

Alcohol Delivery and Underage Drinking: A COVID-19 Case Study

By C. Jarrett Dieterle



Alcohol has long been an easy target to blame for society's many ills. In the end, as with all things, conscientious policymakers must seek out hard data upon which to base their public policy decisions.

Introduction

In January 2020, the world of alcohol rules seemed to be mired in a kind of stasis. It had been 85 years since Prohibition, but the broad legal structure governing alcohol remained remarkably unchanged. Just three months later, in March 2020, everything changed.

The COVID-19 global pandemic that gripped America and the broader world led to unprecedented realignments in our way of life. Governments began issuing mask mandates, social distancing orders, and even rules around how—and if—businesses could continue operating.

In response, innovations like to-go and delivery alcohol took hold across the country, leading to a substantial shift in how alcohol was regulated. Now, three years later, opposition to these changes has started to become more prevalent. Most of the pushback has been focused on concerns that less stringent alcohol regulation could create negative externalities. One of the prime areas of concern has been underage drinking and whether enhanced alcohol delivery will lead to a spike in youth drinking across the country.

This study breaks down the latest underage drinking data to help provide a more informed debate around America's pandemic-era alcohol reforms.

A Boiling Debate

Once COVID-19 hit in March 2020, most jurisdictions required businesses like restaurants, bars and liquor stores to close at least temporarily. When such businesses were allowed to reopen, it was usually at limited capacity.¹ Unsurprisingly, this challenged businesses that traditionally relied on in-person shopping or on-premise dining.



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A restaurant that was only able to operate at 25 percent capacity, or a liquor store that could only allow a handful of customers inside the premises at a time, found it difficult, if not impossible, to stay afloat. This grim reality forced policymakers to adjust rules to allow these businesses to adopt delivery-based business models.

While goods like electronics or food from the local pizza parlor had little issue converting to a delivery format, things were much less simple when it came to alcohol. Given America's antiquated rules governing the sale of alcohol, it was illegal for entities like restaurants or bars to sell alcoholic beverages for takeout or delivery in nearly every locale across the country (a few jurisdictions, such as New Orleans, operated under relaxed open-container laws that allowed beverages to be carried outside an establishment).²

Although a fair number of states already allowed alcohol to be included in grocery store delivery orders pre-COVID, a significant proportion still did not. And alcohol producers like breweries and distilleries were rarely permitted to deliver their products directly to customers.³

Policymakers therefore included alcohol delivery and to-go authorization in many of the emergency orders they issued during the pandemic. These newfound market access channels allowed many restaurants and alcohol stores to survive the months-long shutdowns.⁴

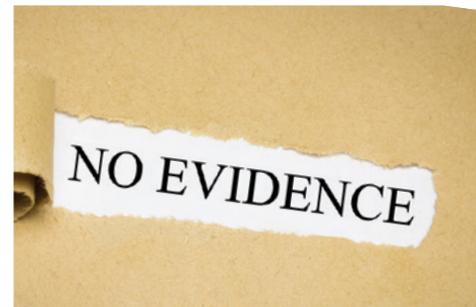
Once states began loosening their COVID-19 restrictions and reopening, however, lawmakers discovered that many of these temporary alcohol authorizations were tremendously popular. In states where polling was conducted, strong majorities favored making to-go and delivery alcohol a permanent feature of the legal landscape.⁵ On cue, state legislatures began passing laws that either extended these authorizations for several years or made them permanent.

A before-and-after snapshot of alcohol delivery laws shows the impact COVID-19 had on American alcohol markets. Before the pandemic, no state in the country had passed a statewide law permitting restaurants or bars to sell alcoholic beverages in a to-go or delivery format. As of last year, 38 states had passed a law either extending or making permanent to-go or delivery drinks from such establishments.⁶

As noted, alcohol delivery from groceries and other off-premise businesses was more common than delivery from restaurants and bars pre-pandemic. But COVID-19 still had a significant impact on those retailers as well: 8 more states passed laws that authorized or expanded the ability of such stores to deliver alcohol. In addition, 14 states enacted laws expanding the ability of alcohol producers, such as brewers or distillers, to deliver their products directly to customers.⁷

However, at the same time this COVID-19 alcohol reform wave was taking hold, opposition to these changes began to crop up. Much of the pushback focused on potential negative externalities associated with alcohol, such as driving under the influence, overall drinking rates and underage drinking.⁸

Underage drinking became a particular source of concern because of the worry that teenagers might be able to clandestinely order alcohol to their homes by using their parents' online delivery accounts or apps. Notably, such claims lacked any empirical



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backing or actual evidence that such negative externalities were occurring. Of more substance were several government-run “decoy operations”—also known as “stings”—that uncovered examples of alcohol being delivered to underage buyers.

The most prominent example was featured in a *Washington Post* article in May 2020 that reported the results of a California Department of Alcoholic Beverage Control (ABC) investigation of alcohol delivery early on in the pandemic.⁹ According to California ABC, out of 200 alcohol orders placed via its decoy operation, 25 percent wound up in the hands of minors. Even more jarring, California ABC reported that minors were able to obtain alcohol in 80 percent of the deliveries conducted by third-party delivery companies or apps.¹⁰

This 80 percent figure generated substantial headlines at the time, although much of it can be traced to the fact that, in the first month or two of COVID-19, the emergency rules suddenly greenlighting alcohol delivery had just taken effect and delivery companies were learning how to implement them on the fly in the midst of a global pandemic. Unfortunately, the fact that delivery violations plummeted from 80 percent to between 14 and 20 percent by 2022—which is largely within the industry norm of violation rates for decoy operations for in-store sales—garnered little attention.¹¹

More recently, the Virginia ABC Authority claimed that a 2021 decoy operation it ran on alcohol delivery resulted in 32 of 52 underage buyers being able to obtain alcohol.¹² While such results are doubtlessly concerning, it is difficult to draw significant conclusions from one-off state decoy operations that have extremely small sample sizes of several dozen transactions.

The COVID-19 Experience

Until now, a broad-based empirical analysis of alcohol delivery and underage drinking rates during COVID-19 had not been conducted. To provide such an analysis—and to expand the scope to a more nationwide snapshot—we have used the results of the Center for Disease Control and Prevention’s Youth Risk Behavior Surveillance System (YRBSS) survey.¹³

Among other things, the YRBSS measures drinking rates among America’s youth via its biennial survey administered to high school students across the country.¹⁴ The YRBSS asks whether high schoolers currently drink alcohol, which the survey defines as consuming at least one alcoholic drink in the past 30 days.¹⁵ The two most recent YRBSS surveys—from 2019 and 2021—provide a before-and-after comparison of the potential impact of COVID-19-related alcohol reforms on underage drinking.

The key is to overlay this YRBSS data with a breakdown of what states allowed alcohol delivery during COVID-19 versus those that did not. Analyzing this data can help us determine whether alcohol delivery reforms are or are not correlated with underage drinking rates. (It is worth noting that the YRBSS is not administered in every state, so states that did not have 2019 or 2021 results were not included in our analysis.)

We grouped states into three categories when it came to their alcohol delivery rules during COVID-19 for both on-premise and off-premise establishments: Yes, No, or Partial (as shown in [Table 1](#) below). Importantly, we categorized these states based on the time



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period between September and December 2021, which was when the 2021 YRBSS was administered.¹⁶ In other words, the categorizations for states are based on the status of that state’s law from September to December 2021.

To qualify as a “yes” or “partial” for whether it allowed delivery, a state had to have at least some form of a delivery law or executive order in effect during that entire period (“partial” denotes a state that allowed delivery but had some type of limitation, such as allowing only beer/wine delivery or allowing only employees, and not independent contractors, to conduct deliveries).

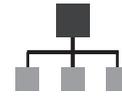


Table 1 categorizations for states are based on the status of that state’s law from September 2021 to December 2021.

Table 1: States On- and Off-Premise Delivery Rules from 2021

States	On-Prem Delivery Pre-COVID	On-Prem Delivery During COVID	Off-Prem Delivery Pre-COVID	Off-Prem Delivery During COVID	Change from 2019 to 2021
Alabama	No	No*	No*	No*	-3.7
Alaska	No	No	Yes	Yes	-4.2
Arkansas	No	Partial (no mixed drinks)	No	Partial (employee only)	-3.3
Colorado	No	Yes	Partial (employee only)	Partial (employees only)	-1.0
Connecticut	No	Partial (employee only)	Yes	Yes	-8.4
D.C.	No	Yes	Yes	Yes	-5.0
Florida	No	Yes	Yes	Yes	-2.4
Georgia	No	Partial (no mixed drinks)	No	Yes	7.2
Hawaii	No	No	Partial (employee only in some localities)	Partial (employees only in some localities)	-3.8
Idaho	No	Partial (no mixed drinks)	Yes	Yes	-3.3
Illinois	No	Partial (employee only)	Yes	Yes	-4.3
Iowa	No	Yes	Partial (employee only)	Yes	-3.7
Kansas	No	No	No	No	-9.2
Kentucky	No	Yes	Yes	Yes	-6.0
Louisiana	No	Partial (no mixed drinks)	Partial (employee only)	Yes	-2.8
Maine	No	Yes	Yes	Yes	-5.0
Maryland	No	Partial (not statewide, but some localities allow)	Yes	Partial (employees only in some localities)	-4.7
Massachusetts	No	Yes	Yes	Yes	-7.3
Michigan	No	Yes	Yes	Yes	-8.7
Mississippi	No	Partial (no mixed drinks)	No	Yes	-4.0
Missouri	No	Partial (employee only)	Yes	Yes	-3.6
Montana	No	Partial (no mixed drinks, employee only)	No	No (employees only)	-2.0
Nebraska	No	Yes	Yes	Yes	-2.1
Nevada	No	Partial (not statewide, but some localities allow)	No	Partial (not statewide, but some localities allow)	-6.4
New Hampshire	No	No	Partial (employee only)	Partial (employees only)	-5.5
New Jersey	No	Yes	Yes	Yes	-4.3
New Mexico	No	Yes	No	Yes	-8.9
New York	No	No	Yes	Yes	-6.4
North Carolina	No	No	Yes	Yes	-4.8
North Dakota	No	Partial (not statewide, but localities allow)	No	No	-3.9
Ohio	No	Yes	Yes	Yes	-3.1
Oklahoma	No	Partial (no mixed drinks, employee only)	No	Partial (employees only)	-3.3
Pennsylvania	No	Partial (no mixed drinks)	Partial**	Partial**	-3.2
Rhode Island	No	No	Partial (employee only)	Partial (employees only)	-4.3
South Carolina	No	No	No	No	-3.9
South Dakota	No	No	No***	No***	-2.0
Tennessee	No	No	Yes	Yes	0.7
Utah	No	No	No	No	-1.9
Vermont	No	No (employee only)	Partial (employee only)	Partial (employees only)	-6.3
Virginia	No	Yes	Yes	Yes	-6.0
West Virginia	No	Yes	No	Yes	-6.2
Wisconsin	No	No	No	No	-4.1

Sources: See Page 7.

Legend: * Alabama passed S.B. 126, allowing for delivery, but it did not go into effect until 10/1/21

** Pennsylvania’s law is structured so that it makes delivery impractical for many businesses

*** South Dakota has an off-sale delivery license, but requires the purchase to be made on-premise and in-person before it can be delivered

Note: In order to count as a “Yes” or “Partial,” a state must have had some type of delivery rules in effect from Sep.-Dec. 2021 (the months in which the YRBSS was administered)

Overall, underage drinking rates fell during 2021 in nearly every state. During a time of unprecedented expansion in alcohol delivery rules across the country, this topline trend alone is noteworthy as a counterpoint to those who claim more delivery will inevitably lead to more youth drinking. (Notably, underage drinking rates have also fallen substantially over the past several decades, from over 50 percent of American high schoolers drinking in the early 1990s to around 30 percent today).¹⁷

Once again, to further determine whether alcohol delivery contributed to youth drinking, one can compare the average change in drinking rates in states that allowed delivery versus those that did not. We did this in **Table 2** below (which shows the percentage point change in underage drinking levels), while also weighting the data to account for population differences between states.

Table 2: Changes in Delivery from 2019 to 2021

Allowed Delivery	Change in Drinking Rates
On-Prem Delivery	
No	-4.44
Yes	-4.55
Partial	-2.43
Off-prem Delivery	
No	-4.11
Yes	-3.88
Partial	-3.57
No → Yes/Partial (for Off-prem Delivery)	
Arkansas	-3.30
Georgia	7.20
Mississippi	-4.00
New Mexico	-8.90
Oklahoma	-3.30
West Virginia	-6.20

Note: Unlike off-premise alcohol delivery, no state had laws on its books allowing on-premise delivery prior to 2020. Therefore, every state listed as “Yes” or “Partial” for on-premise delivery enacted those rules in 2020.

Our results show that states that allowed the most extensive forms of on-premise alcohol delivery in 2021—that is, states that were categorized as a “yes”—saw their underage drinking rate fall by 4.55 percentage points, whereas states that did not allow any on-premise alcohol delivery saw their rate decline by only 4.44 percentage points. States in the “partial” category, in which some modified/limited version of on-premise alcohol delivery was permitted, saw their rates decline by 2.43 percentage points.

The data for off-premise delivery is a bit more nuanced. In states that allowed the most extensive forms of alcohol delivery from off-premise outlets, the underage drinking rate fell by 3.88 percentage points, whereas in states that did not allow off-premise delivery, that rate declined by 4.11 percentage points. While this is a minimal difference, it could appear at first glance to suggest that for off-premise delivery—in contrast to on-premise—there may have been some slight correlation between alcohol delivery and underage drinking rates.

It is worth noting, however, an extreme outlier state in this data: Georgia. With the exception of Georgia and Tennessee, all states saw a decline—often substantially—in their underage drinking rates from 2019 to 2021. Tennessee’s rates barely rose—by 0.7 percentage points—but Georgia had a large increase of 7.2 percentage points.

TABLE 1 KEY TAKEAWAY

Our results show that states that allowed the most extensive forms of on-premise alcohol delivery in 2021—that is, states that were categorized as a “yes”—saw their underage drinking rate fall by 4.55, whereas states that did not allow any on-premise alcohol delivery saw their rate decline by only 4.44.

The fact that every state other than Georgia saw their underage drinking rates either fall significantly or increase only modestly suggests that we should exercise caution in over-relying on Georgia's data. This is particularly true in a small dataset of 50 states (especially when weighting for population, given that Georgia is one of the top-10 most populous states in the country).¹⁸

If Georgia is treated as a statistical outlier, the data almost exactly matches the on-premise numbers, showing that among states allowing the most extensive types of delivery, underage drinking rates fell by 4.63 percentage points, and among states that did not allow off-premise delivery, rates declined by 4.11 percentage points. (Georgia was categorized as "partial" in the on-premise delivery categorizations, which also explains the incongruence of the "partial" results in the on-premise data.)

In the off-premise delivery sphere, it is also important to note that a majority of states already allowed off-premise alcohol delivery before the pandemic. Therefore, the delivery status quo had not changed in the vast majority of these states from the 2019 YRBSS. If one analyzes only the few states that prohibited off-premise alcohol delivery before COVID-19 but then allowed it by 2021, the underage drinking rates declined in 5 out of 6 of those states (Georgia again being the exception).

Importantly, these results do not suggest that alcohol delivery reduces underage drinking, but they do demonstrate a lack of correlation between alcohol delivery and increased rates of youth drinking. This data also aligns with prior research demonstrating that long-existing types of alcohol delivery, such as direct-to-consumer wine shipping, likewise did not produce any discernible rise in underage drinking rates.¹⁹

Conclusion

Alcohol has long been an easy target to blame for society's many ills. In the end, as with all things, conscientious policymakers must seek out hard data upon which to base their public policy decisions.

It is natural and normal to have concerns about American youth drinking rates. Yet, as this data shows, there is no real evidence to suggest that the passage of laws permitting restaurants and stores to deliver alcohol to consumers' homes led to an increase in underage drinking.

As with any type of alcohol purchase, it is important to confirm that a buyer is of the appropriate age. But just because an ID check takes place on a front porch rather than at a gas station cash register does not inherently make it any less effective. Going forward, lawmakers should understand that alcohol delivery can be done safely and responsibly without leading to a rise in illicit youth drinking.



These results show that there is no discernible link between alcohol delivery and youth drinking. This data also aligns with prior research demonstrating that long-existing types of alcohol delivery likewise did not produce any perceptible rise in underage drinking rates.

About the Author

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Table Sources

- “State Alcohol-Related Laws During the COVID-19 Emergency for On-Premises and Off-Premises Establishments as of January 1, 2022,” AIPS, NIAAA, U.S. National Institutes of Health, Jan. 1, 2022. https://alcoholpolicy.niaaa.nih.gov/sites/default/files/file-page/digest_state_alcohol_policies_in_response_to_covid-19_220101.pdf.
- C. Jarrett Dieterle, “Capturing the COVID Booze Wave,” DrinksReform, Sept. 16, 2021. <http://www.drinksreform.org/blog-1/2021/9/14/5ba4nltnix8n4z3446ux4gxkv dihjy>.

Endnotes

1. Colman Andrews, “Mask mandates, limited capacity: These are each state’s reopening restaurant restrictions,” *USA Today*, Jan. 2, 2021. <https://www.usatoday.com/story/money/2021/01/02/restaurant-reopening-restrictions-in-every-state/43303369>.
2. C. Jarrett Dieterle, “Capturing the COVID Booze Wave,” DrinksReform, Sept. 16, 2021. <http://www.drinksreform.org/blog-1/2021/9/14/5ba4nltnix8n4z3446ux4gxkv dihjy>.
3. Ibid.
4. Emily Heil, “To-go cocktails helped keep restaurants afloat. In some states, they’re here to stay,” *The Washington Post*, June 22, 2021. <https://www.washingtonpost.com/food/2021/06/22/to-go-cocktails-regulations>.
5. Carl Campanile, “New Yorkers want to keep booze flowing in post-coronavirus food delivery,” *New York Post*, July 7, 2020. <https://nypost.com/2020/07/07/new-yorkers-want-to-keep-booze-in-post-coronavirus-food-delivery/>; Tim Keenan, “Survey: Michigan Consumers Say Yes to Take-out Cocktails,” *DBusiness*, May 29, 2020. <https://www.dbusiness.com/daily-news/survey-michigan-consumers-say-yes-to-take-out-cocktails>.
6. C. Jarrett Dieterle, “Capturing the COVID Booze Wave, Part 2—It’s Tsunami Time,” R Street Institute, Sept. 16, 2022. <https://www.rstreet.org/commentary/capturing-the-covid-booze-wave-part-2-its-tsunami-time>.
7. Ibid.
8. C. Jarrett Dieterle, “The Facts About To-Go Alcohol and Drunk Driving: The COVID-19 Experience,” *R Street Shorts* No. 114, June 2022, p. 2. https://www.rstreet.org/wp-content/uploads/2022/06/ULTIMATE_policy-short-no-114-REVD.pdf; C. Jarrett Dieterle, “The Data Is In: Alcohol Delivery and Consumption During COVID-19,” *R Street Shorts* No. 127, April 2023, pp. 2-4. <https://www.rstreet.org/wp-content/uploads/2023/04/policy-short-no-127-R3-1.pdf>.
9. Faiz Siddiqui, “Food delivery apps fueled alcohol sales to minors, California regulators find,” *The Washington Post*, May 8, 2020. <https://www.washingtonpost.com/technology/2020/05/08/food-delivery-apps-alcohol-sales>.
10. Ibid.
11. “Alcohol Delivery and Underage Drinking in California: An Update,” DrinksReform, April 19, 2022. <http://www.drinksreform.org/blog-1/2022/4/19/alcohol-delivery-and-underage-drinking-in-california-an-update>.
12. “To-go cocktails make it harder to enforce underage drinking laws,” *Virginia Mercury*, May 11, 2022. <https://www.virginiamercury.com/2022/05/11/to-go-cocktails-make-it-harder-to-enforce-underage-drinking-laws>.
13. “Youth Risk Behavior Surveillance System (YRBSS),” Centers for Disease Control and Prevention, April 27, 2023. <https://www.cdc.gov/healthyyouth/data/yrbs/index.htm>.
14. “Youth Risk Behavior Surveillance—United States, 2021,” *Morbidity and Mortality Weekly Report* 72:1 (April 28, 2023), pp. 1-100. <https://www.cdc.gov/mmwr/volumes/72/su/pdfs/su7201-H.pdf>.
15. “High School YRBS,” Centers for Disease Control and Prevention, last accessed June 1, 2023. <https://nccd.cdc.gov/Youthonline/App/Results.aspx?T=A&OUT=0&SID=HS&QID=QQ&LID=XX&YID=2021&LID2=&YID2=&COL=S&ROW1=N&ROW2=N&HT=QQ&LCT=LL&FS=S1&FR=R1&FG=G1&FA=A1&FI=I1&FP=P1&FSL=S1&FRL=R1&FGL=G1&FAL=A1&FIL=I1&FPL=P1&PV=&TST=False&C1=&C2=&QP=G&DP=1&VA=C1&CS=Y&SYID=&EYID=&SC=DEFAULT&SO=ASC>.
16. Jonetta J. Mpofu et al., “Overview and Methods for the Youth Risk Behavior Surveillance System—United States, 2021,” *Morbidity and Mortality Weekly Report* 72:1 (April 28, 2023), pp. 1-12. https://www.cdc.gov/mmwr/volumes/72/su/su7201a1.htm?s_cid=su7201a1_w.
17. “Trends in the Prevalence of Alcohol Use National YRBS: 1991—2019,” Centers for Disease Control and Prevention, Aug. 20, 2020. https://www.cdc.gov/healthyyouth/data/yrbs/factsheets/2019_alcohol_trend_yrbs.htm.
18. “New Vintage 2021 Population Estimates Available for the Nation, States and Puerto Rico,” United States Census Bureau, Dec. 21, 2021. <https://www.census.gov/newsroom/press-releases/2021/2021-population-estimates.html>.
19. C. Jarrett Dieterle, “Alcohol Delivery and Underage Drinking: Data-Driven Lessons from Direct-to-Consumer Wine Shipping,” *R Street Shorts* No. 113, April 2022. <https://www.rstreet.org/wp-content/uploads/2022/04/Updated-Final-Short-No.-113-1.pdf>.