Underage Drinking in Kentucky
Short Report

May 2014

Prepared for:
The Kentucky Cabinet for Health and Family Services

Prepared by:
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Kentucky UNBRIDLED SPIRIT™

REACH EVALUATION

The *Underage Drinking in Kentucky Short Report* is a collaborative product of the Kentucky State Epidemiological Outcomes Workgroup (SEOW) and the Division of Behavioral Health within the Kentucky Department for Behavioral Health, Developmental and Intellectual Disabilities (DBHDID).

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1 Introduction

Underage Drinking: A State Priority

UNDERAGE DRINKING (UAD), ESPECIALLY BINGE DRINKING, IS A MAJOR PUBLIC HEALTH CONCERN.[1] Both UAD and binge drinking are associated with academic problems, risk-taking, youth violence, driving under the influence, unwanted and unplanned sexual activity, illegal acts, higher risk for suicide, injuries, alcohol-related car crashes, and neurological/cognitive alterations.[2-12] Recent data show underage drinkers consume 15.8% ($208 million) of all alcohol sold in Kentucky, with significant estimated expenditures (in millions) in a variety of areas: youth violence ($318.8), youth traffic crashes ($143.7), high-risk sex ($68.8), youth property crime ($30.1), youth injury ($29.8), poisonings and psychoses ($4.8), fetal alcohol syndrome among mothers age 15-20 ($14.8), and youth alcohol treatment ($12.7). The estimated cost of these consequences total nearly $625 million.[13]

In May 2012, the SEOW identified binge drinking as a state priority along with prescription drug abuse using a variety of data sources. Upon publication of the PFS-II request for application (RFA) in June 2012, Kentucky's SEOW convened a series of special meetings to review: 1) current prevalence and risk and protective factor data related to UAD and prescription drug abuse, 2) the most recent (2012) statewide epidemiologic profile, and 3) staffing, funding and population data among Regional Prevention Center (RPC) regions. The committee met via teleconference on two separate occasions (with follow-up discussions occurring through email) to discuss the data and its implications for the RFA. The unanimous conclusion of the SEOW was that UAD and prescription drug abuse remain top priorities for Kentucky, and should therefore both be targeted. Further, the SEOW recommended seven communities of high need (four regional subrecipients for UAD: Lake Cumberland, Lincoln Trail, Bluegrass, and KIPDA/Kentuckiana that were subsequently funded upon Kentucky's receipt of the PFS-II.

Report Aims

Based upon the PFS-II's comprehensive, data-driven substance abuse prevention strategy to influence state-level change, **THIS REPORT PROVIDES THE NEWEST EPIDEMIOLOGIC DATA PERTAINING TO UAD**. Data associated with 10th graders in Kentucky was selected for portrayal when KIP data are used. Tenth graders are old enough to have been exposed to the risks and temptations of alcohol abuse; and, unlike students in the twelfth grade, those at highest risk are unlikely to have dropped out of school. State projections for the prevalence of UAD in 2014 and 2016 were calculated using data from the 2004-2012 KIP Survey. Along with a variety of other alcohol-related data, these projections provide expected values for UAD that subsequently may be compared to observed values to evaluate the impact of prevention activities.

Tables, figures, and maps are used throughout the document to highlight epidemiologic trends and geographic patterns pertaining to UAD. Accompanying bullet points provide concise descriptions of the indicators.

A variety of alcohol-related items were synthesized:

- Data regarding the state and regional prevalence of underage drinking are from the 2004-2012 Kentucky Incentives for Prevention Survey (KIP).

- Data regarding the regional distribution of adolescent binge drinking are from the 2012 KIP.
- Data regarding ease of alcohol access and perceived disapproval of alcohol are from the 2012 KIP.
- Treatment admission data for 12-20 year olds were extracted from the 1999-2010 Treatment Episode Dataset – Admissions (TEDS-A).
- Data regarding drunk driving collisions and DUI arrests are from the 2011-2012 Kentucky State Police.

Major Findings

UAD remains a major public health concern in Kentucky. The data in this report further elucidate the trends and distribution of UAD in Kentucky:

- Among 10th graders, any alcohol use in the past 30 days dropped from 31.8% in 2004 to 25.1% in 2012, representing percentage change of -6.7%. In 2014 and 2016, the rates are expected to drop to 23.6% and 22.1%, respectively.
- Among 10th graders, binge drinking in the past 2 weeks dropped from 19.7% in 2004 to 14.5% in 2012, representing a percentage change of -5.2%. In 2014 and 2016, the rates are expected to drop to 13.9% and 12.9%, respectively.*
- For any alcohol use, regional rates ranged from 20.1% in Gateway to 28.5% in Lincoln Trail. Out of the six regions to exceed the state rate (25.1%), three were PFS-II UAD regions: Lake Cumberland (26.7%), KIPDA/Kentuckiana (27.4%), and Lincoln Trail (28.5%).
- For binge drinking, regional rates ranged from 12.3% in Gateway to 17% in Green River. Out of the eight regions to exceed the state rate (14.5%), three were PFS-II UAD regions: Lake Cumberland (15%), Lincoln Trail (15.1%), and KIPDA/Kentuckiana (16.4%).
- Among 10th graders, the prevalence of reporting "sort of easy" or "very easy" access to alcohol ranged from 50.3% in Kentucky River to 62% in Green River. Out of the eight regions to exceed the state rate (58.2%), four were PFS-II UAD regions: Lincoln Trail (61.4%), Bluegrass (59.2%), KIPDA/Kentuckiana (59.5%), and Lake Cumberland (59.7%).
- Among 10th graders, the prevalence of reporting "wrong" or "very wrong" for someone their age to drink beer, wine or hard liquor ranged from 59.4% in Lincoln Trail to 67.3% in Cumberland Valley. Out of the seven regions below the state rate (63.2%), three were PFS-II UAD regions: Lincoln Trail (59.4%), KIPDA/Kentuckiana (61.7%), and Lake Cumberland (62.3%).

* A linear regression analysis method was used to estimate the prevalence of any alcohol use and binge drinking based upon trend data from 2004 to 2012.

In combination with risk and protective factors, these consumption patterns can lead to significant morbidity, as evidenced below:

- While incident alcohol treatment admissions for 12-20 year olds steadily dropped from 66.9% in 1999 to 52.3% in 2010 for the US, admissions in Kentucky only slightly dropped from 45.7% in 1999 to 44.4% in 2010.

- In 2011, drunk driving collisions ranged from 0.13 per 1,000 in Lee County to 1.75 per 1,000 in McCracken County. Several counties from Bluegrass, KIPDA/Kentuckiana, and Lincoln Trail had collision rates in the highest range (1.13-1.75 per 1,000)

- In 2012, DUI arrests ranged from 0.91 per 1,000 in Robertson County to 19.81 per 1,000 in Gallatin County. While the most pronounced clusters of DUI arrests were found throughout counties in Cumberland Valley and Kentucky River, several counties from KIPDA/Kentuckiana, Bluegrass, and Lincoln Trail had DUI arrest rates in the highest range (8.52-19.81 per 1,000).

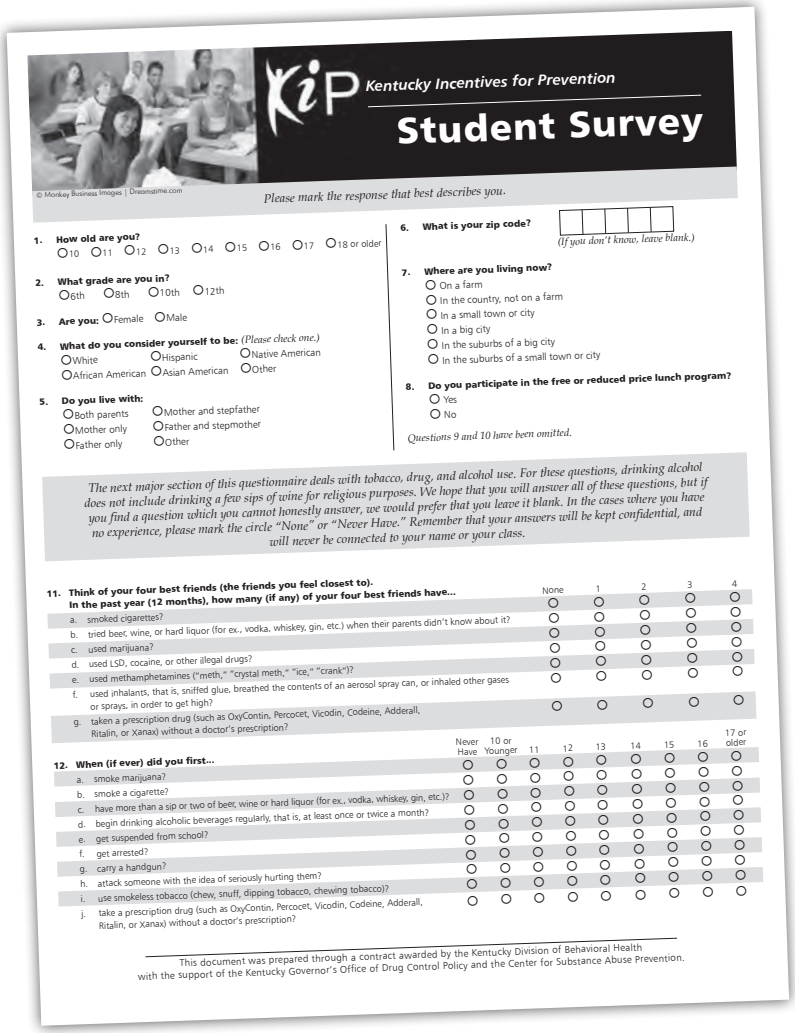
2 Kentucky Incentives for Prevention (KIP) Survey

The purpose of the KIP survey is to anonymously assess student use of alcohol, tobacco, and other drugs (ATOD), as well as a number of factors related to potential substance abuse. The survey provides information about student self-reported use of substances (e.g., within last 30 days, last year), student perceptions about substance use (e.g., level of risk, peer and parent disapproval), and perceived accessibility of substances in the community.

The core items on the present KIP survey were originally chosen in consultation with the federal Center for Substance Abuse Prevention (CSAP), based on extensive research on risk and resilience factors associated with youth substance abuse. Additional items have been added that are specific to Kentucky. Basing the scale on the federal model enables comparisons to other states and to the nation, while at the same time making within state comparisons. The fact that the KIP survey has been administered since 1999 within Kentucky enables school-community comparisons over time.

The survey is now conducted bi-annually in the fall of even-numbered years (2008, 2010, 2012 etc.), with 6th, 8th, 10th, and 12th graders attending school in Kentucky communities. There is no cost to the individual districts (costs are paid by the Substance Abuse Prevention Program, Cabinet for Health and Family Services).

In 2012, the total (statewide) sample size for 6th, 8th, 10th, and 12th grades was 122,718. The sample includes schools from 114 out of 120 Kentucky counties, and 157 public and private school districts.



KiP Kentucky Incentives for Prevention

Student Survey

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Please mark the response that best describes you.

1. **How old are you?** ○10 ○11 ○12 ○13 ○14 ○15 ○16 ○17 ○18 or older
2. **What grade are you in?** ○6th ○8th ○10th ○12th
3. **Are you:** ○Female ○Male
4. **What do you consider yourself to be:** *(Please check one.)* ○White ○Hispanic ○Native American ○African American ○Asian American ○Other
5. **Do you live with:** ○Both parents ○Mother and stepfather ○Mother only ○Father and stepmother ○Father only ○Other
6. **What is your zip code?** ☐☐☐☐☐ *(If you don't know, leave blank.)*
7. **Where are you living now?** ○ On a farm ○ In the country, not on a farm ○ In a small town or city ○ In a big city ○ In the suburbs of a big city ○ In the suburbs of a small town or city
8. **Do you participate in the free or reduced price lunch program?** ○ Yes ○ No

Questions 9 and 10 have been omitted.

The next major section of this questionnaire deals with tobacco, drug, and alcohol use. For these questions, drinking alcohol does not include drinking a few sips of wine for religious purposes. We hope that you will answer all of these questions, but if you find a question which you cannot honestly answer, we would prefer that you leave it blank. In the cases where you have no experience, please mark the circle "None" or "Never Have." Remember that your answers will be kept confidential, and will never be connected to your name or your class.

11. **Think of your four best friends (the friends you feel closest to). In the past year (12 months), how many (if any) of your four best friends have...**

	None	1	2	3	4
a. smoked cigarettes?	○	○	○	○	○
b. tried beer, wine, or hard liquor (for ex., vodka, whiskey, gin, etc.) when their parents didn't know about it?	○	○	○	○	○
c. used marijuana?	○	○	○	○	○
d. used LSD, cocaine, or other illegal drugs?	○	○	○	○	○
e. used methamphetamines ("meth," "crystal meth," "ice," "crank")?	○	○	○	○	○
f. used inhalants, that is, sniffed glue, breathed the contents of an aerosol spray can, or inhaled other gases or sprays, in order to get high?	○	○	○	○	○
g. taken a prescription drug (such as OxyContin, Percocet, Vicodin, Codeine, Adderall, Ritalin, or Xanax) without a doctor's prescription?	○	○	○	○	○

12. **When (if ever) did you first...**

	Never Have	10 or Younger	11	12	13	14	15	16	17 or older
a. smoke marijuana?	○	○	○	○	○	○	○	○	○
b. smoke a cigarette?	○	○	○	○	○	○	○	○	○
c. have more than a sip or two of beer, wine or hard liquor (for ex., vodka, whiskey, gin, etc.)?	○	○	○	○	○	○	○	○	○
d. begin drinking alcoholic beverages regularly, that is, at least once or twice a month?	○	○	○	○	○	○	○	○	○
e. get suspended from school?	○	○	○	○	○	○	○	○	○
f. get arrested?	○	○	○	○	○	○	○	○	○
g. carry a handgun?	○	○	○	○	○	○	○	○	○
h. attack someone with the idea of seriously hurting them?	○	○	○	○	○	○	○	○	○
i. use smokeless tobacco (chew, snuff, dipping tobacco, chewing tobacco)?	○	○	○	○	○	○	○	○	○
j. take a prescription drug (such as OxyContin, Percocet, Vicodin, Codeine, Adderall, Ritalin, or Xanax) without a doctor's prescription?	○	○	○	○	○	○	○	○	○

This document was prepared through a contract awarded by the Kentucky Division of Behavioral Health with the support of the Kentucky Governor's Office of Drug Control Policy and the Center for Substance Abuse Prevention.

Summary of KIP Indicators Used in this Report

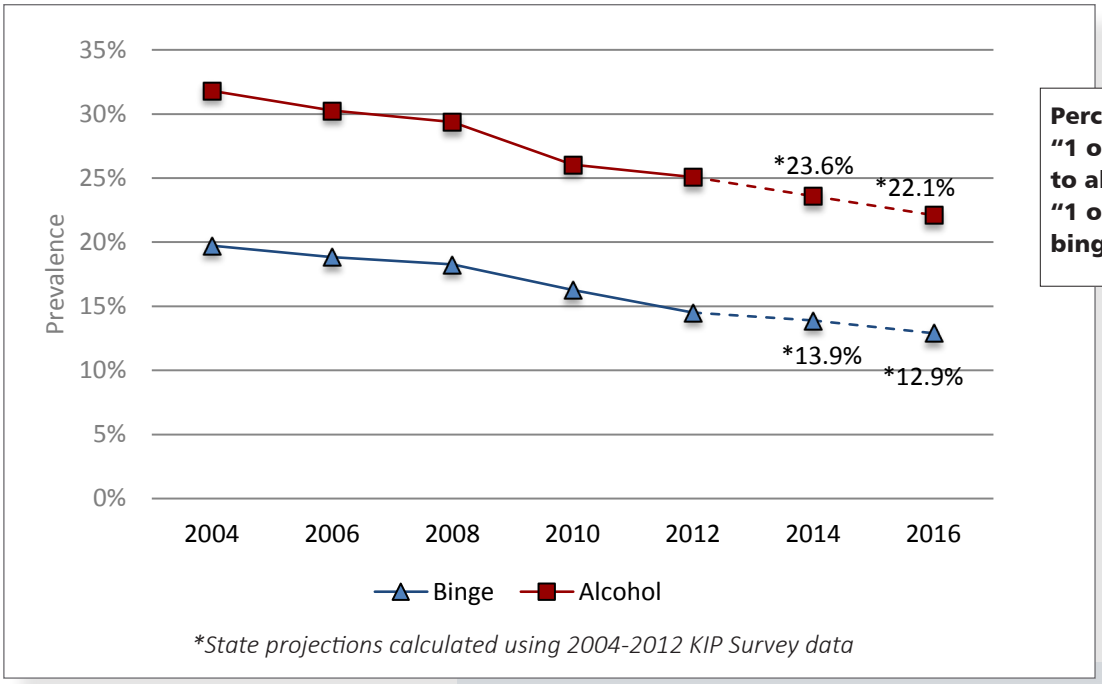
Indicator	Question
Any Alcohol Use	On how many occasions (if any) have you had alcoholic beverages (beer, wine, or hard liquor) to drink—more than a few sips—in the past 30 days?
Binge drinking	Think back over the last two weeks. How many times (if any) have you had five or more alcoholic drinks in a row?
Very easy access	If you wanted to get some beer, wine, or hard liquor (for example: vodka, whiskey, or gin), how easy would it be for you to get some?
Perceived Disapproval	How wrong do you think it is for someone your age to drink beer, wine, or hard liquor (vodka, gin, etc.) regularly?

3 State Trends in Underage Drinking

Data derived from the following KIP Survey questions:

On how many occasions (if any) have you had alcoholic beverages (beer, wine, or hard liquor) to drink—more than a few sips—in the past 30 days? [Alcohol Use]

Think back over the last two weeks. How many times (if any) have you had five or more alcoholic drinks in a row? [Binge Drinking]



**State projections calculated using 2004-2012 KIP Survey data*

Percent who responded "1 or more occasions" to alcohol use; and "1 or more times" to binge drinking

- **The prevalence of alcohol use in the past 30 days among 10th graders dropped from 31.8% in 2004 to 25.1% in 2012.**
- **The prevalence of binge drinking in the past 2 weeks among 10th graders dropped from 19.7% in 2004 to 14.5% in 2012.**
- **The prevalence of 30-day alcohol use *is projected to be* 23.6% and 22.1% in 2014 and 2016, respectively.***
- **The prevalence of binge drinking in the past 2 weeks is projected to be 13.9% and 12.9% in 2014 and 2016, respectively.***

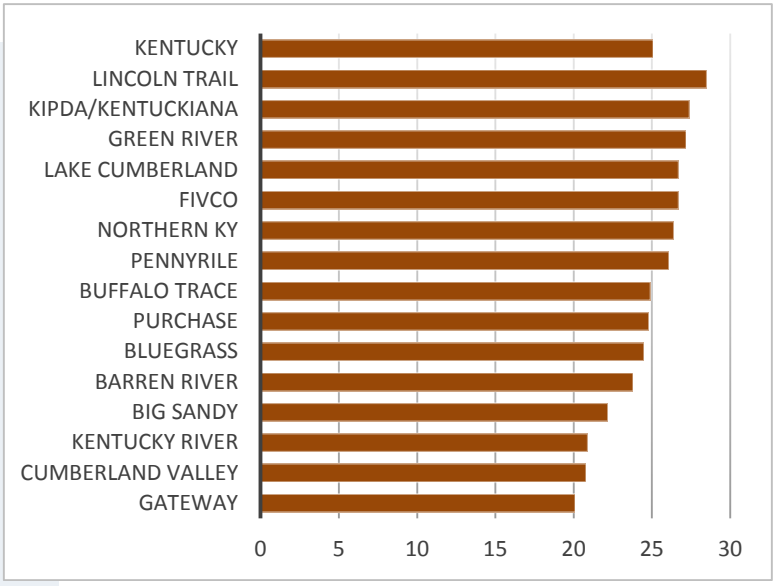
*State projections calculated using 2004-2012 KIP Survey data.

4 Regional Distribution of Alcohol Use

Data derived from the following KIP Survey question:

On how many occasions (if any) have you had alcoholic beverages (beer, wine, or hard liquor) to drink—more than a few sips—in the past 30 days?

- **In 2012, the prevalence of alcohol use in the past 30 days among 10th graders was 25.1% in Kentucky.**
- **Alcohol use ranged from 20.1% in Gateway to 28.5% in Lincoln Trail.**
- **Six regions had alcohol use rates higher than the state rate (25.1%): Pennyrile (26.1%), Northern Kentucky (26.5%), Lake Cumberland (26.7%), Green River (27.2%), KIPDA/Kentuckiana (27.4%), and Lincoln Trail (28.5%).**

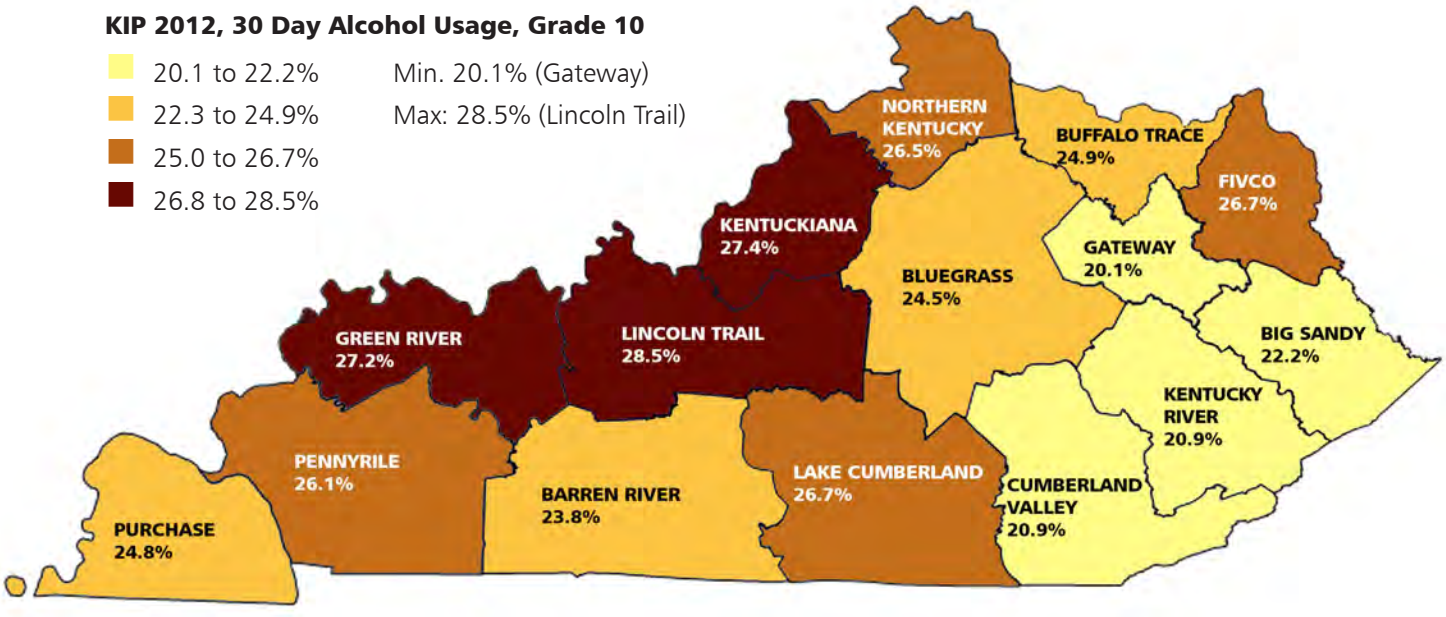


Percent who responded "1 or more occasions"

KIP 2012, 30 Day Alcohol Usage, Grade 10

20.1 to 22.2%
22.3 to 24.9%
25.0 to 26.7%
26.8 to 28.5%

Min. 20.1% (Gateway)
Max: 28.5% (Lincoln Trail)

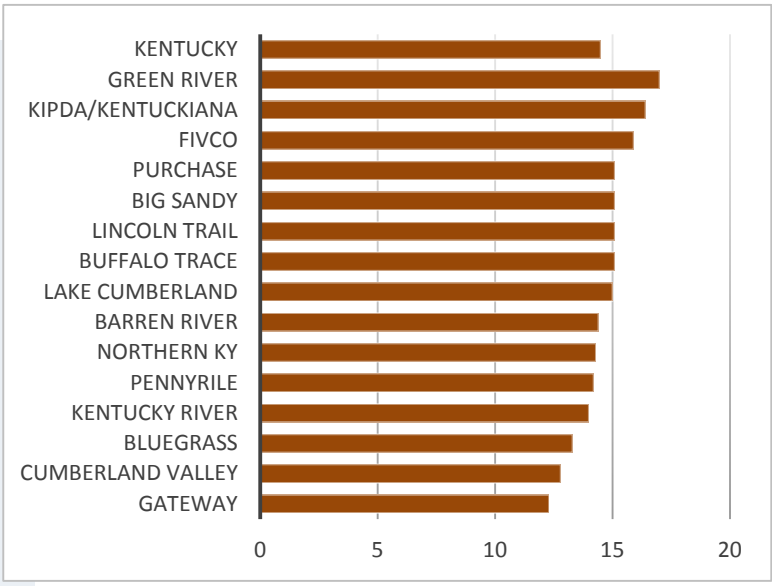


5 Regional Distribution of Binge Drinking

Data derived from the following KIP Survey question:

Think back over the last two weeks. How many times (if any) have you had five or more alcoholic drinks in a row?

- **In 2012, the prevalence of binge drinking in the past 2 weeks among 10th graders was 14.5% in Kentucky.**
- **Binge drinking ranged from 12.3% in Gateway to 17% in Green River.**
- **Eight regions had binge drinking rates higher than the state rate (14.5%): Lake Cumberland (15%), Purchase (15.1%), Lincoln Trail (15.1%), Buffalo Trace (15.1%), Big Sandy (15.1%), FIVCO (15.9%), KIPDA/ Kentuckiana (16.4%), and Green River (17%).**

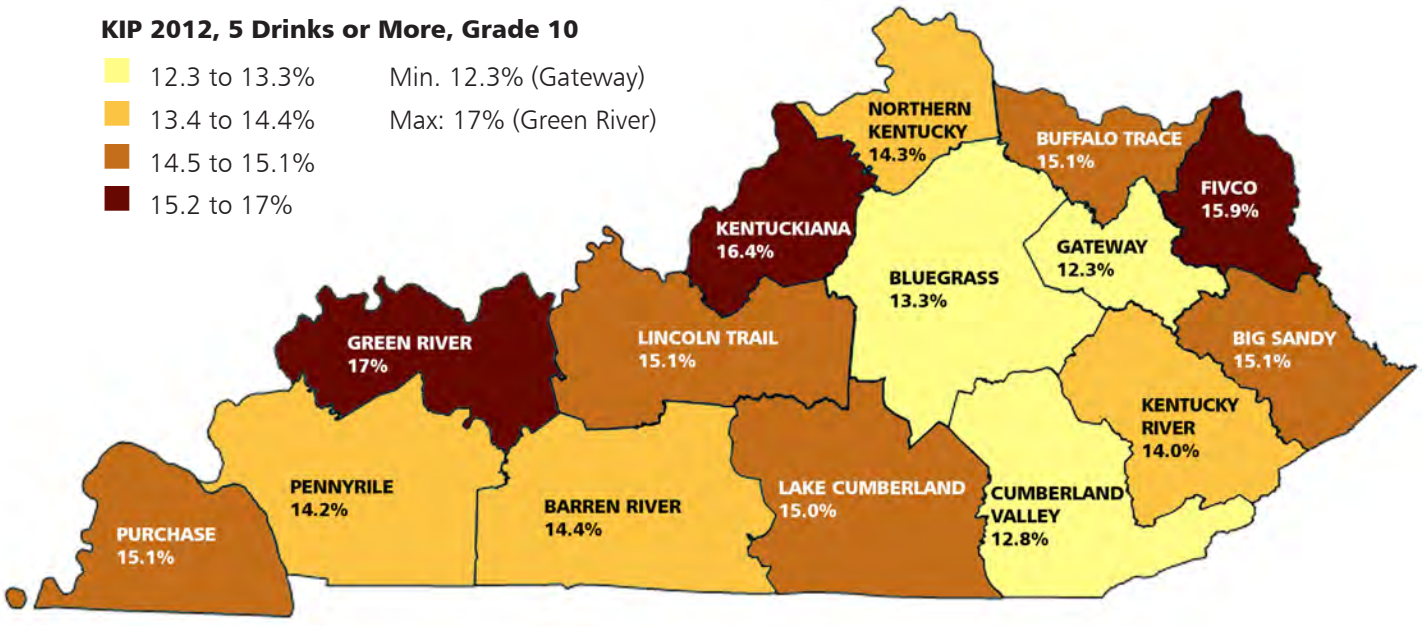


Percent who responded "1 or more times"

KIP 2012, 5 Drinks or More, Grade 10

- 12.3 to 13.3%
- 13.4 to 14.4%
- 14.5 to 15.1%
- 15.2 to 17%

Min. 12.3% (Gateway)
Max: 17% (Green River)

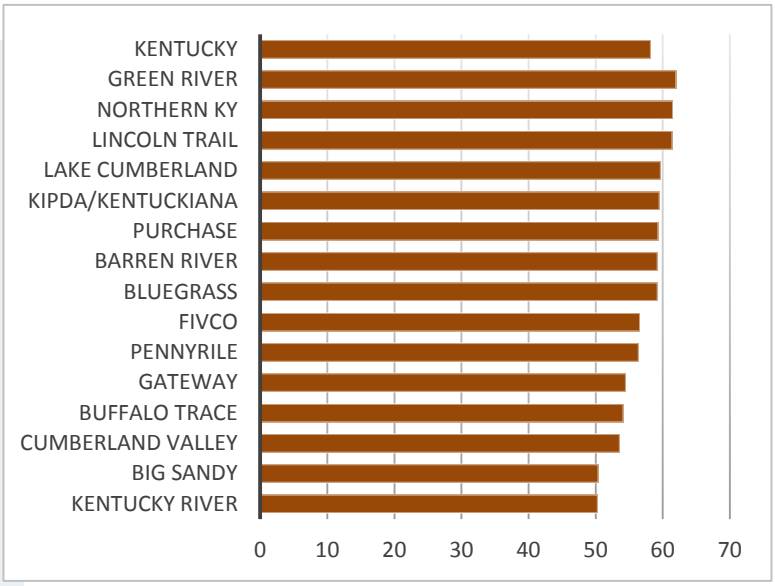


6 Ease of Alcohol Access

Data derived from the following KIP Survey question:

If you wanted to get some beer, wine, or hard liquor (for example, vodka, whiskey, or gin), how easy would it be for you to get some?

- **In 2012, 58.2% of 10th graders in Kentucky reported having "sort of easy" or "very easy" access to alcohol.**
- **Easy access ranged from 50.3% in Kentucky River to 62% in Green River.**
- **Eight regions had rates of easy access higher than the state rate (58.2%): Bluegrass (59.2%), Barren River (59.2%), Purchase (59.3%), Lake Cumberland (59.7%), KIPDA/Kentuckiana (59.5%), Lincoln Trail (61.4%), Northern Kentucky (61.5%), and Green River (62%).**

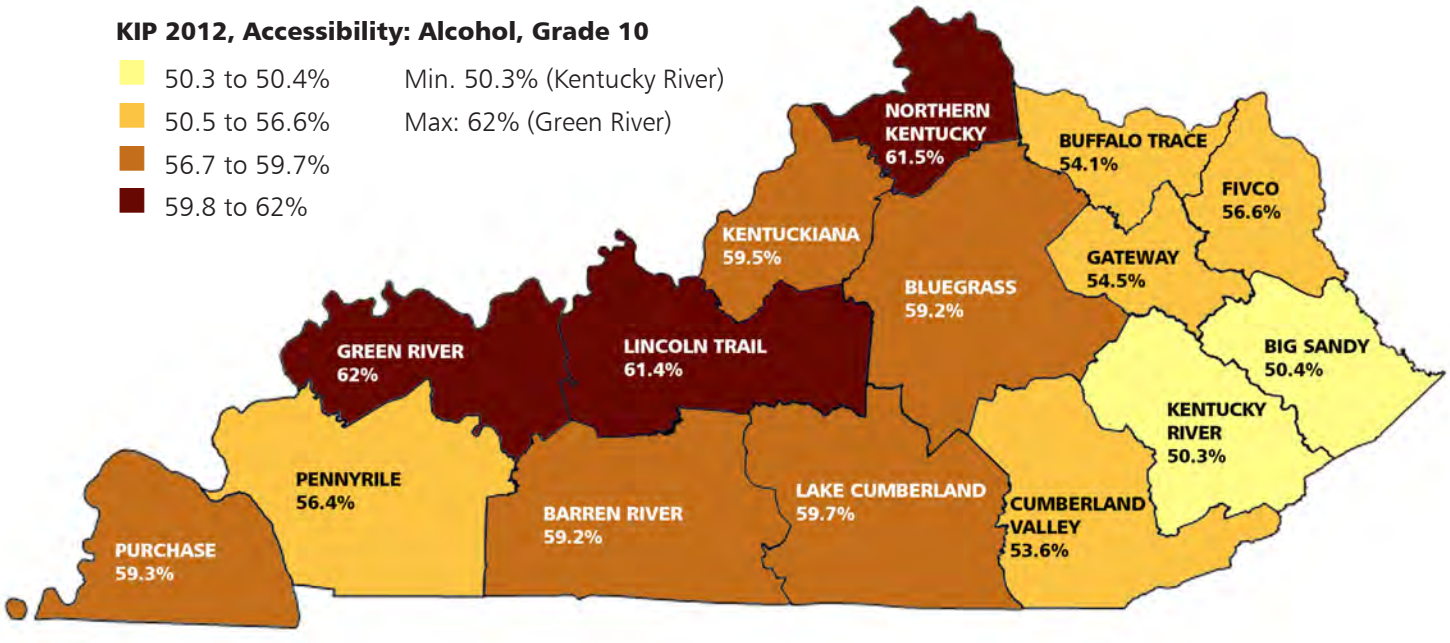


Percent who responded "sort of easy" or "very easy"

KIP 2012, Accessibility: Alcohol, Grade 10

- 50.3 to 50.4%
- 50.5 to 56.6%
- 56.7 to 59.7%
- 59.8 to 62%

Min. 50.3% (Kentucky River)
Max: 62% (Green River)

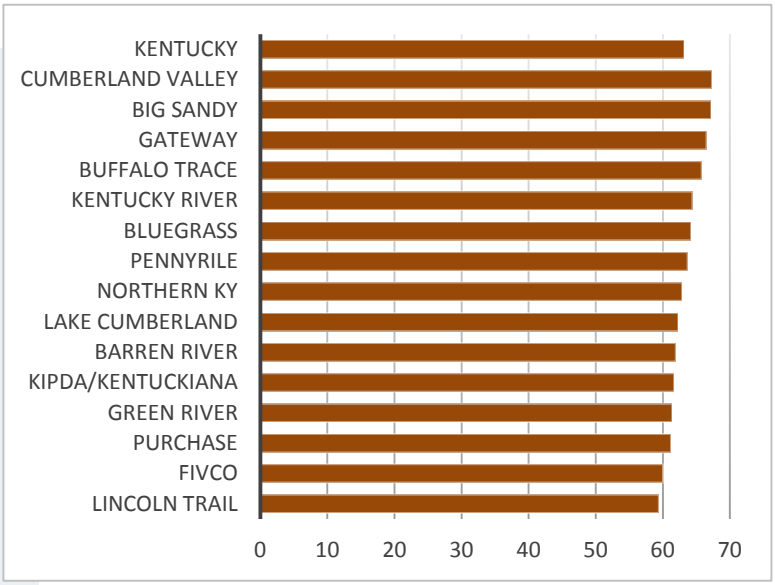


7 Perceived Disapproval of Alcohol

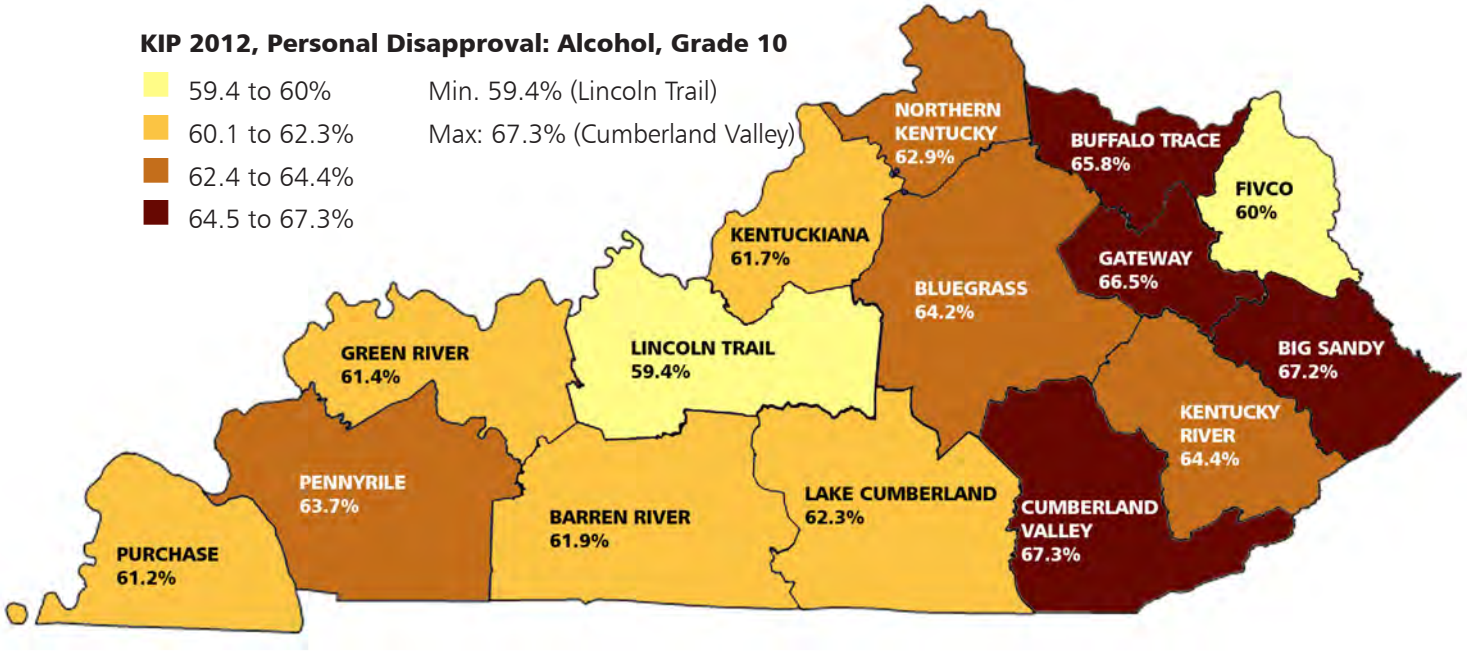
Data derived from the following KIP Survey question:

How wrong do you think it is for someone your age to drink beer, wine, or hard liquor (for example, vodka, whiskey, or gin, etc.) regularly?

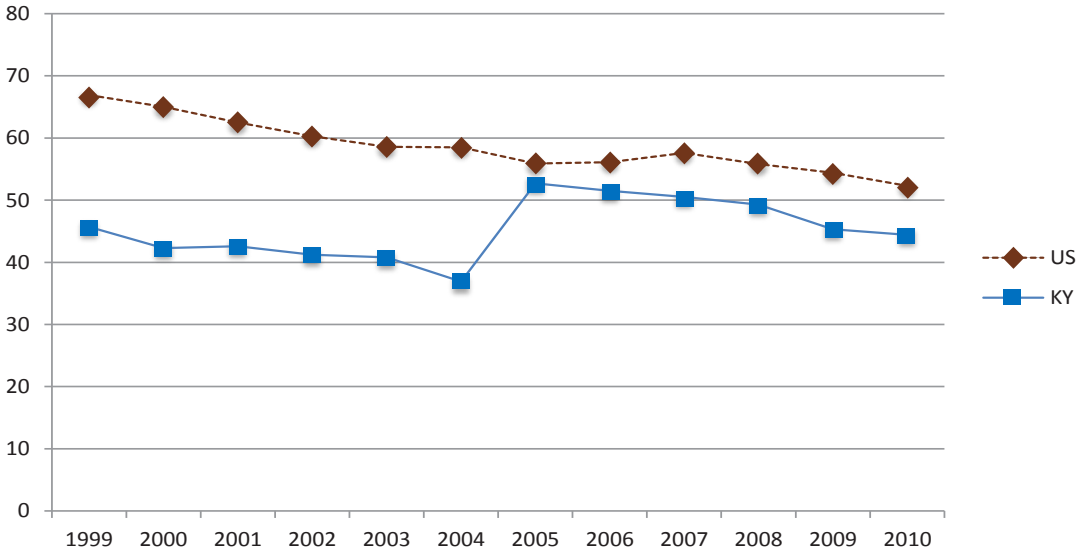
- **In 2012, 63.2% of 10th graders in Kentucky reported "wrong" or "very wrong" for someone their age to drink beer, wine, or hard liquor.**
- **Disapproval ranged from 59.4% in Lincoln Trail to 67.3% in Cumberland Valley.**
- **Seven regions had rates of disapproval that were lower than the state average (63.2%): Northern Kentucky (62.9%), Lake Cumberland (62.3%), KIPDA/Kentuckiana (61.7%), Barren River (61.9%), Green River (61.4%), Purchase (61.2%), and Lincoln Trail (59.4%).**



Percent who responded "wrong" or "very wrong"



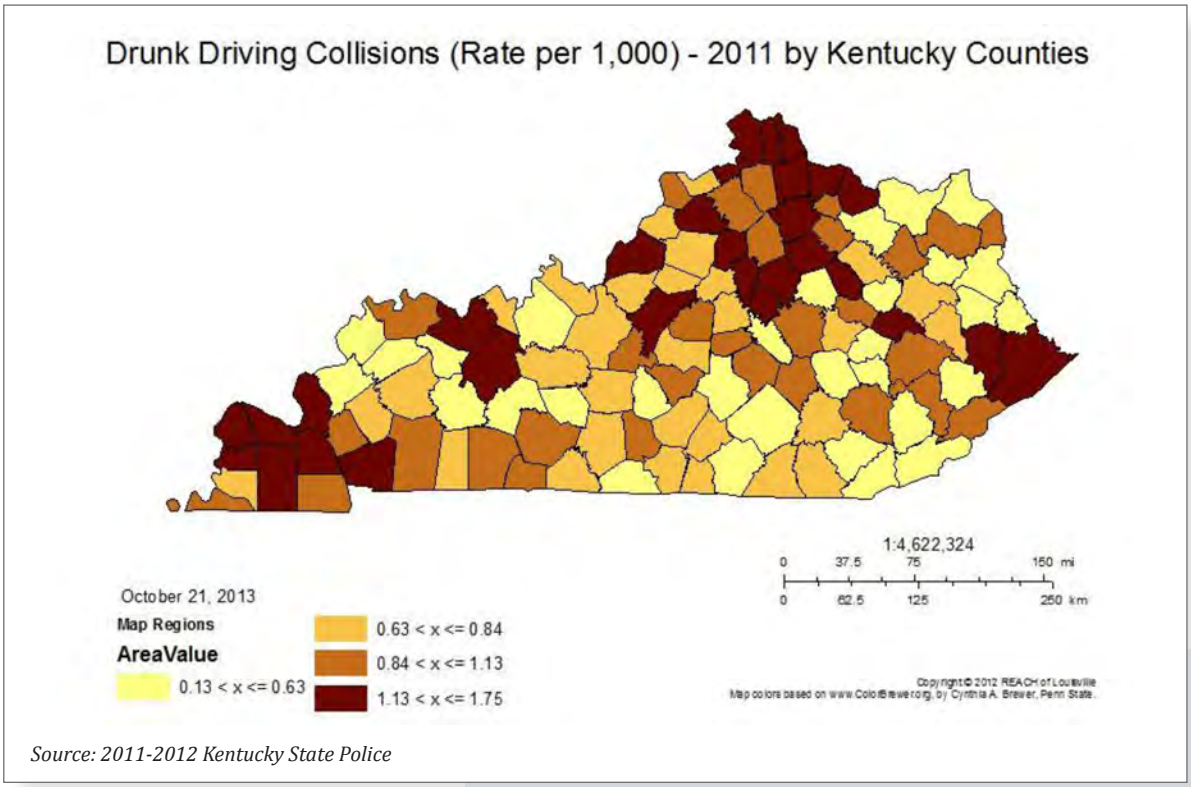
8 Incident Alcohol Treatment Admissions



Source: 1999-2010 Treatment Episode Dataset - Admissions (TEDS-A)

- **Between 1999 and 2010, the incidence of alcohol-related treatment admissions for 12-20 year olds dropped slightly from 45.7% to 44.4% in Kentucky.**
- **The incidence of alcohol admissions fell from 45.7% in 1999 to 36.9% in 2004, but increased to 52.7% in 2005 and dropped to 44.4% in 2010.**
- **For the US, the incidence of alcohol admissions steadily dropped from 66.9% in 1999 to 52.3% in 2010.**

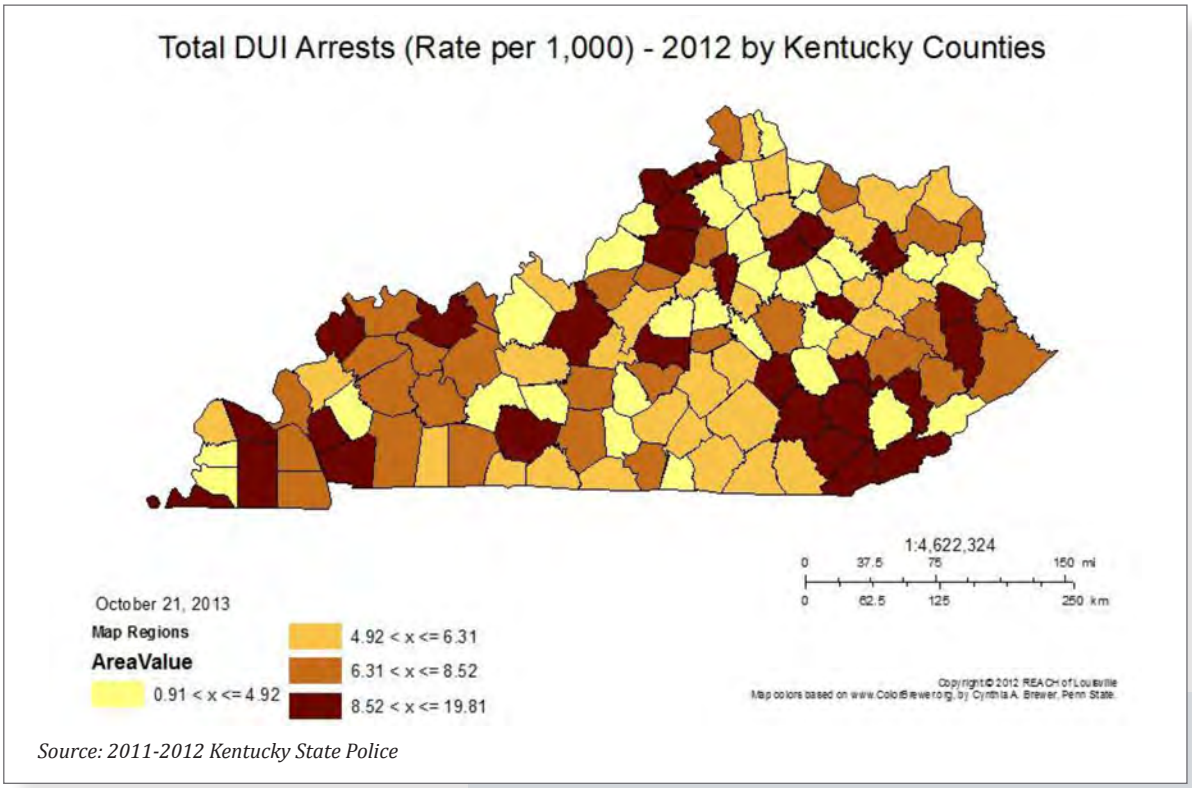
9 Drunk Driving Collisions



Source: 2011-2012 Kentucky State Police

- **Drunk driving collisions ranged from 0.13 per 1,000 in Lee County to 1.75 per 1,000 in McCracken County.**
- **High rates of drunk driving collisions were particularly clustered in counties throughout Bluegrass, Northern Kentucky, Purchase, and Big Sandy.**
- **Several counties in KIPDA/Kentuckiana and Green River also had rates in the highest range (1.13-1.75 per 1,000).**

10 Total DUI Arrests



Source: 2011-2012 Kentucky State Police

- **DUI arrests ranged from 0.91 per 1,000 in Robertson County to 19.81 per 1,000 in Gallatin County in 2012.**
- **High rates of DUI arrests were particularly clustered in counties throughout Cumberland Valley, Kentucky River, and Big Sandy.**
- **Several counties in Purchase and KIPDA/Kentuckiana also had rates in the highest range (8.52-19.81 per 1,000).**
- **Although Jefferson County (within Seven Counties and the most populated county in the state) had one of the highest rates of alcohol related collisions (page 12), they had one of the lowest rates of DUI arrests.**

11 Conclusions

ALCOHOL REMAINS THE MOST WIDELY ABUSED SUBSTANCE AMONG KENTUCKY YOUTH. In 2012, 25.1% of 10th graders reported alcohol use in the past 30-days compared to 27.6% nationally. Regionally, two PFS-II UAD regions had the highest rates of 30-day alcohol use: Lincoln Trail (28.5%) and KIPDA/Kentuckiana (27.4%). The rate of 30-day alcohol use in Lake Cumberland (26.7%) was higher than the state average, although Bluegrass (24.5%) had a slightly lower rate. Lake Cumberland was also the only PFS-II UAD region to have increasing rates of 30-day alcohol use between 2010 and 2012, from 25.2% to 26.7%. For binge drinking, 14.5% of 10th graders reported binge drinking in the past two weeks, down from 16.3% in 2010. With the exception of Bluegrass (13.3%), all PFS-II UAD regions had binge drinking rates that exceeded the state average: KIPDA/Kentuckiana (16.4%), Lincoln Trail (15.1%), and Lake Cumberland (15%).

It is possible risk and protective factors have partially influenced consumption patterns in PFS-II UAD regions. Among 10th graders reporting "easy" or "very easy" access to alcohol in 2012, six regions exceeded the state rate (58.2%), three of which were PFS-II UAD regions: Lake Cumberland (59.7%), Bluegrass (59.2%), and Lincoln Trail (61.4%). Similarly, Lake Cumberland (62.3%), KIPDA/Kentuckiana (61.7%), Green River (61.4%), and Lincoln Trail (59.4%) all had rates of reporting "wrong" or "very wrong" for someone to drink alcohol that were lower than the state rate (63.2%). Given the interaction between ease of access, lack of perceived disapproval and alcohol abuse, prevention efforts may benefit from targeting these risk factors as a means of reducing the overall prevalence of UAD.

Despite having rates of alcohol use and binge drinking that are lower or comparable to the nation, easy access to alcohol and lack of perceived disapproval may have influenced more problematic drinking patterns among Kentucky youth. In 2012, 19.8% of 10th graders in Kentucky reported being drunk in the past month compared to 14.5% nationally. Given that all the PFS-II UAD regions had alcohol intoxication rates higher than the state in 2012, prevention efforts may benefit from addressing the quantity and frequency of alcohol use. Data from the 2010 Behavioral Risk Factor Surveillance System (BRFSS) support this notion as Kentucky adults 18 and older had the highest frequency of past-month binge drinking in the nation, with an average of 5.9 episodes compared to 4.4 nationally, while having a past-month binge drinking prevalence rate of 15% that was lower than the national rate of 17.1%. Kentucky adults also had a slightly higher binge drinking intensity (i.e., average largest number of drinks consumed by binge drinkers on any occasion in the past month) than the US in 2010 (8.4 vs. 7.9 drinks).

Consequently, the incidence of alcohol treatment admissions for 12-20 year olds has only dropped slightly from 45.7% in 1999 to 44.4% in 2010 for Kentucky while rates steadily dropped from 66.9% to 52.3% for the US. Drunk driving collisions and DUI arrests have tended to cluster in counties throughout Cumberland Valley and Kentucky River, although high rates also have been found in counties throughout Bluegrass, KIPDA/Kentuckiana, and Lincoln Trail, three of the PFS-II UAD regions. Taken together, targeted prevention efforts in the PFS-II UAD regions may be bolstered by further addressing access to alcohol and perceived disapproval while reducing the frequency and intensity of binge drinking that leads to significant alcohol intoxication and poor outcomes.

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This brief report has been prepared for the Regional Prevention Centers in the state of Kentucky. It provides baseline data related to youth alcohol abuse and their perceptions of how easy it is to obtain alcohol, and of how wrong it is for someone their age to drink regularly. It is intended to be a resource to coalitions at the regional and county levels as they work to address the issue of underage drinking and respond to the requirements of funding through the Substance Abuse Prevention and Treatment Block Grant.

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