

# Alcohol-Related ED Visits and Ohio State Football: Putting the O-H in ETOH

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## Objective

Identify any relationship between alcohol-related emergency department visits in Franklin County, Ohio and Ohio State University football games.

## Introduction

According to the Center for Disease Control (CDC), binge drinking causes over half of the 88,000 excessive alcohol use deaths and costs approximately \$149 billion dollars annually in the United States<sup>1</sup>. Additionally, excessive alcohol use can increase the risk of many other health problems, including injuries and cancer, placing a large burden on public health. In Franklin County, Ohio, The Ohio State University (OSU) football games are an occasion of binge drinking for the student body and Columbus population alike. The purpose of this study is to determine if the binge drinking population is significantly different during football games.

## Methods

This study looked at emergency department (ED) registration data for Franklin County, Ohio for the past 5 years that was classified as alcohol-related using EpiCenter. Days that had a significantly elevated number of visits were identified as being two standard deviations above the yearly mean, and termed "high volume" (HV) days. These HV days were characterized by whether or not they occurred relative to an OSU football game or football-related tradition. Comparisons were drawn between total counts, gender distribution, and average age of football vs. non-football HV days.

## Results

An average of 15 total HV days were found each year, ranging from 11 in 2011 to 19 in 2012 (Table 1). The total percentage of these HV days that can be correlated to OSU football games is 37%. This ranges by year, and seems to trend with the regular season football record. In 2011, the record was 6-6, and the percentage of HV days associated with OSU football dropped to 18%. By contrast, the record was either 11-1 or 12-0 the other 4 years, corresponding to higher percentages. A comparison of football to non-football HV days by year can be seen in Figure 1. The results were then broken down further, as seen in Table 2. There was no significant difference found between the number of visits on football vs. non-football HV days at the 95% confidence level ( $p$  value 0.054). Visits by females were significantly higher for football HV days than baseline ( $p$  value 0.002). The average patient age was significantly different between football and non-football HV days, at 36 and 40 years old respectively ( $p$  value 0.001). Additionally, the first football game of the season accounted for at least 1 HV day in 4 of the 5 years analyzed.

## Conclusions

The binge drinking population is significantly different during football games in Franklin County. This population is comprised of significantly younger adults and more females. With this information in mind, public health may desire to do seasonal targeted awareness campaigns addressed to this population. Additionally, considering the consistency of binge drinking episodes that occur during the first

football game of the season, public health may want to emphasize these dates for the campaigns.

Table 1

Year	# HV Football Days	# HV Days Total	% Football	Regular Season OSU Football Record[2]
2010	4	13	30.77%	11-1
2011	2	11	18.18%	6-6
2012	10	19	52.63%	12-0
2013	5	18	27.78%	12-0
2014	7	14	50.00%	11-1
Total	28	75	37.33%	52-8

Table 2

Year	Number of Visits (High Volume Dates)			% Male			Average Age		
	Football	Non-Football	Total	Football	Non-Football	Total	Football	Non-Football	Total
2010	37	77	114	59.46%	65.91%	63.70%	39.89	39.18	40.28
2011	19	91	110	52.63%	67.04%	64.72%	30.74	38.26	41.16
2012	102	88	190	59.80%	64.77%	66.02%	33.85	38.15	40.29
2013	75	153	228	57.33%	72.77%	70.32%	35.39	40.49	41.60
2014	109	103	212	60.55%	72.29%	70.96%	37.46	42.38	42.49
Total	342	512	854	59.06%	69.25%	67.92%	35.82	39.87	41.30

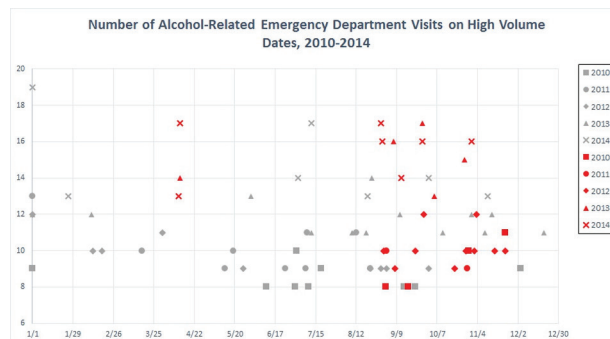


Figure 1

## Keywords

Alcohol; EpiCenter; Binge Drinking; Football; Health Monitoring Systems

## Acknowledgments

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## References

1. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention (March 10, 2015). Alcohol and Public Health; Overview of CDC's Alcohol Program. Retrieved from <http://www.cdc.gov/alcohol/index.htm>
2. CBS Interactive (2015). Ohio State Football. Retrieved from <http://www.ohiostatebuckeyes.com/sports/m-football/sched/osu-m-football-sched.html>

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