2017/2018 Summer Studentship Project Application Form

Send to: Research Office, University of Otago Christchurch, PO Box 4345, Christchurch, by 5pm on 3 July 2017

Supervisor Information (First named supervisor will be the contact):	
First Supervisor's Name and Title: Dr James Foulds	
Department - UOC &/or CDHB (if applicable): UOC Department of Psychological Medicine	
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First Supervisors Mailing Address: PO 4345 Christchurch	
Co-Supervisors Name and Title(s): Prof Michael Ardagh	

Research Category (Choose one category only **– to be used for judging the students'** presentations):		
Clinical x	Laboratory	Community

Project Title (20 words MAXIMUM):

Alcohol-related presentations to the Christchurch Hospital Emergency Department: Wave 2

Project Description:

Introduction:

The proposed study is a second wave of data collection for a study previously conducted as a summer studentship in 2013/14 (see Stewart et al 2014, New Zealand Medical Journal 127: 23-39 and Das et al 2014, New Zealand Medical Journal 127: 40-55).

Acute presentations directly related to alcohol use make up around 5% of Emergency Department (ED) attendances in Christchurch (Stewart et al 2014, New Zealand Medical Journal 127: 23-39). They have a significant impact on the workload in ED, particularly at weekends. Alcohol-related ED attendances therefore are a useful direct measure of alcohol-related morbidity, as well as being a proxy marker for the total incidence of alcohol-related harm in the community.

A report by the New Zealand Law Commission in 2010 (Alcohol in our lives: curbing the harm. Wellington, 2010. Available from www.lawcom.govt.nz) recognised the high impact of alcohol-related harm in New Zealand. Subsequently, in late 2013 New Zealand introduced new legislation, the Sale and Supply of Alcohol Act 2012. The Act lays out a framework for the regulation of the sale and supply of alcohol via Local Alcohol Policies (LAPs) (which are the responsibility of local government authorities) and more general nationwide regulations. The study by Stewart et al mentioned above (see also Das et al 2014, New Zealand Medical Journal 127: 40-55) was intended to provide baseline data on alcohol-related ED attendances in Christchurch prior to the introduction of the Sale and Supply of Alcohol Act 2012.

Efforts to introduce an LAP in Christchurch have encountered legal obstacles, and the Christchurch Provisional LAP remains under appeal and has not yet been implemented.
Nonetheless, in the time since the study by Stewart et al was conducted, there have been important changes in factors likely to be associated with the level of alcohol-related harm in Christchurch, including:

i. Changes in licensing procedures following the introduction of the Sale and Supply of Alcohol Act 2012
ii. A slight reduction in the total per capita alcohol consumption by New Zealanders
iii. Changes in the geography of Christchurch resulting from the rebuild following the earthquakes of 2010-2012
iv. The introduction of the Land Transport Amendment Act (no. 2) in 2014, which altered the legal limits for breath and blood alcohol when driving

On this background, we believe it is timely to perform a second wave of the study reported in Stewart et al 2014. The primary objective of the study will be to determine the extent to which the introduction of new alcohol legislation, and other geographical changes, has been associated with a change in the pattern of alcohol-related presentations to the Christchurch ED.

Given the difficulties with implementation of the LAP, we expect any change in incidence or patterns of alcohol-related harm is likely to be modest. Nonetheless, gathering a second wave of data in 2017 will help to strengthen the power to

detect any further changes in alcohol-related morbidity once the LAP is eventually brought into effect. If this second wave were not undertaken, the 2013 data would likely be out of date by the time a further post-LAP wave were conducted.

Aim:

The primary aim the proposed study will be to assess the change between Wave 1 and Wave 2 in the proportion of ED attendances which are alcohol-related.

The study will also aim to compare data from Wave 1 and Wave 2 in relation to the following:

i. Total number of alcohol-related ED attendances.
ii. Reason for ED attendance
iii. Time of ED attendances
iv. Age and gender distribution of alcohol-related ED presentations
v. Number of standard drinks consumed by study participants in the most recent drinking session
vi. Place(s) of purchase of alcohol in last drinking session.

The overarching goal of undertaking these comparisons is to assess the extent to which the introduction of major new legislation (the Sale and Supply of Alcohol Act 2012 in particular) and changes to the demography and geography of Christchurch are associated with changes in the pattern of acute Emergency Department attendances for alcohol-related problems.

Possible impact (in lay terms):

It is hoped that findings from the study will influence local and national alcohol policy. We plan to make findings available to key stakeholders, including:

1. Canterbury DHB Planning and Funding
2. Canterbury DHB Chief Medical Officer and/or Chief Executive Officer
3. Community and Public Health
4. Alcohol Harm Minimisation Action Group (AHMAG)
5. Christchurch City Council project advisors involved in implementing Christchurch's Local Alcohol Policy

We note that implementation of a Local Alcohol Policy in Christchurch has been delayed because industry organisations have taken legal action to prevent the draft Policy being put in place. Information from this study will help determine the extent to which implementation of the LAP is needed.

Method:

The study method will aim to precisely replicate the first wave of the study, as reported in the papers by Stewart et al 2014 and Das et al 2014 (see below). It will be important to minimise variance in study conduct between the two waves of the study, so that any changes between 2013 and 2017 are not simply caused by methodological differences in the 2 waves.

The study will be approved by the Southern Regional Health and Disability Ethics Committee prior to commencement. Further Maori consultation will be undertaken (NB Maori consultation was conducted at the time of Wave 1).

The first wave of data collection began on Friday 15 November 2013 and concluded Monday 9 December 2013, with 42 x 8-hour shifts sampled within that period. We aim to conduct the second wave over the corresponding time period Friday 17 November 2017 to Saturday 11 December 2017, with a further 42 x 8-hour shifts matched as closely as possible to those shifts sampled in the first wave.

We intend to collect the same set of outcome data as that collected in Wave 1. Statistical comparisons between the Wave 1 and Wave 2 data will be performed in the SPSS statistic package, using chi-square or analysis of variance techniques, depending on whether the outcome variables are categorical or continuous.

We will also aim to estimate the effects of missing data by comparing the demographic and clinical variables of those who agree to participate in the study with those who decline or are not captured by the sampling strategy.

The methods relating to Wave 1 were as follows:

From Das et al 2014:

Methods

Patient enrolment—Over 42 8-hour shifts between 15 November 2013 and 9 December 2013, patients were enrolled who presented to the ED with recent alcohol consumption or alcohol-related medical conditions. Data collection was not consecutive, but totalled 2 full weeks of time with all three shifts covered per day. The shifts were defined as 'day' (8:00 to 16:00), 'evening' (16:00 to 23:00), and 'night' (23:00 to 8:00 the following day).

All patients were asked if they had consumed alcohol in the 4 hours prior to their time of triage, and if they thought their ED attendance was related to alcohol consumption. Clinician judgement contributed to answering the latter question. Patients were eligible for the study if they answered yes to one or both questions (defined as 'screen-positive'). Of the screened-positive patients, if alcohol contributed to a patient's reason for attending the ED, s/he was classified as 'impact-positive'. Patients under the age of 16 were included only if both patient and parental consent were obtained.

Patients who could not be interviewed and had no family or friends available to assist with the interview were tracked retrospectively to determine their eligibility, using notes and staff consultation. If there was a strong suspicion of alcohol contributing to the presentation these patients were listed as 'unknown.' Similarly, any sober patients who had been drinking, but for whom it was unclear if their presentation was alcohol-related, were also classified as 'unknown'. By recording these patients as 'unknown', the number of patients recorded as 'alcohol impacted' would be underestimated, but the possible extent of the underestimation would be defined.

The following information was recorded for all the patients enrolled in the study: admission date and time, National Health Index number, date of birth, age, gender, ethnicity, current residential address, reason for attendance, length of stay in the ED, and any disruptive behaviour. Disruptive behaviour was defined as physical or verbal abuse that intimidated ED medical and nursing staff, or a physical or verbal action that impeded the process of care (as reported by ED staff).

The study also aimed to determine the completeness of data routinely entered into the ED computers. Records were checked on alcohol consumption in the four hours before patients were triaged and the number of presentations where alcohol consumption contributed to the problem.

The ED computer system has fields for recording answers to these questions, which are filled when patients are discharged. Datasets were extracted from the computer system for both the study period and comparable time intervals outside the study period (Box 1), to determine if the presence of the researchers in the ED influenced record keeping.

From Stewart et al 2014:

Methods

Data were collected by two investigators (MD and RS) over a sample time equivalent to two full weeks (24 hours/day, seven days/week) in the ED. All triaged patients were asked whether they had consumed alcohol in the 4 hours prior to their time of triage, and whether they thought alcohol contributed to their ED attendance.

Clinical judgement of staff (doctors and nurses involved in the patient's care) also helped inform the latter question. Patients were eligible for the study if they had positive answers to either or both of these questions. Eligible patients had demographic data (age and gender) and their observed level of intoxication – outwardly sober (sober) or outwardly not sober (not sober) – noted (using an 'intoxication assessment tool')[13] on a 'pre-consent form'. They were invited to answer questions about their most recent or implicated drinking session to allow completion of a 'post-consent form'. Eligible patients under 16 years of age could only participate if consent was obtained from an accompanying parent/guardian.

Consenting patients were asked about the type, amount and purchase place of all alcoholic beverages they had consumed in their last or implicated drinking session. Recall of volumes and strengths of the alcohol consumed was encouraged to allow conversion to standard drink units by use of a conversion formula, or a 'standard drinks guide'[14] (where one standard drink equates to 10g of ethanol).

If the drinking session that contributed to the ED presentation was not the patient's most recent drinking session (for example, if they had injured themselves the previous day during a prior drinking session), then alcohol consumption in the former (implicated) session was recorded.

Patients who could not be interviewed and who had no family or friends available to assist with the interview were tracked retrospectively using notes and by consulting clinical staff involved in their care. They were recorded as 'missed patients'.

Cases included retrospectively with suspicion of alcohol involvement were noted as 'unknown'. Any sober patients for whom it was unclear if alcohol contributed to their presentation were also classified as 'unknown.' By recording these patients as 'unknown' the number of patients recorded as 'alcohol affected' would be underestimated, but the possible extent of the underestimation would be defined.

Consenting patients were divided into two groups: those who were 'alcohol-affected' (were presenting to ED because of an alcohol-contributed problem and/or were not outwardly sober at ED), and those who were 'alcohol-unaffected' (consumed alcohol in 4 hours prior to triage, but appeared outwardly sober at ED and not presenting for an alcohol-contributed problem).

Data were summarised descriptively within Microsoft Excel software, version 2007 (Microsoft, Redmond, WA) using counts and percentages for categorical variables, and medians, interquartile ranges and ranges for continuous variables.

Ethical approval was granted by the local Health Research Council Regional Ethics Committee.

Student Prerequisites (eg. Medical Student) if applicable:

Students must be available to collect data during evenings, weekends and / or nights during the approximately 3-week data collection phase. Students who are familiar with Canterbury DHB clinical and administrative systems would be preferable, as the students will be working in a clinical environment.

Administration Details

1. Is ethical approval required? Yes
2. If Yes: please circle or tick one of the following:
   a) Applied for (provide application #)
   b) Approved (attach a copy of the letter of approval from the ethics committee or application #)
   c) To be done (NB I have contacted HDEC on 6 June 2017 seeking clarification on whether a further full ethics application is needed, as the study was previously approved in 2013 and methods have not altered)

3. Are you able to provide the funding for this project (ie. $5,000 for the student, incidental expenses should be met from departmental or research funds) Possible (NB funding has been applied for from the Health Promotion Agency in early May 2017. No decision from them has yet been forthcoming).

   If Yes: Please provide name of the funder ___Health Promotion Agency: see above_____

   If No: Please provide ideas of possible funding sources, including past funding agents and topics often associated with this research area, for the Research Office to contact.

   _____

4. Medical Records or Decision Support accessed Yes
5. Health Connect South or other DHB records Yes

6. Signatures:
   - I have read the 2017/2018 Summer Studentship programme handbook.
   - I am prepared to supervise the project and will be available to the student during the studentship (including Christmas/New Year break if the student is working during this time).
   - I agree to assume responsibility for the submission of the student's reports to the Research Office by the due date 29 January 2018.
   - I agree that the project lay report may be available to local media for publicity purposes.

Signature of Project Supervisor(s):	Date:

- I understand that I am responsible for hosting the Summer Student chosen for this project and will meet any costs incurred. I agree that incidental expenses will be met from departmental or research funds.

Signature of Head of Department: (Print Name)	Date:

Signature of Clinical Director: (if applicable) (Print Name)	Date: