Alcohol access and use among youth in Pennsylvania prior to Act 39

State Epidemiological Outcomes Workgroup, 2017

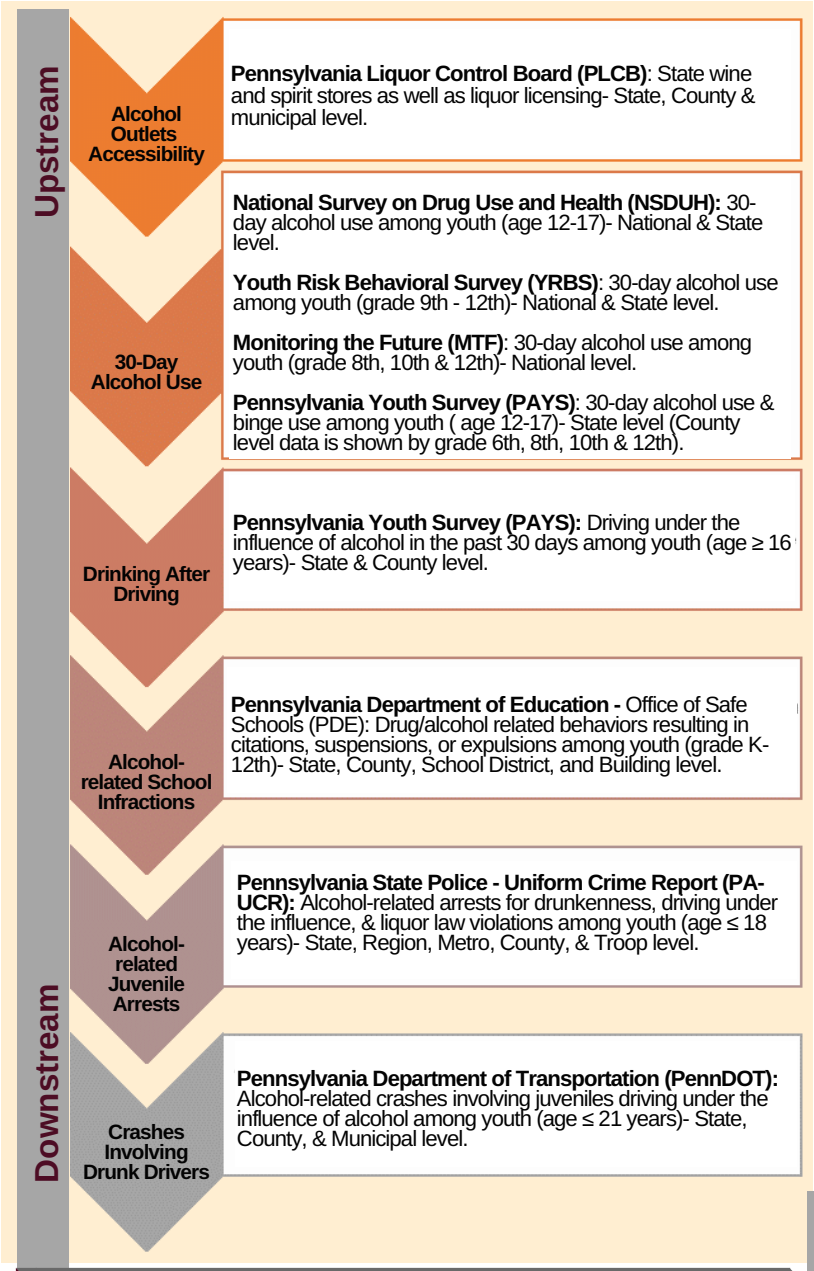


Figure 1. Data sources used in this brief along the prevention continuum.

BACKGROUND

In 2016, Act 39 was signed into law, which expanded the availability of alcohol in Pennsylvania (PA) [1]. As the law increases the convenience of purchasing and selling alcohol, it is important not only to examine changes in availability and accessibility of beer, wine, and liquor, but also changes in other alcohol-related data including underage drinking, alcohol-related vehicular crashes, and other public health challenges [2,3].

This is particularly pertinent for youth in PA, who are at a greater risk for alcohol-related injuries and deaths [4,5]. The purpose of this brief is to present baseline data on alcohol-related indicators prior to Act 39.

DATA

Figure 1 describes the data used in this brief and illustrates upstream factors (i.e. environmental aspects) that may influence downstream consequences (i.e. individual behaviors).

These data sources describe the accessibility of alcohol outlets; 30-day alcohol use in the U.S. and PA; drinking and driving among youth in PA; alcohol-related behaviors that resulted in citations, suspensions/expulsions; arrests due to drunkenness, driving under the influence, and liquor laws violations; and vehicular crashes involving an underage drunk driver.

Figure 2 compares estimates of 30-day alcohol use among youth (see Figure 1 for source-specific definitions of youth). There is a slight downward trend in the percentage of alcohol use in the previous 30 days in the United States and Pennsylvania.

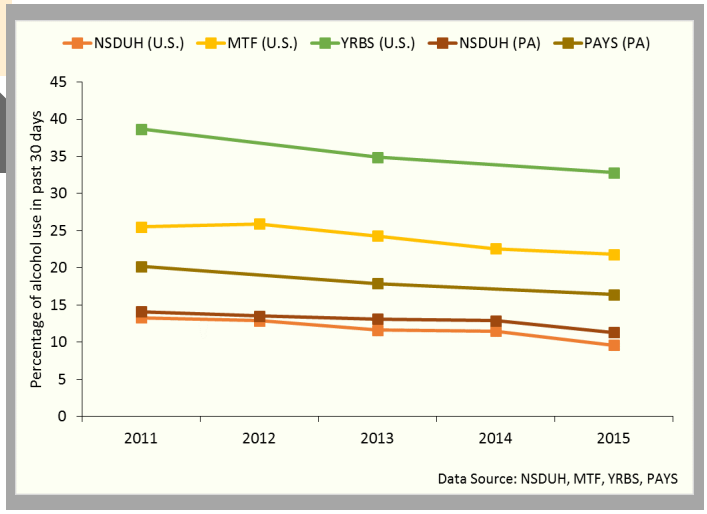
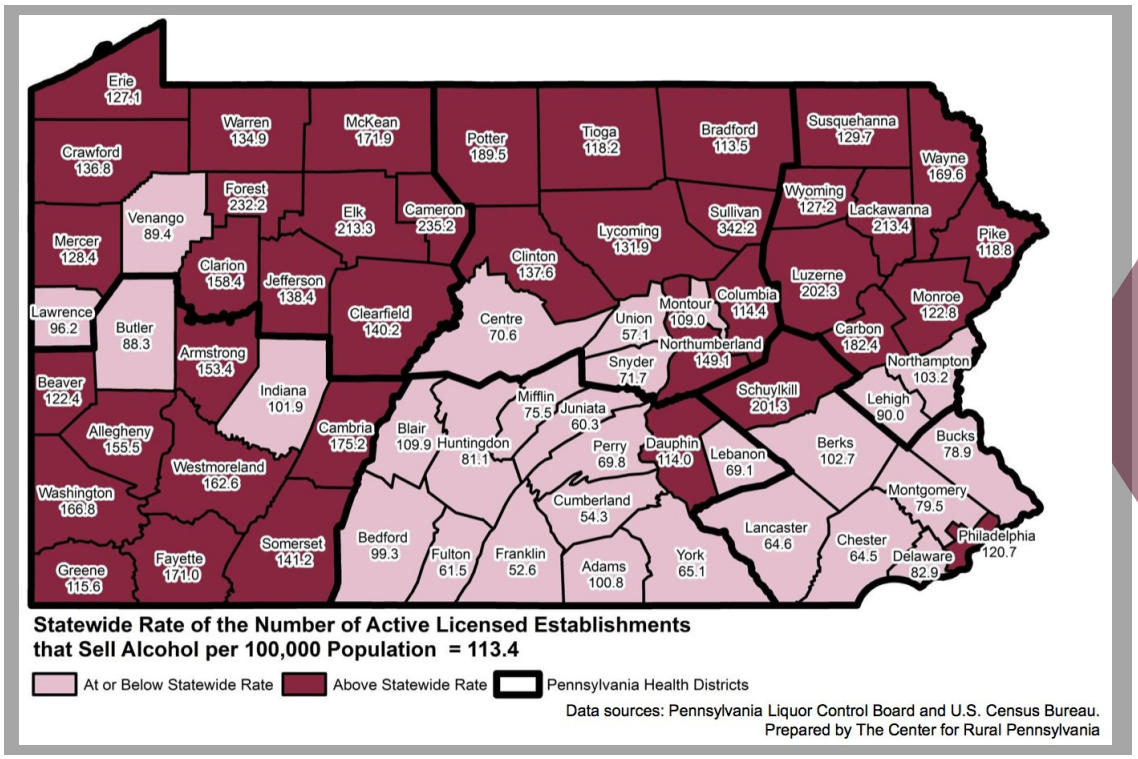


Figure 2. Estimates of 30-day alcohol use among youth in the U.S. and Pennsylvania, 2011-2015.

ALCOHOL OUTLET ACCESSIBILITY IN PENNSYLVANIA



As shown in **Map 1**, rates of active licensed establishments that sell alcohol range from 52.6 to 342.2 per 100,000 population. Higher rates appear to cluster in the northern and western regions of Pennsylvania.

Map 1. Number of active licensed establishments that sell alcohol per 100,000 population in Pennsylvania, August 2017.

ALCOHOL USE, BINGE DRINKING, AND DRINKING & DRIVING AMONG YOUTH IN PENNSYLVANIA

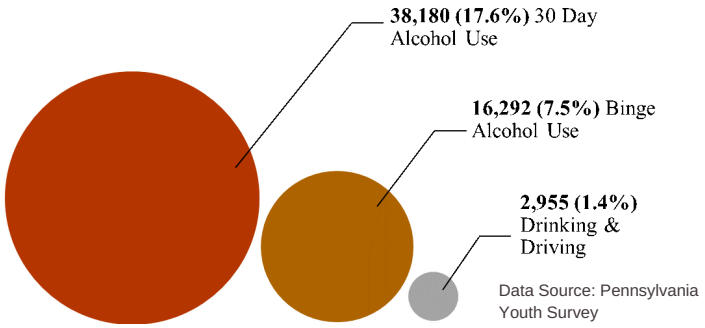


Figure 3 displays Pennsylvania estimates of youth self-report 30-day alcohol use (17.6%), binge alcohol use (7.5%) in the past 2 weeks, and 30-day drinking and driving (1.4%).

Figure 3. Estimates of alcohol-related behaviors among youth (ages 12-17) in Pennsylvania, 2015 (n=217,276).

YOUTH DRINKING & DRIVING

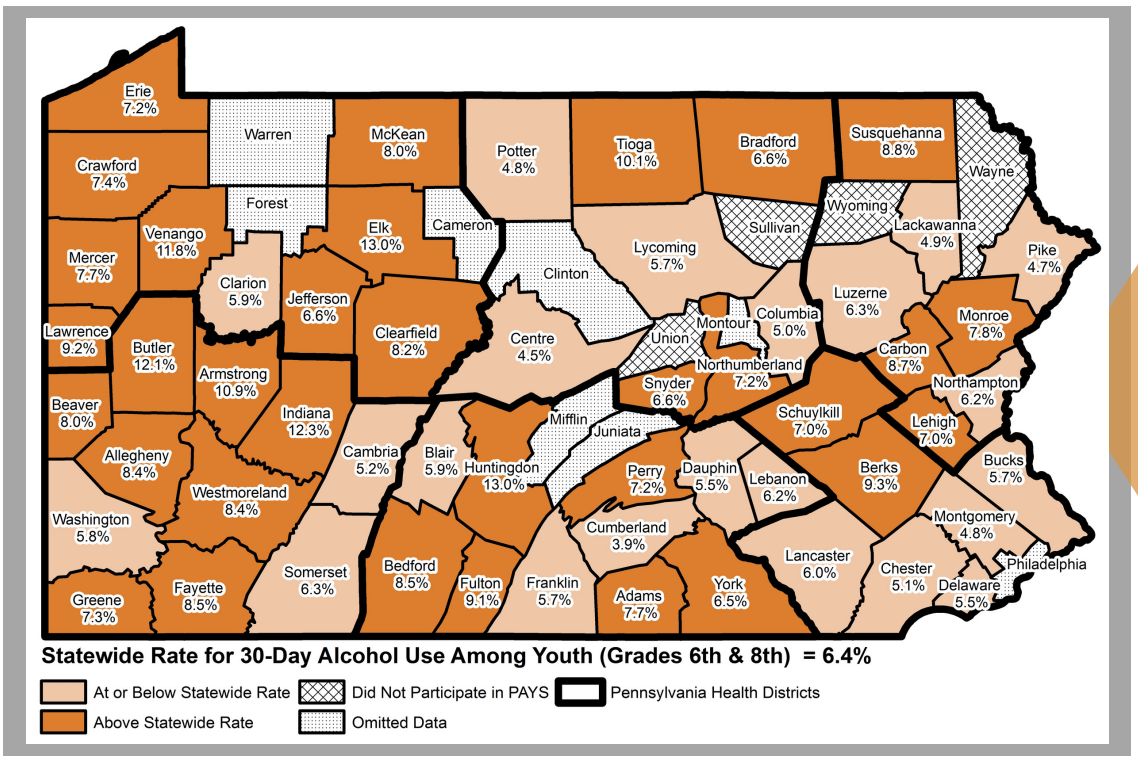
Self-reported drinking and driving in the past 30 days varied across the state. The top 5 counties, compared to the state percentage, are shown in **Table 1**.

Table 1. Top 5 Counties with the highest self-reported percentage of drinking and driving in past 30-Days among youth (≥ 16 years old) in Pennsylvania, 2015.

Location	Commonwealth of Pennsylvania	Elk County	Susquehanna County	Armstrong County	Franklin County	McKean County
Percent	5.0%	19.9%	8.5%	8.2%	8.2%	7.8%

Data Source: Pennsylvania Youth Survey

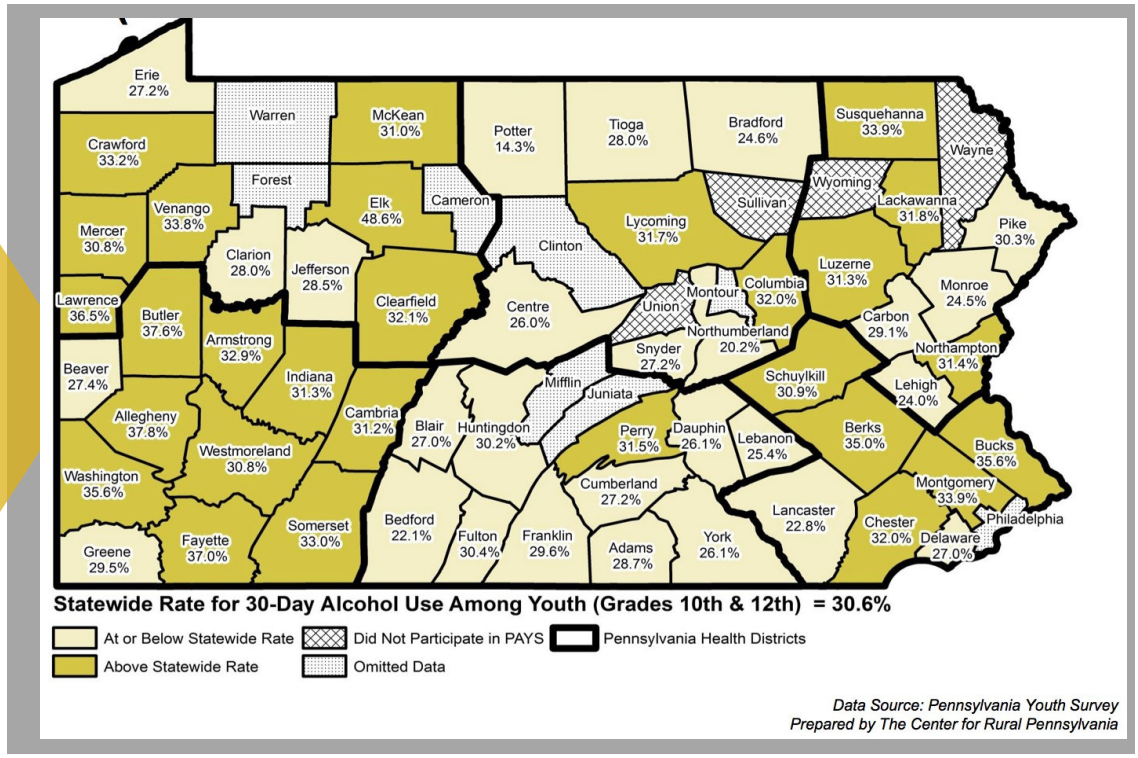
30-DAY ALCOHOL USE AMONG YOUTH IN PENNSYLVANIA



Map 2 displays variation in 30-day alcohol use among youth across counties, ranging from 3.9% to 13.0% among 6th and 8th grade students.

Map 2. 30-Day alcohol use among youth (6th & 8th grade) in Pennsylvania, 2015.

Map 3 displays variation in 30-day alcohol use among youth across counties, ranging from 14.3% to 48.6% among 10th and 12th grade students.



Map 3. 30-Day alcohol use among youth (10th & 12th grade) in Pennsylvania, 2015.

ALCOHOL-RELATED SCHOOL INFRACTIONS IN PENNSYLVANIA

As shown in **Figure 4**, state estimates demonstrate a downward trend from 2010-2016 in rates of school expulsion and citations for sale, possession, use, or being under the influence per 100,000 students. Rates of out-of-school suspensions per 100,000 students appear to vary with the highest rates occurring in the 2011-2012 school year.

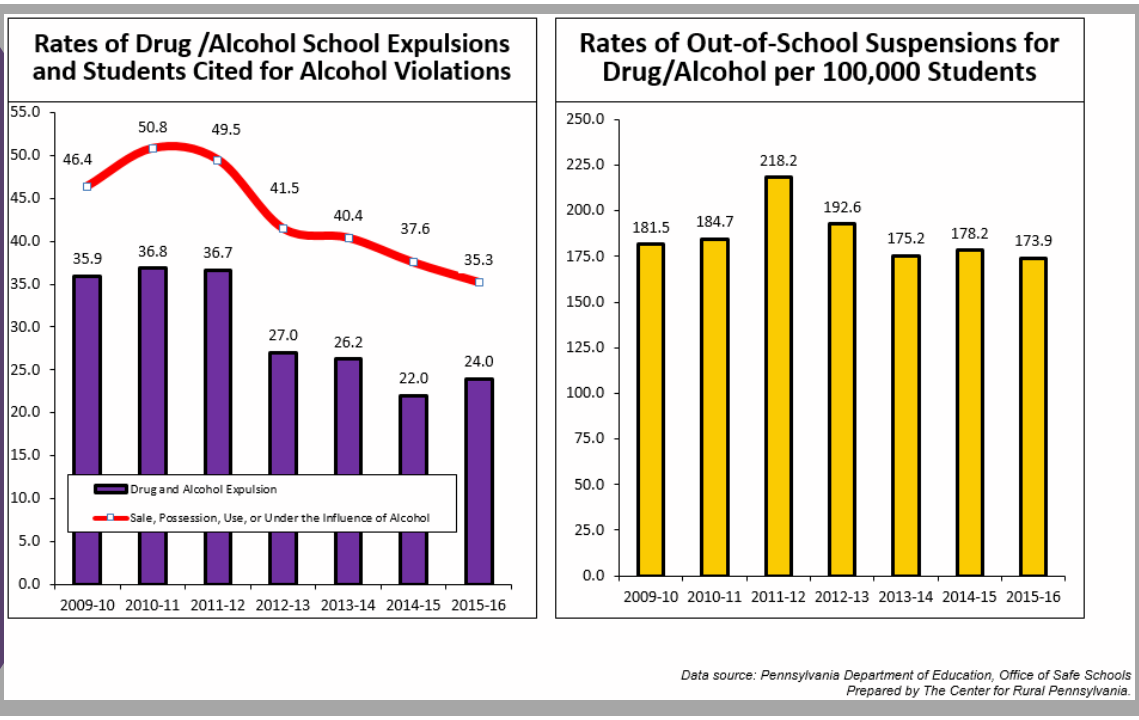
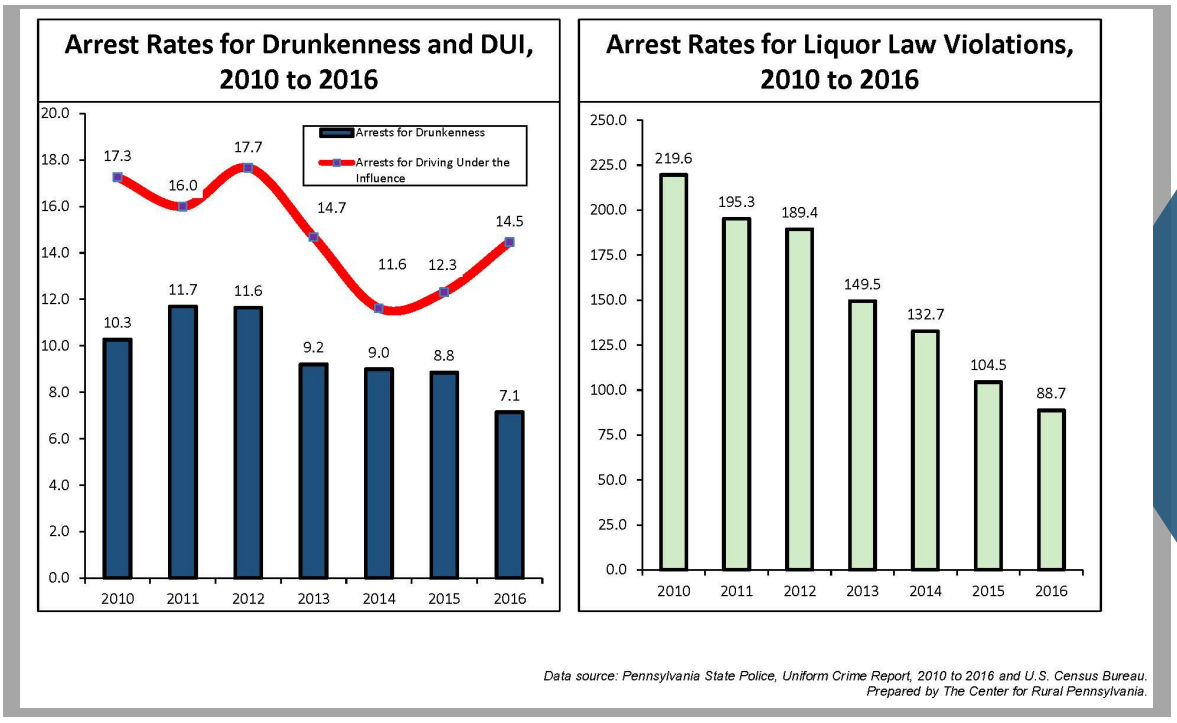


Figure 4. Rates of drug/alcohol citations, out-of-school suspensions, and expulsions per 100,000 Pennsylvania students; 2009-2010 school year to 2015-2016 school year.

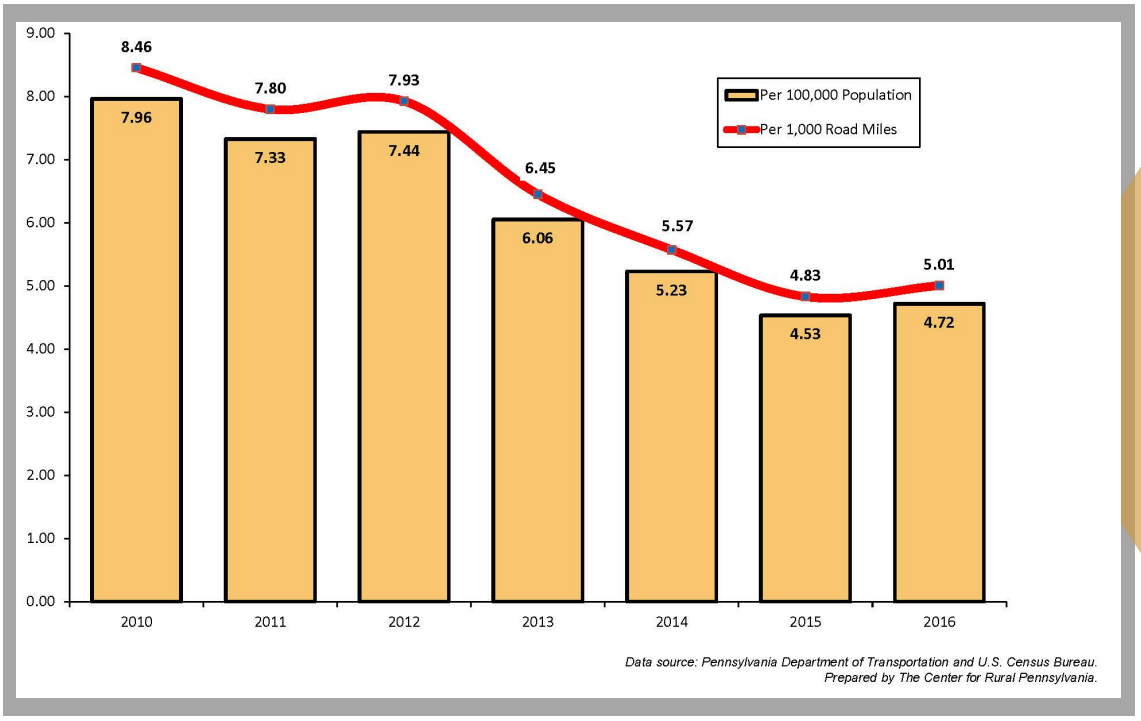
ALCOHOL-RELATED JUVENILE ARRESTS IN PENNSYLVANIA



In **Figure 5**, juvenile arrest rates for liquor law violations (primarily underage drinking) and drunkenness appear to decline from 2010 to 2016. However, rates of DUI appear to be more variable, with an upward trend in recent years.

Figure 5. Juvenile arrests rate in Pennsylvania for alcohol-related offenses, 2010-2016 (number of arrests per 100,000 population under Age 18); 2009-2010 school year to 2015-2016 school year.

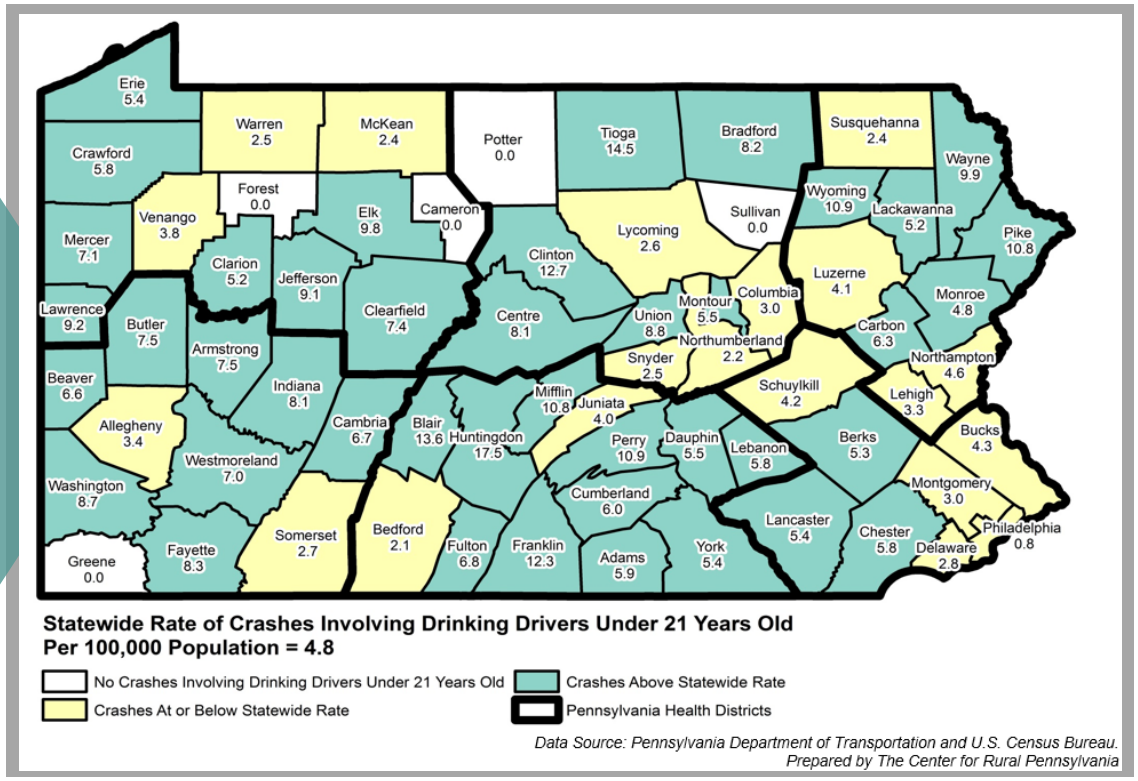
CRASHES WITH UNDERAGE DRINKING DRIVERS IN PENNSYLVANIA



As shown in **FIgure 6**, rates of crashes involving drivers under 21 who have been drinking per 100,000 population and 1,000 miles of roadway appear to have a downward trend from 2010 to 2016.

Figure 6. Number of crashes involving drivers under age 21 who have been drinking per 100,000 population and 1,000 miles of roadway in Pennsylvania, 2010-2016.

In **Map 4**, rates of crashes involving drivers under 21 who have been drinking per 100,000 population vary across counties, ranging from 0.8 to 17.5 per 100,000 population. The majority of counties (76%) report rates higher than the state average. Rates also appear to be higher in suburban counties.



Map 4. Number of crashes involving drivers under age 21 who have been drinking per 100,000 population in Pennsylvania, 2016.

CONCLUSION

Descriptive findings in our report indicate a gradual decline of 30-day alcohol use in Pennsylvania from 2011 to 2015. Self-reported 2015 data from PAYS show that about 17.6% of youth engage in underage drinking in the previous 30 days, with 7.5% and 1.4% reporting binge alcohol use and drinking and driving, respectively. Our data indicate promising results regarding alcohol-related school offenses, arrests, and car crashes among youth. Overall, state rates of alcohol-related school infractions, juvenile arrests, and crashes involving underage drunk drivers have gradually decreased in recent years. However, crash data suggest underage drivers who have been drinking may be more prevalent in suburban counties compared to rural or urban counties. High-risk use of alcohol among youth (particularly underage binge drinking) can have detrimental effects such as injuries and death related to alcohol poisoning and car accidents. Finally, data from the PA Liquor Control Board show that counties in northern and western PA have more active licensed establishments selling beer, wine, and liquor per 100,000 population. With the new law changing the landscape of alcohol availability in PA, data from this brief can serve as a baseline prior to Act 39. Future briefs will be necessary to track these same indicators and data to continue to describe trends.

LIMITATIONS

Our analyses are descriptive in nature and do not account for potential changes or variations due to historical events. That is, we are unable to determine if trends or variations across the state are a result of changes in alcohol-related policy or enforcement. Further, our findings do not account for variation in external factors such as the difference in policies across counties.

Pennsylvania Youth Survey (PAYS), National Survey on Drug Use and Health (NSDUH), Youth Risk Behavior Survey (YRBS), and Monitoring the Future (MTF) data are self-reported and thus are limited by respondent bias.

Variation in reporting and enforcement across school districts and counties resulted in aggregation to state-level rates for Pennsylvania Department of Education and Pennsylvania Uniform Crime Report data.

REFERENCES

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PENNSYLVANIA SEOW

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*Information contained in this report does not necessarily reflect the views of individual SEOW members or their respective agencies.

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