An Exploration of Public Events and Alcohol Related Incidents

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Objective
The objective for this research project was to see if there are predictable patterns for certain annual events in Champaign County, Illinois. The focus was on how alcohol intoxication affected the population and whether or not its effects were dangerous to the community at an alarming rate.

Introduction
Champaign County is one of the largest counties in central Illinois with a population of ~207,000 and is home to the University of Illinois at Urbana-Champaign which currently has 44,500 students. In the fall the university hosts Big Ten football games which have recently been drawing an average attendance of ~45,000 people, many traveling from Chicago or other parts of the Midwest. The twin cities host a number of community events and festivals throughout the Spring and Summer. Typically the community festivals have liquor licenses whereas no alcohol is served in the football stadium. Despite the lack of alcohol availability in the stadium many fans drink during tailgate parties before and after the game.

Methods
In order to assess the impact of alcohol at Champaign-Urbana mass gatherings we extracted records of patients seeking alcohol-intoxication related treatment at Carle Foundation Hospital from INDICATOR between 2011 and 2014. We also obtained police citation data for driving under the influence (DUI) and minor in possession (MIP) from the Urbana, Champaign, and University of Illinois Police Departments over the same period. The number of patient visits and citations for home football games were compared using an unmatched t-test to Fall weekends without a home game. The number of patient visits and citations for the Illinois Marathon, Taste of Champaign, Boneyard Creek Arts Festival, Urbana Sweetcorn Festival, and Rhythm and Brews Music Festival were compared against the event-less 2 weekends before and after the event.

Results
Over the 4 year period of the study there were 29 Fall Saturdays with a home football game and 24 without. Of these the difference in the number of minor in possession citations were highly significant (mean=20.72 v 5.04, p<0.0001) whereas there was no statistical difference in number of DUI citations (mean=1.21 v 1.25, p>0.1) or hospital emergency department visits (mean=5.24 v 4.33, p>0.1).

Over the same year period there were 25 Spring weekend days with City Festivals and 47 weekend days without them. Of these the difference in the number of minor in possession citations were significant (mean=8.68 v 4.27, p<0.05) as were the number of DUI citations (mean=1.44 v 0.91, p<0.05). Hospital emergency department visits were not significantly different (mean=3.4 v 3.23, p>0.1).

During the summer months when the population of Champaign-Urbana is significantly reduced by the absence of students there were 57 days with city festivals and 123 days without them. Again the difference in MIP cases was significant (mean=3.72 v 1.53, p<0.0001), whereas there was no statistical difference in number of DUI citations (mean=0.631 v 0.642, p>0.1) or hospital emergency department visits (mean=2.68 v 2.93, p>0.1).