

ALCOHOL USE DISORDER: ITS RISK FACTORS, COMORBIDITY, AND LONG-TERM CARE COST

Summary Prepared by the Office of Data Analytics Division of Analytics

Partner University: University of Louisville
College/School: School of Public Health and Information Sciences
Principle Investigator: Dr. Maiying Kong

What is Known on This Topic?

Excessive alcohol use is a serious and prominent threat to public health in Kentucky. Alcohol can severely damage the liver, kidneys, and brain when consumed in high volumes.

What Did this Project Do?

The prevalence and geographic distribution of alcohol use disorder in Kentucky's Medicaid population during the 2012-2019 period was described. Risk factors, comorbidities, and costs associated with alcohol use disorder care were analyzed. Roughly 3-4% of Kentucky's Medicaid population was diagnosed with alcohol use disorder during this period. This amounted to approximately 38,000 individuals in 2019, with an associated per-person median cost for medical care in the range of \$1,000 – \$3,000 annually.

What Could Medicaid Do with These Conclusions?

This project offers results regarding where in Kentucky alcohol use disorder is most prevalent, where patients are receiving treatment, and how alcohol use is impacting the development of liver disease. Healthcare spend within the Medicaid program are also discussed.

Introduction

Compulsive alcohol use is the source of considerable suffering for American families and communities. When alcohol is consumed in excessive amounts over extended periods of time, it can lead to liver disease, kidney disease and brain disease.¹ An estimated 9% of adults in the United States have alcohol use disorder (AUD).² One estimate suggests that alcohol consumption is associated with 79,000 deaths each year and generates an annual cost to American society of roughly \$223.5 billion (reported in 2006 dollars).² According to the US Centers for Disease

Control and Prevention (CDC), alcohol use is associated with \$3.2 billion in annual costs to Kentucky in the form of lost productivity, healthcare costs, and additional expenditures related to criminal justice and motor vehicle accidents.³

Kentucky's Medicaid program is a prominent payer source for addiction treatment in the state (including treatment for AUD).⁴ Therefore, advancing the state's understanding of the prevalence of AUD and treatment utilization for the condition among the Medicaid population is a meaningful step towards making data-informed policy and program decisions.

Project Methods & Results

De-identified Medicaid claims and encounters data from calendar years 2012 through 2019 were used in the analysis. Beneficiaries were separated into three groups based on clinical features in the data to investigate the dynamics of AUD diagnoses, comorbidities and clinical outcomes.

The project had four primary objectives stated in the final report:

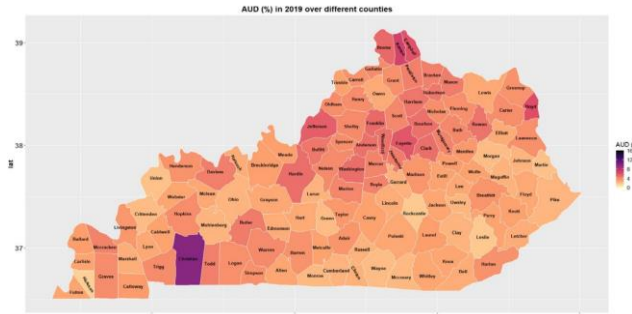
- 1) To examine the geographic variation in the prevalence of AUD, to identify risk factors associated with AUD, and to examine the utilization of different AUD treatments and factors associated with the utilization of the treatments.
- 2) To examine prevalence and treatment utilization for patients with depressive/anxiety disorder (DAD), which could be precursors for AUD.
- 3) To examine the utilization of treatments and the impact of treatments on patients' recovery.
- 4) To study risk factors for more severe alcohol-related diseases, such as alcohol associated liver diseases (ALD).

AUD was diagnosed at higher rates in Kentucky's urban areas (vs rural areas), among males (vs females), and among 46–64-year-old beneficiaries (versus all other beneficiaries ≥ 14 years old). Among patients diagnosed with AUD during 2012 to 2019, about 57% to 62.9% also suffered from anxiety and depressive disorders. Figure 1 illustrates the county-level distribution of AUD diagnoses in Kentucky's Medicaid population in 2019, where deeper red colors indicate higher rates of diagnoses.

ALCOHOL USE DISORDER: ITS RISK FACTORS, COMORBIDITY, AND LONG-TERM CARE COST

Figure 1 indicates that the area roughly inside the central Kentucky triangle framed by Covington, Lexington and Louisville contains a noticeably higher prevalence of AUD when compared to other regions of the state.

Figure 1. AUD Across Kentucky Counties (2019)



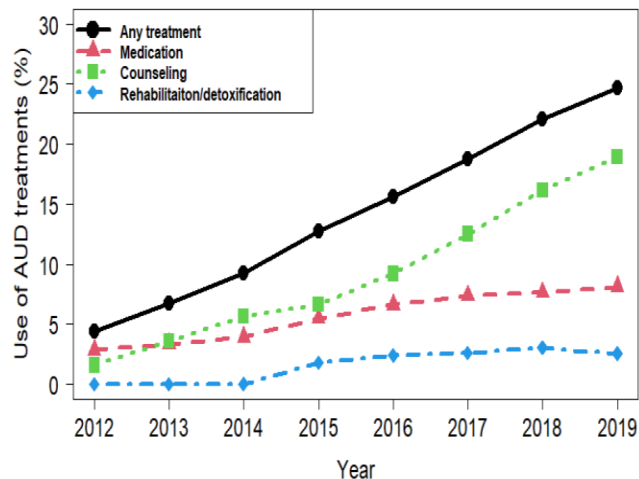
Note: Figure 1 appears in the SUP final report as Figure 1C, p. 9.

Another important study finding was that the rate of AUD diagnoses was increasing during the 2012 to 2019 period. The identified percentage of AUD diagnoses among the study sample in 2012 was 2.58%, which rose to 4.21% in 2019. ALD increased from 0.37% (1,737 individuals) in 2012 to 0.43% (3,852 individuals) in 2019.

While the rate of diagnoses increased, the study also found that the rate of patients with AUD who received treatment for it also increased during the study period. Three types of treatment were investigated: counseling, medication and rehabilitation/detoxification. Overall treatment rates rose from less than 5% in 2012 to nearly 25% in 2019. Figure 2 suggests that a considerable amount of this growth in treatment utilization was accounted for by increases in beneficiaries receiving psychotherapy services. Medications for AUD as well as rehabilitation/detoxification services also grew during this period, but much more modestly than psychotherapy.⁵

Figure 2. Use of Treatments for AUD (2012-2019)

Use of AUD treatments during 2012-2019



Note: Figure 3 appears in the SUP final report as Figure 8

In terms of medical cost results, there was a per-person median cost in 2019 for medical care in the range of \$1,000 for people without ALD to \$3,000 annually for people with ALD. Study results also found a high degree of AUD-diagnosed beneficiaries were also diagnosed with anxiety and depressive disorders.⁶ This result suggests that healthcare providers that can offer integrated treatments for AUD alongside those for anxiety and depression may be particularly appropriate in this population in Kentucky.

Conclusion

These results suggest that, even as Kentucky continues to address the opioid crisis, it is also important to consider the needs of beneficiaries who struggle with alcohol. AUD diagnoses increased by several thousand from 2012 to 2019. Additionally, the degree to which individuals were diagnosed with ALD increased from 0.37% (1,737 individuals) in 2012 to 0.43% (3,852 individuals) in 2019. Finally, in 2019, only one in four patients with AUD who received their health coverage via Kentucky Medicaid have any record of receiving treatment for it. While this was a large growth from prior years, it suggests that more work is warranted to ensure that patients receive the treatment they need to manage their AUD.

References

1. Cargiulo T. Understanding the health impact of alcohol dependence. *Am J Health Syst Pharm.* 2007;64:S5-S11. doi:10.2146/ajhp060647
2. Friedmann PD. Alcohol Use in Adults. *NEJM.* 2013;368(4):365-373. doi:10.1056/NEJMcp1204714
3. Centers for Disease Control and Prevention. Excessive Drinking is Draining the U.S. Economy. Published April 14, 2022. Accessed January 19, 2023. <https://www.cdc.gov/alcohol/features/excessive-drinking.html>
4. Behavioral Health and Substance Use Disorder - Cabinet for Health and Family Services. Accessed January 31, 2023. <https://www.chfs.ky.gov/agencies/dms/member/Pages/SubstanceAbuse.aspx>
5. Hu H, Mitra R, Han Y, et al. Prevalence and Treatment for Alcohol Use Disorders Based on Kentucky Medicaid 2012–2019 Datasets. *J Alcohol Drug Depend.* 2022;10(5):1000366. doi:10.35248/23296488.22.10.366
6. Han Y, Huang H, Mitra R, et al. Prevalence and Treatment Utilization of Patients Diagnosed with Depression and Anxiety Disorders Based on Kentucky Medicaid 2012- 2019 Datasets. *J Depress Anxiety.* 2022; 11(5). doi:10.35248/2167-1044.22.11.459.