

Trends in Retail Alcohol Sales and Alcohol-related Admissions at a Tertiary Medical Center in Pennsylvania during the Covid-19 Pandemic

Deepa Kumarjiguda, DO¹, H. Reid Malcolm, DO², Andrea Berger, MS³, Benyam Addissie, MD²

1 Medicine Institute, 2 Department of Gastroenterology and Hepatology, 3 Biostatistics Core; Geisinger Medical Center, Danville, PA

Geisinger

Background

- With sales significantly increased during the start of the pandemic, the effect of changes in sales on hospital admissions for alcohol related diagnoses is unknown.
- Study aim: **Characterize the relation between alcohol sales during the first year of the COVID-19 pandemic and the rates of alcohol related hospitalizations** as compared to the prior year in a rural Pennsylvania area within a tertiary health system with multiple regional centers.

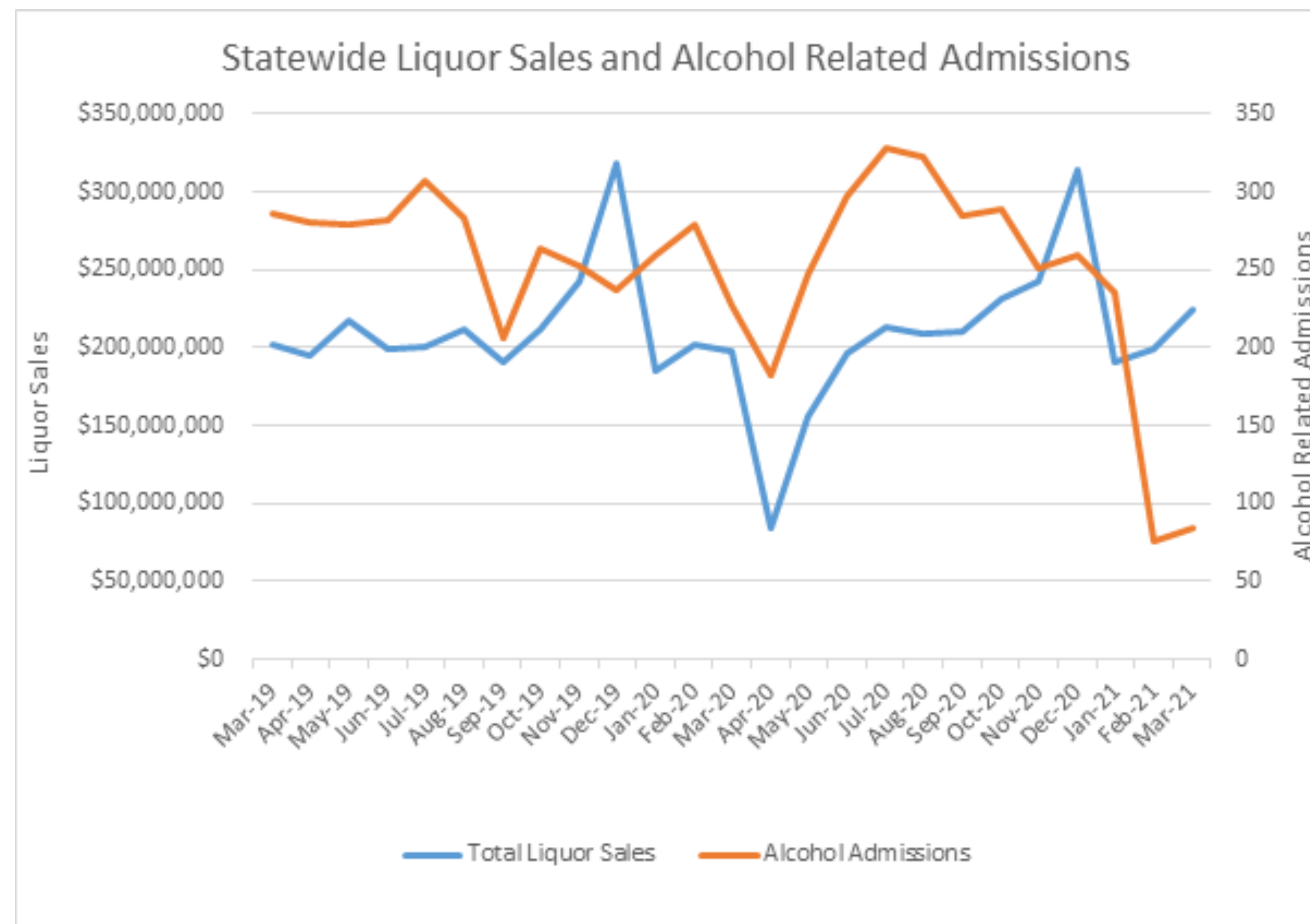
Methods

- Retrospective chart review of the Geisinger network hospital admissions for alcohol-related diagnoses
- CDC ARDI Alcohol-related ICD-10 codes between
 - Period 1: March 1, 2019 to February 29, 2020
 - Period 2: March 1, 2020 to March 31, 2021
- Compared with county-level sales data from the Pennsylvania Liquor Control Board and the Pennsylvania Department of Revenue.
- Monthly alcohol related admissions and monthly liquor sales was tested with linear regression models.
- Outcomes
 - Differences between male and female mortality
 - In-hospital, 30, 90, and 180 day all - cause mortality

Results

There was no statistically significant association between monthly alcohol-related admissions and alcohol sales ($p = 0.2758$) in the period from March 1, 2019 to January 31, 2021 (Table 1) of total 6297 admissions of 4335 unique patients.

- Male mortality during the admission (1.8% vs 1.0%, $p = 0.0299$) and at 30 day post discharge (3.0% vs 2.4%, $p = 0.0306$) were greater in the second period compared to the first.
- Fewer women died in the second period from March 2020 to March 2021 compared to March 2019 to February 2020 (7.1% vs 10.7%, $p = 0.0002$)



Discussion

- The lack of a significant relationship between alcohol sales and alcohol related admissions may be related to fluctuations in the incidence of individual alcohol-related diagnoses or the limitations of using sales as a proxy for consumption.
- The difference in male vs female mortality between the two periods may be related to higher male mortality from COVID-19 which has been observed worldwide.
- Further studies need to be completed to assess the impact of COVID-19 or future pandemics on alcohol-specific GI and liver diseases.
- Other questions to study include if was state specific due to PA legislature and whether employment had
- Although measures restricting alcohol sales have been used to lower the health impact of alcohol, such measures may not be as effective in a setting of COVID-19 pandemic.

References

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