**Title:** Assessment of the burden of Alcohol-Related Acute Admissions to the Christchurch Hospital and the source (on-license v off-license) of the alcohol.

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The primary purpose of this study was to examine the impact of alcohol on presentations to the Emergency Department (ED) at Christchurch Public Hospital. This will indicate how Christchurch Local Alcohol Policy (LAP) might affect this and will provide a baseline for comparison of the impact after Christchurch Local Alcohol Policy is implemented. A secondary purpose was to assess the quality of data recording by ED staff on alcohol contributing to presentation to the ED.

The study was a descriptive analysis study, undertaken by 2 students from the University of Otago. Each student was allocated 21, 8hr shifts in ED, which equated to a 2 week period overall. These shifts were completed within a time period of 3 and a half weeks between 15 November and 9 December 2013. It is intended that this study will be repeated in a year’s time to calculate the impact the new local alcohol plan that comes in to action in this time, have had on admissions to the ED.

All patients 16yrs and older who attended the ED during the 42 shifts were included in the study. Those under the age of 16 were only included if we had both parental and patient consent.

All those patients then had 2 questions asked.

The first question was whether they had consumed alcohol in the 4hrs prior to their presentation to ED. This was defined as the consumption of any amount of alcohol in the 4 hours before they were clerked in to ED by the triage nurse.

The second question was whether alcohol had contributed to their attendance to ED.

For all patients who were recorded as ‘yes’ or ‘unknown’ to either question the following was also recorded: the patients admission date and time, National Health Index (NHI) number, date of birth, age, gender, ethnicity, suburb of current residence, reason for attendance, length of stay in ED, observed level of intoxication – which was defined by a pre-approved intoxication assessment tool, and whether the patient had demonstrated disruptive behavior which was defined as ‘Physical/verbal abuse such that ED staff feel intimidated, or action impeding the process of care’, reported by the staff assigned to the care of that patient.

The impact of alcohol on the ED was calculated by the number of attendances to ED contributed to by alcohol ( i.e those who answered “yes” to the second question), over the total admissions in that time period. This was calculated for the total time period (2 weeks) and then for each day and shift time of the week for the 2-week period, to calculate what day and time alcohol has the largest impact on ED.

The second outcome measure was calculated by obtaining data for the number of patients recorded as ‘yes’ to either or both of the two alcohol questions in the ED computer system, entered by ED staff as part of routine recording, over the shifts we covered. A comparison of what we recorded to what the staff recorded tells us the quality of data being entered into the ED computer systems.

As our presence on the ED may have influenced the ED staff and their collection of this data, we also obtained more sets of data from the ED computer systems for comparison. These comparison data sets allowed us to calculate any natural change in the quality of this data between 2012-2013, any influence we may have caused during the study period and then finally calculate the quality of data recorded in the ED computer systems during our study period, whilst considering our impact and any natural change.

For the impact of alcohol on the ED we have found that in a period of 2 weeks a total of 3,619 patients presented to the ED and 182 of these (5% of all presentations) had attended ED with alcohol as a contributing factor.

5.2% of the data collected was from patients that presented multiple times.

The majority of alcohol related presentations were seen on a Saturday, with the night shift between 11pm Saturday and 8am Sunday being the busiest and second to that was Sunday, with the day and evening shift being the busiest between 8am Sunday to 11pm Sunday. Therefore the busiest 24hrs of the week for alcohol contributing attendances was seen between 11pm Saturday through to 11pm Sunday, with an astounding 28.68% of admissions on the Saturday shift 11pm – 8am being alcohol contributing presentations and 13.87% of total patients presenting in that time (77 of 555 patients that presented over the two combined Saturday – Sunday 24hr period) with alcohol contributing to their attendance. The second busiest shift alone, however, second to Saturday night was Friday night shift (11pm Friday to 8am Saturday). These figures show that it is the end of the week and weekend when the ED is hit hardest with alcohol contributing attendances.

Disruptive behavior was recorded and represented 6.71% (18 patients) of the total 268 patients we collected data from. Although this is only 18 patients, these patients do take up more resources and time in the ED.

There were 29 patients with unknown alcohol ingestions, where the data was not able to be collected for various reasons and, for the purpose of the study, these patients were counted as not having had alcohol. This means our data could underestimate the impact of alcohol.

For the secondary outcome we identified 268 patients as answering yes to either or both of our alcohol questions. The ED staff had identified and recorded 156 in the ED computer system a difference of 112 patients (identifying 58.2% of what we did).

The estimate overall increase per year of the staff identifying these patients was 4.3% which means we could have influenced the staff by 4%.

What we also need to take into consideration is events that fell on the days of data collection such as National Crate day, Christchurch Races and Food and Wine Festival and could have been a reason for increased collection of data.

It was suggested that it would be easier if this alcohol information is entered when the patients are clerked in by the Triage Nurse, such at the same time as when they ask about smoking habits. This could be something to look at for the follow up study to this in a year’s time, to help improve alcohol data collection and correct entry into the ED computer systems.