf

Sackett, V. (2017). Where states rank in supporting long term care. Retrieved March 18, 2021 From

<https://www.aarp.org/caregiving/health/info-2017/states-long-term-care-scorecard-fd.html>

Rural Access to Care - Trauma Care



Trauma center levels across the United States are identified in two fashions – A designation process and a verification process. The different levels (ie. **Level I, II, III, IV or V**) refer to the kinds of resources available in a trauma center and the number of patients admitted yearly. These are categories that define national standards for trauma care in hospitals. Categorization is unique to both Adult and Pediatric facilities.

Level I - Level I Trauma Center is a comprehensive regional resource that is a tertiary care facility central to the trauma system. A Level I Trauma Center is capable of providing total care for every aspect of injury – from prevention through rehabilitation.

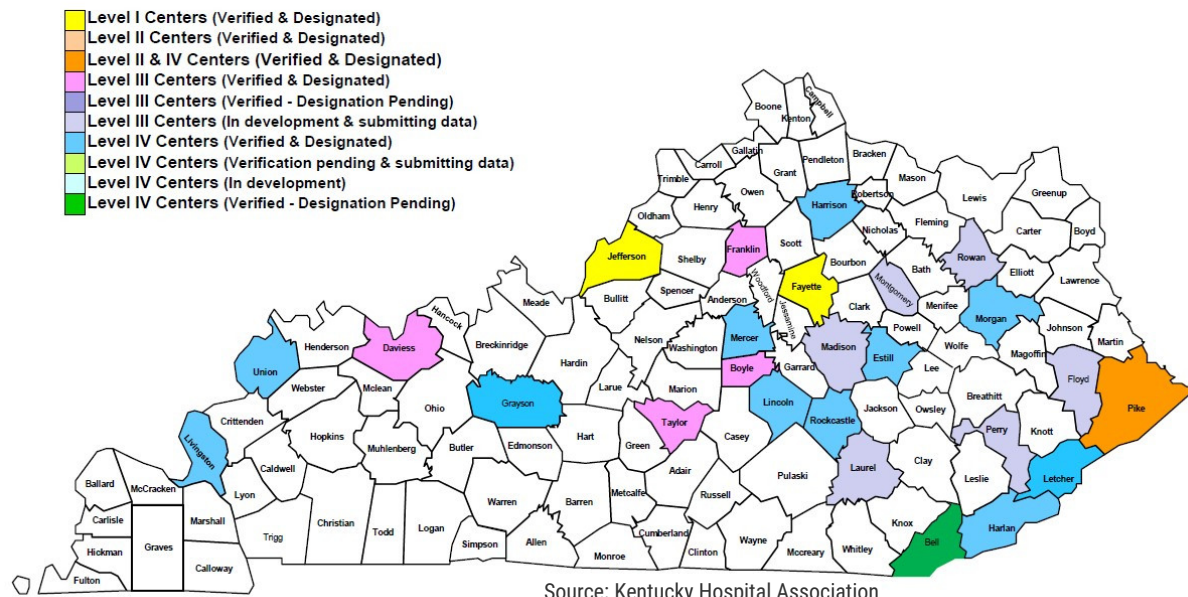
Level II - A Level II Trauma Center is able to initiate definitive care for all injured patients.

Level III - A Level III Trauma Center has demonstrated an ability to provide prompt assessment, resuscitation, surgery, intensive care and stabilization of injured patients and emergency operations.

Level IV - A Level IV Trauma Center has demonstrated an ability to provide advanced trauma life support (ATLS) prior to transfer of patients to a higher level trauma center. It provides evaluation, stabilization, and diagnostic capabilities for injured patients.

Level V - A Level V Trauma Center provides initial evaluation, stabilization and diagnostic capabilities and prepares patients for transfer to higher levels of care.

Hospitals in the Kentucky Trauma System (May 28, 2019)



<p>Verified Trauma Centers</p> <p>Level I - Pediatric – Norton Children's Hospital, Louisville</p> <p>Level I - UK Chandler Hospital Lexington</p> <p>Level I - Pediatric – Kentucky Children's Hospital, Lexington</p> <p>Level I - University of Louisville Hospital, Louisville</p> <p>Level II - Pikeville Medical Center</p> <p>Level III - Ephraim McDowell Regional Medical Center, Danville</p> <p>Level III - Frankfort Regional Medical Center</p>	<p>Level III - Owensboro Health Regional Hospital</p> <p>Level III - Taylor Regional Medical Center, Campbellsville</p> <p>Level IV - Ephraim McDowell Fort Logan Hospital, Stanford</p> <p>Level IV - Ephraim McDowell Haggins, Harrodsburg</p> <p>Level IV - Harlan ARH Hospital, Harlan</p> <p>Level IV - Harrison Memorial, Cynthiaiana</p> <p>Level IV - Livingston Hospital, Salem</p>	<p>Level IV - Marcum & Wallace Hospital, Irvine</p> <p>Level IV - Methodist Hospital Union, Morganfield</p> <p>Level IV - Middlesboro ARH (Final designation pending)</p> <p>Level IV - Morgan Co. ARH, West Liberty</p> <p>Level IV - Rockcastle Reg. Hospital, Mt. Vernon</p> <p>Level IV - Twin Lakes Reg. Med. Center</p> <p>Level IV - Tug Valley ARH Regional Med. Center</p> <p>Level IV - Whitesburg ARH Hospital</p>
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Hepatitis



Hepatitis means inflammation of the liver. When the liver is inflamed or damaged, its function can be affected. Heavy alcohol use, toxins, some medications, and certain medical conditions can all cause hepatitis. However, hepatitis is often caused by a virus. In the United States, the most common hepatitis viruses are hepatitis A virus, hepatitis B virus, and hepatitis C virus.

A

B

C

Hepatitis A, hepatitis B, and hepatitis C are liver infections caused by three different viruses. Although each can cause similar symptoms, they are spread in different ways and can affect the liver differently. Hepatitis A is usually a short-term infection. Hepatitis B and hepatitis C can also begin as short-term infections, but in some people, the virus remains in the body and causes chronic (long-term) infection. There are vaccines to prevent hepatitis A and hepatitis B; however, **there is no vaccine for hepatitis C.**

When someone is first infected with the hepatitis C virus, they can have a very mild illness with few or no symptoms or a serious condition requiring hospitalization. Most people who get infected will develop a chronic, or lifelong, infection. Left untreated, chronic hepatitis C can cause serious health problems including liver disease, liver failure, liver cancer, and even death.

The hepatitis C virus is usually spread when someone comes into contact with blood from an infected person. This can happen through:

- Sharing drug-injection equipment
- Birth
- Healthcare Exposures
- Sex with a infected person
- Unregulated body piercing or tattoos
- Sharing personal items
- Blood transfusions or organ transplants

Treatment is recommended for all people, including non-pregnant women, with acute or chronic hepatitis C (including children aged ≥ 3 years and adolescents). Current treatments usually involve just 8–12 weeks of oral therapy (pills) and cure over **90%** with few side effects. The FDA has a list of currently approved FDA treatments for hepatitis C. Antiviral drugs for hepatitis C are very effective, but they come at a steep cost. Just one Sovaldi pill costs \$1,000. A full 12-week course of treatment with this drug costs \$84,000. The price of other hepatitis C drugs are also expensive: Harvoni, Mavyret, Zepatier and Technivie can cost between \$39,000 and \$94,000 for a 12-week treatment.

Hepatitis C

The [Hepatitis C Virus](#) is the leading cause of liver disease, liver cancer, and liver transplants

- Acute Hepatitis C infections increased 364% in four states affected by the opioid epidemic (Kentucky, Tennessee, Virginia, and West Virginia)

The [Hepatitis C Virus](#) is spread when someone comes into contact with blood from an infected person

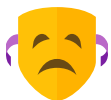
- An estimated 2.5 million people in the U.S. are living with Hepatitis C
- An estimated 42,500 people in Kentucky are living with Hepatitis C
- One study reported that each person who injects drugs infected with HCV is likely to infect about 20 others, and that this rapid transmission of the disease occurs within the first 3 years of initial infection

In [2018](#), Kentucky was the first state to pass a law to require all pregnant women to be tested for hepatitis C

Kentucky received a "B" on the report card [Hepatitis C: State of Medicaid Access](#)

The [CDC](#) recommends one-time screening of all adults 18 years and older, special populations and all pregnant women

- Were born from 1945-1965
- Have ever injected drugs, even if just once
- Are children born to hepatitis C infected mothers
- Are infected with HIV



Stigma and discrimination can lead to many negative consequences for people living with viral hepatitis including:

- Depression
- Worsening mental health status
- Fear of discovery
- Failure to follow medical recommendations
- Discrimination

CDC. (2020). Division of viral hepatitis. Retrieved from <https://www.cdc.gov/hepatitis/index.htm>

HepVu. (2018). Local data: Kentucky. Retrieved from <https://hepvu.org/local-data/kentucky/>

Magiorkinis, et al. (n.d.). Integrating Phylodynamics and epidemiology to Estimate Transmission diversity in VIRAL EPIDEMICS. Retrieved from <https://journals.plos.org/ploscompbiol/article?id=10.1371/journal.pcbi.1002876>

Office of Infectious Disease and HIV/AIDS Policy. (2016). Data and trends. Retrieved from

<https://www.hhs.gov/hepatitis/learn-about-viral-hepatitis/data-and-trends/index.html#:~:text=2.4%20million%20people%20are%20estimated,as%20low%20as%202.5%20million.>

Ungar, L. (2018). Mandatory hepatitis C tests for all pregnant women approved by Kentucky lawmakers. Retrieved

from <https://www.courier-journal.com/story/news/2018/03/29/kentucky-general-assembly-mandates-hepatitis-c-tests-pregnant-women/469933002/>

Publications. Hepatitis C: State of Medicaid Access. (2017). Retrieved April 20, 2021 From https://stateofhepc.org/wp-content/themes/infinite-child/reports/HCV_Report_Kentucky.pdf

Substance Use Disorder



Substance use disorders (SUD) occur when the recurrent use of alcohol and/or drugs causes clinically significant impairment, including health problems, disability, and failure to meet major responsibilities at work, school, or home.

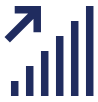


Drug addiction, also called substance use disorder, is a disease that affects a person's brain and behavior and leads to an inability to control the use of a legal or illegal drug or medication. Substances such as alcohol, marijuana, and nicotine also are considered drugs. When you're addicted, you may continue using the drug despite the harm it causes.

In the **U.S.**, there were over **81,000** drug overdose deaths reported in the 12 months ending 04-2020

In **Kentucky**, there were **1,874** drug overdose deaths in the 12 months ending 08-2020. (*provisional data)

Kentucky ranks **41st** in the nation for Drug Overdose Deaths 2020



Substance abuse, particularly the diversion and abuse of prescription drugs along with heroin, methamphetamine and illicit fentanyl, remains one of the most critical public health and safety issue facing KY. A growing percentage of Kentucky adults said they know a friend or family member who has experienced problems as a result of using drugs, a [KY Health Issues Poll](#) report found.



In 2011, there were 378 million dosage units of opioids being prescribed in Kentucky, a State of 4.5 million people. After the passage of [KY House Bill 1](#) in 2012, which outlined mandatory prescribing and dispensing standards for controlled substances, opioids dropped to 304 million dosage units in 2017, representing a 74 million dosage unit decline.

Mental health and substance use disorders. (n.d.). Retrieved April 14, 2021, From <https://www.samhsa.gov/find-help/disorders>

Mayo Clinic. (n.d.). Drug addiction (substance use disorder). Retrieved March 16, 2021 From <https://www.mayoclinic.org/diseases-conditions/drug-addiction/symptoms-causes/syc-20365112>

Products - vital statistics rapid release - provisional drug overdose data. (2021, March 17). Retrieved April 14, 2021, From <https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm>

CDC. (2020). Overdose deaths accelerating during covid-19. Retrieved April 12, 2021 From <https://www.cdc.gov/media/releases/2020/p1218-overdose-deaths-covid-19.html>

Americas Health Rankings. (2020). Rankings. Retrieved April 12, 2021 From https://www.americashealthrankings.org/explore/annual/measure/Overall_a/state/KY

KENTUCKY health ISSUES POLL: 54 percent of KENTUCKY adults with drug use problem enter treatment. (n.d.). Retrieved April 14, 2021, From [https://www.healthy-ky.org/newsroom/news-releases/article/288/kentucky-health-issues-poll-54-Kentucky's Oversight of Opioid Prescribing](https://www.healthy-ky.org/newsroom/news-releases/article/288/kentucky-health-issues-poll-54-Kentucky's%20Oversight%20of%20Opioid%20Prescribing)

and Monitoring of Opioid Use (2020),PDF. Retrieved April 12, 2021 From https://oig.hhs.gov/oas/reports/region4/41902022_factsheet.pdf

Substance Use Disorder - Kentucky



Drugs of choice in Kentucky

Substance misuse, particularly the diversion and abuse of prescription drugs along with heroin, methamphetamine and illicit fentanyl, remains one of the most critical public health and safety issue facing Kentucky. The Office of Drug Control Policy believes the increase is due to a rise in illicit fentanyl and its analogs within the drug supply. The problem is also exacerbated by the widespread availability of potent inexpensive methamphetamine.

- Methamphetamine-related overdose deaths have increased 25.0% from the first quarter of 2017 to the second quarter of 2019. All methamphetamine-related overdose deaths involved polysubstance use. Methamphetamine continues to be the most commonly submitted drug to Kentucky State Police Laboratories accounting for 43.4% of tested lab submissions from the beginning of 2017 through June 2019.
- Domestic production of methamphetamine has continued to decline. Down from an all-time high in 2011 of 1235 labs, there were less than 10 in 2019. Unfortunately, meth produced in Mexico and South America has increased. In 2019, there were several large seizures of foreign produced meth in Kentucky.

Most resident, overdose deaths by county (2019): (age adjusted, per capita)

1. Estill 80.99
2. Grant 77.41
3. Boyd 64.56
4. Greenup 61.96
5. Anderson 50.96

Most resident, fentanyl-related deaths by county (2019):

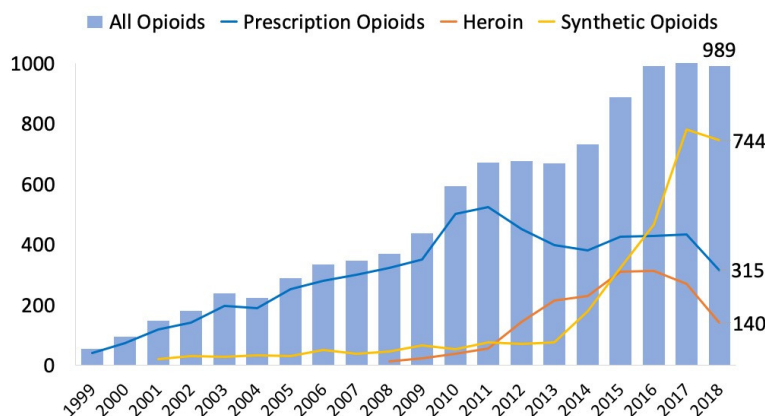
1. Jefferson 204
2. Fayette 20
3. Madison 15
4. Kenton 14
5. Boone 12

Most resident, heroin-related overdose deaths by county (2019):

1. Jefferson 61
2. Fayette 17
3. Bullitt 8
4. Pulaski 5
5. Warren 5

Most resident, methamphetamine-related overdose deaths by county (2019):

1. Jefferson 97
2. Fayette 20
3. Madison 15
4. Kenton 14
5. Boone 12



Number of drug overdose deaths involving opioids in Kentucky, by opioid category. Drug categories presented are not mutually exclusive, and deaths may have involved more than one substance. Source: CDC WONDER.

Kentucky's drug epidemic. (n.d.). Retrieved April 19, 2021, From <https://odcp.ky.gov/Resources/Pages/The-Heroin-Fentanyl-Epidemic.aspx>

Kentucky Office of Drug Control Policy. (2019). 2019 Overdose Fatality Report. Retrieved April 12, 2021 From <https://odcp.ky.gov/Pages/Reports.aspx>

Kentucky Office of Drug Control Policy. (2019) Kentucky's drug epidemic. Retrieved April 12, 2021 From <https://odcp.ky.gov/Resources/Pages/The-Heroin-Fentanyl-Epidemic.aspx>

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Substance Use Disorder - Risks

Many factors can add to a person's risk for drug abuse. Risk factors can increase a person's chances for drug abuse, while protective factors can reduce the risk. Please note, however, that most individuals at risk for drug abuse do not start using drugs or become addicted. Also, a risk factor for one person may not be for another.



Risk factors can influence drug abuse in several ways. The more risks a child is exposed to, the more likely the child will abuse drugs. Some risk factors may be more powerful than others at certain stages in development, such as peer pressure during the teenage years; just as some protective factors, such as a strong parent-child bond, can have a greater impact on reducing risks during the early years. An important goal of prevention is to change the balance between risk and protective factors so that protective factors outweigh risk factors.

The horrible impact of drug abuse on families has been well documented in media accounts in recent years, and the devastating effects of addiction are well known to an addict's family members and friends.



These effects may include:

- Increased Stress
- Inability to control finances
- Employment problems
- Relationship problems
- Co-dependency
- Interaction with the criminal justice system



Not only does drug abuse take a physical and emotional toll on Kentuckians, but the financial toll is also tremendous. The total charges associated with the ED visits for Kentucky resident drug overdoses in 2016 were \$37.2 million dollars, a 19% increase from the \$31.2 million dollar total in 2015. The \$37.2 million total included \$19.8 million billed to Medicaid, \$7.2 million billed to Medicare, \$6.47 million billed to commercial insurance, and \$2.99 million were self-pay or charity.

Despite advances, we still do not fully understand why some people develop an addiction to drugs or how drugs change the brain to foster compulsive drug use. The National Institute on Drug Abuse (NIDA), believe that increased understanding of the basics of addiction will empower people to make informed choices in their own lives, adopt science-based policies and programs that reduce drug use and addiction in their communities, and support scientific research that improves the Nation's well-being.

National Institute on Drug Abuse. (2020, May 25). What are risk factors and protective factors? Retrieved April 14, 2021, From <https://www.drugabuse.gov/publications/preventing-drug-use-among-children-adolescents/chapter-1-risk-factors-protective-factors/what-are-risk-factors#:~:text=Risk%20factors%20can%20increase%20a,may%20not%20be%20for%20another>.
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Diabetes

Diabetes is a group of diseases characterized by high blood sugar. When a person has diabetes, the body either does not make enough insulin (**type 1**) or is unable to properly use insulin (**type 2**). When the body does not have enough insulin or cannot use it properly, blood sugar (glucose) builds up in the blood. **Prediabetes** is a condition in which blood sugar is higher than normal but not high enough to be classified as diabetes.

CDC

[The U.S. Centers for Disease Control](#) (CDC) estimates that the number of people in the U.S. who suffer from diabetes has grown by 300 percent in the past 20 years and now stands at over 30 million. Twenty-five percent of these individuals do not yet realize they have the disease. An additional 84 million adults in the U.S. have prediabetes. The cost associated with diabetes creates a significant burden on the national and state economy. Data from the CDC shows that diabetes is more common in Kentucky than the nation. [American Health Rankings 2020](#) reported that approximately 13.3 percent of Kentucky adults have been diagnosed with diabetes compared to 10.8% of the U.S.



Type 1 diabetes (previously called insulin-dependent or juvenile diabetes) is usually diagnosed in children, teens, and young adults, but it can develop at any age. **Type 1** diabetes is less common than **type 2**—approximately 5-10% of people with diabetes have **type 1**. Currently, no one knows how to prevent **type 1** diabetes, but it can be managed by following your doctor's recommendations for living a healthy lifestyle, managing your blood sugar, getting regular health checkups, and getting diabetes self-management education and support. (CDC)



Type 2 diabetes is a largely preventable progressive disease that is influenced by risk factors that are amenable to change such as:

- smoking
- obesity
- physical inactivity
- high blood pressure
- nutrition or poor diet.



Diabetes occurs among the entire population, it tends to be more prevalent among certain demographic groups:

- Men, compared with women
- American Indian/Alaska Native adults, compared with other racial and ethnic groups
- Adults with less than a high school education, compared with those with a higher education level (prevalence decreases as educational attainment increases)
- Adults with income less than \$25,000, compared with other income levels
- Older adults, compared with younger adults



Diabetes can affect almost every part of your body. Properly managing your blood glucose levels, also called blood sugar, as well as your blood pressure and cholesterol, can help prevent additional health problems that can occur when you have diabetes.

Diabetes



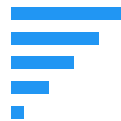
1 in 7, 13.7% or 474,500 Kentucky adults have diagnosed diabetes



1 in 4 Kentuckians don't know they have diabetes



As of 2018, 11.8% (331,335 Kentucky adults had diagnosed prediabetes-up 10.2% since 2017.



Kentucky ranks 8th highest in the U.S. for diabetes prevalence (Nationwide median: 10.5%)



In the past 4 years diabetes has increased 10% in Kentucky



Diabetes is the 7th leading cause of death in Kentucky



In KY Appalachia, the adult rate for diagnosed diabetes is 16.8% compared to 12.5% in non-Appalachian counties.



People with diabetes have higher risk of costly complications



Diabetes cost Kentucky \$5.16 billion in medical cost and lost work and wages



The American Diabetes Association estimates that those with diabetes incur \$5,000 to \$12,300 in additional health care costs relative to those without diabetes per year.

Prevalence of Diabetes (percent adults) for Kentucky 2017-2019 was 12%

Kentucky Appalachia	15%
Kentucky Rural	14%
Kentucky Delta	12%
Kentucky Urban	10%

(Data for counties with fewer than 50 respondents was suppressed kentuckyhealthfacts.org)

Kentucky Diabetes Fact Sheet. (2020), PDF. Retrieved April 19, 2021 From <https://chfs.ky.gov/agencies/dph/dpqi/cdpb/dpcp/diabetesfactsheet.pdf>

Cabinet for Health and Family Services. (2019). KentuckyDiabetesReport. Retrieved April 19, 2021 From <https://chfs.ky.gov/agencies/dph/dpqi/cdpb/dpcp/diabetesreport.pdf>

CDC. (2020). Diabetes quick facts. Retrieved April 19, 2021 From

American Diabetes Association (2019). Diabetes cost. Retrieved April 19, 2021 From <https://diabetes.org/>

Kentucky Health Facts. (2019). Prevalence of Diabetes. Retrieved April 19, 2021 From <http://kentuckyhealthfacts.org/data/topic/show.aspx?ind=40>

Cancer

Cancer continuously ranks among the **top 10** leading causes of death in the United States. The burden of cancer is particularly elevated in the **Commonwealth of Kentucky** and its 54-county Appalachian region, where cancer is the **leading cause of death**. Kentucky's high rates of cancer have been attributed to a wide range of socioeconomic, behavioral, environmental, and policy influences, resulting in numerous disparities.

Cancer can develop anywhere in the body. It starts when cells grow out of control and crowd out normal cells. This makes it hard for your body to work the way it should. There are many types of cancer. It's not just one disease. Cancer can start in the lungs, the breast, the colon, or even in the blood. Cancers are alike in some ways, but they are different in the ways they grow and spread.

Commonly used cancer-related terms:

- **Incidence** - A measure of disease that allows us to determine a person's probability of being diagnosed with a disease during a given period of time. Therefore, incidence is the number of newly diagnosed cases of a disease.
- **Prevalence** - A measure of disease that allows us to determine a person's likelihood of having a disease. Therefore, the number of prevalent cases is the total number of cases of disease existing in a population.
- **Morbidity** - Another term for illness. A person can have several co-morbidities simultaneously. So, morbidities can range from Alzheimer's disease to cancer to traumatic brain injury. Morbidities are NOT deaths.
- **Mortality** - Another term for death. A mortality rate is the number of deaths due to a disease divided by the total population.

Kentucky has the unfortunate distinction of being **No. 1 in incidence and mortality rates** of cancer per capita in the United States, and the eastern part of it faces significantly higher rates of mortality and morbidity, due to heart and lung disease, diabetes, and cancer, than the rest of the state and country.

Rodriguez, et al. (2018). A social-ecological review of Cancer disparities in Kentucky. *Southern Medical Journal*, 111(4), 213-219. Retrieved April 19, 2021 From doi:10.14423/smj.0000000000000794

CDC. (2020). Cancer data and statistics. Retrieved April 21, 2021 From <https://www.cdc.gov/cancer/dcpc/data/index.htm>

What is cancer? (n.d.). Retrieved April 19, 2021 From <https://www.cancer.org/cancer/cancer-basics/what-is-cancer.html>

CDC. (2012). Principles of epidemiology. Retrieved April 19, 2021 From <https://www.cdc.gov/csels/dsepd/ss1978/lesson3/section2.html>

American Cancer Society. (2020). Information and resources about cancer: Breast, Colon, Lung, Prostate, skin. Retrieved April 19, 2021 From <https://www.cancer.org/>

Zuppello, S. (2019, May 22). The cancer capital of America. Retrieved April 19, 2021 From <https://theoutline.com/post/7457/the-cancer-capital-of-america>

Cancer - Kentucky

Total estimated new cancer cases in Kentucky for 2020

26,500



4,890 Lung and Bronchus



3,800 Breast (Female)



2,440 Colorectal



2,440 Prostate



1,330 Melanoma of the skin

Total estimated new cancer deaths in Kentucky for 2020

10,540



2,910 Lungs and Bronchus



870 Colorectal



670 Pancreas



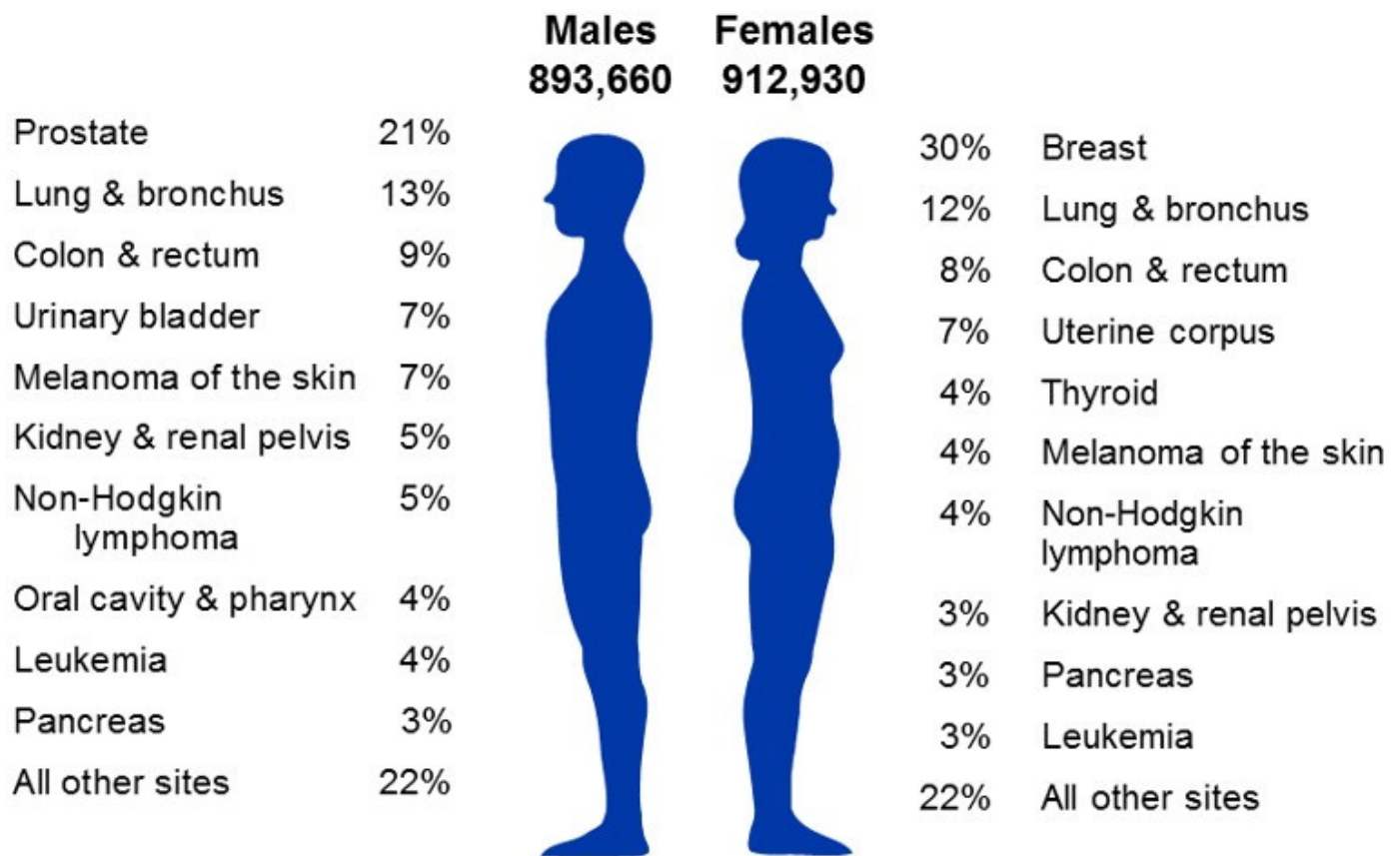
630 Breast (Female)



440 Liver and Intrahepatic Bile Duct

Cancer - U.S.

Estimated New Cancers in the U.S. in 2020



Excludes basal cell and squamous cell skin cancers and in situ carcinoma except urinary bladder.

Youth Well-Being

Nearly 1 in 4 Kentuckians are children - child population by age groups: under 5 years 27%; 5-13 years 50%; 14-17 years 23%. There is no consensus around a single definition of well-being, but there is general agreement that at minimum, well-being includes the presence of positive emotions and moods (e.g., contentment, happiness), the absence of negative emotions (e.g., depression, anxiety), satisfaction with life, fulfillment and positive functioning.



Kentucky ranks **37th** (1st being the best) in the overall wellbeing of children



Kentucky ranks **41st** in Economic Security

- **66%** of Kentucky children under age 6 have all available parents in the labor force
- Half of all Kentuckians live in a child care desert
- **22%** of Kentucky children live in poverty (below 100% FPL)
 - Kentucky Appalachia 32%
 - Kentucky Rural 30%
 - Kentucky Delta 24%
 - Kentucky Urban 19%
- **12%** of Kentucky children live in deep poverty (below 50% FPL)
 - Kentucky Appalachia 16%
 - Kentucky Rural 13%
 - Kentucky Urban 10%
 - Kentucky Delta 9%



Kentucky ranks **27nd** in Education

- **70%** of enrolled Kindergarteners received a preventive health exam
- **53%** of enrolled Kindergarteners received a dental screening or exam
- **78%** of enrolled Kindergarteners received a vision screening or exam
- **88%** of students have a standard immunization certificate on file - **94%** is the threshold for herd immunity
- **20%** of high school students in Kentucky are obese (only 2 states are higher)
- Nearly **1 in every 5** students have been diagnosed with a chronic condition such as asthma, ADHD, or seizure disorders

CDC. (2018). Well-being concepts. Retrieved April 19, 2021 From <https://www.cdc.gov/hrqol/wellbeing.htm#three>
Kentucky Youth Advocates. (2020). Data and research. Retrieved April 19, 2021 From <https://kyyouth.org/data/>
The Anne E. Casey Foundation 2020 Kids Count Profile.PDF. Retrieved April 19, 2021 From https://www.aecf.org/m/databook/2020KC_profile_KY.pdf

Youth Well-Being



Kentucky ranks **42nd** in Health

- **12%** of 10th graders were emotionally harmed by a boyfriend or girlfriend during the last school year
- **21%** of 10th graders were bullied on school property during the past year
- **16%** of 10th graders were electronically bullied (cyberbullying) during the past year
- **16%** of 10th graders seriously considered attempting suicide
- **12%** of 10th graders made a plan for how they would attempt suicide
- **8%** of 10th graders actually attempted suicide
- **8.9%** of High School Students smoke cigarettes compared to 5.8% of the U.S.
- **26.1%** of High School Students use electronic cigarettes compared to 19.6% of the U.S.



Kentucky ranks **41st** in Family and Community

Adverse childhood experiences (ACEs) are stressful or traumatic events that may have a lasting impact on children's health and well-being. Early experiences have a broad and profound impact on an individual's development and subsequent emotional, cognitive, social and biological functioning.

American Health Rankings indicate that **17.8%** of Kentucky Children (U.S. 14.7%) ages 0-17 experienced two or more of the following:

- parental divorce or separation
- living with someone who had an alcohol or drug problem
- neighborhood violence victim or witness
- living with someone who was mentally ill
- suicidal or severely depressed
- domestic violence witness
- parent served jail time
- being treated or judged unfairly due to race/ethnicity
- death of parent



Kentucky Youth Advocates reported that 9% (2016-18) of KY children were being raised by a relative.

Kentucky Youth Advocates reported that 47.3% of Kentucky children were in Foster Care (rate per 1,000 children ages 0-17).

America's Health Rankings. (2020). 2019 Kentucky Annual Report. Retrieved April 21, 2021 From <https://www.americashealthrankings.org/learn/reports/2019-annual-report/state-summaries-kentucky>

CDC. (2020). Adverse childhood experiences (aces). Retrieved April 21, 2021 From <https://www.cdc.gov/violenceprevention/aces/index.html>

Kentucky Youth Advocates. (2020). Data and research. Retrieved April 21, 2021 From <https://kyyouth.org/data/>

Disabilities



A disability is any condition of the body or mind (impairment) that makes it more difficult for the person with the condition to do certain activities (activity limitation) and interact with the world around them (participation restrictions).



Social Security benefits are funded by a dedicated payroll tax paid by the worker and the worker's employer and by taxes paid by a self-employed person. Supplemental Security Income (SSI) benefits are intended to alleviate poverty and are means-tested. There is no insured status or prior work requirement for SSI, and the program is funded from general revenues rather than from a dedicated tax.

Social Security Disability contains **two** beneficiary classes - **Title II and Title XVI** beneficiaries:

1 **Title II** disabled worker average monthly benefit payment is \$1,166 per month -Title II beneficiaries must meet the following eligibility requirements:

- Have worked long enough to become insured for Social Security benefits
- Be younger than full retirement age
- Have filed an application for benefits
- Be blind or disabled per Social Security rules
- Have served a 5-month waiting period (except for certain exemptions)

2 **Title XVI** average monthly benefit payment is \$578 per month - Title XVI beneficiaries must meet the following criteria:

- Be blind or disabled per Social Security rules
- Reside in one of the 50 States, the Northern Mariana Islands, or the District of Columbia, or be the child of a military parent assigned to permanent duty outside of the United States
- Be a United States citizen or national who meets the applicable alien status or residency requirements
- Have income and resources below specified limits
- Have filed an application

* **Title XVI** beneficiaries are automatically enrolled in Kentucky's Medicaid Program - Kentucky's General Fund is directly impacted by Title XVI enrollment through its Medicaid expenditures. Title XVI Medicaid expenditures are split on an approximately 70/30 basis, with Kentucky picking up 30% of direct Title XVI Medicaid costs.



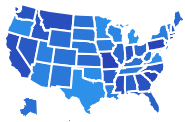
Disability costs in healthcare expenditures are \$5.8 billion per year in Kentucky

CDC. (2020). Disability and health overview. Retrieved April 19, 2021 From <https://www.cdc.gov/ncbddd/disabilityandhealth/disability.html>

Social security Administration. (n.d.). Trends in the Social Security and Supplemental Security Income Disability. Retrieved April 19, 2021 From https://www.ssa.gov/policy/docs/chartbooks/disability_trends/overview.html

CDC. (2020). Disability and health - state profile. Retrieved April 19, 2021 From <https://www.cdc.gov/ncbddd/disabilityandhealth/impacts/kentucky.html#:~:text=Did%20you%20know%3F,Disability%20costs%20in%20healthcare%20expenditures%20are%20%245.8%20billion%20per%20year,compared%20to%20adults%20without%20disabilities.>

Disabilities



25.6% of U.S. adults have some type of disability



34.6% of Kentucky adults have some type of disability



The county with the highest percentage of people with disabilities was a rural county Breathitt (33.7%).



The county with the lowest percentage of people with disabilities was an urban county Oldham (8.7%).

The prevalence of people in Kentucky with a disability is 17.4%

Prevalence for Kentucky Urban 17%

Prevalence for Kentucky Delta 19%

Prevalence for Kentucky Rural 22%

Prevalence for Kentucky Appalachia 24%

In 2017, Kentucky's Disability Determination Services, located within the Kentucky Cabinet for Health and Family Services released a report titled, [Social Security Disability In Kentucky: The Evolution of Dependence 1980 - 2015](#). The study reported that during 1980 - 2015, Kentucky's population grew by 21%, meanwhile, the state's combined disability enrollment grew by 249%, and childhood enrollment grew 449%. The study also showed that as the benefits rolls have increased, so has the rate of controlled substance prescriptions.

The report provided information on the physical and mental conditions that lead to disability awards. The top five overall conditions between 1980-2015 were:

1. musculoskeletal system diseases (33.4 percent)
2. mental disorders (32.8 percent)
3. diseases of the circulatory system (7.8 percent)
4. diseases of the nervous system and sense organs (7.8 percent)
5. diseases of the respiratory system (3.5 percent)

CDC. (2020). Disability and Health - state profile data: Kentucky. Retrieved April 19, 2021 From <https://www.cdc.gov/ncbddd/disabilityandhealth/impacts/kentucky.html>

Paul, S., Rafal, M., & Houtenville, A. (2020). 2019 State Report for Kentucky County-Level Data: Prevalence. Durham, NH: University of New Hampshire, Institute on Disability. Retrieved April 19, 2021 From

<https://disabilitycompendium.org/compendium/2019-state-report-for-county-level-data-prevalence/KY>

Cabinet for Health and Family Services. (2015). Social Security Disability In Kentucky The Evolution of Dependence (1980 - 2015). Retrieved April 19, 2021 From <https://www.uky.edu/CommInfoStudies/IRJCI/SSDlinkKy.pdf>